

Paramedic student and preceptor experiences of a clinical facilitator model during ambulance clinical placements: A qualitative study

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Abstract

Introduction: Ambulance service clinical placements are fundamental to paramedicine student education, but the quality and safety of these placements can be highly variable. Inspired by positive results from a nursing facilitator model, this study reports on a collaboration between an Australian university and ambulance service that introduced a paramedic clinical facilitator for undergraduate paramedic students during their ambulance clinical placements. This article describes the experiences of a clinical facilitator model for paramedicine students and their preceptors during the study period.

Methods: This study follows an exploratory qualitative research methodology. After implementation of the paramedic clinical facilitator model, two focus groups with paramedicine student participants and two semi-structured interviews with their paramedic preceptors were conducted. Intimate observations were recorded in a reflexive logbook by the facilitator, which was kept for data analysis. Purposive sampling was used to recruit participants, and thematic analysis was used to code data and conceptualise themes.

Results: Three broad overarching themes were conceptualised from the data: 1) increased educational opportunities, 2) improved clinical placement management and 3) greater student support and welfare. Both paramedicine students and paramedic preceptors felt that the paramedic clinical facilitator model improved the quality of ambulance clinical placements for undergraduate paramedicine students.

Conclusion: This study suggests that a paramedic clinical facilitator model improved the safety and quality of ambulance clinical placement experience for paramedicine students and preceptors. Universities and ambulance services could consider implementing a paramedic facilitator model for ambulance clinical placements in their local contexts.

Keywords: ambulance; clinical facilitator; clinical placement; paramedicine; work-integrated learning

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Introduction

Ambulance clinical placement

Undergraduate paramedic education programs in Australia, New Zealand, the United Kingdom and many other countries include “ambulance clinical placement”, where paramedicine students participate in an operational ambulance environment under the supervision of one or more qualified clinicians (Reid et al., 2019). Clinical placements are a type of work-integrated learning (Universities Australia, 2019) and in paramedicine are often called “on-road shifts”. In Australian undergraduate paramedicine education, clinical placements form a fundamental component of the Paramedicine Board of Australia’s (2020) accreditation standards for education providers. Situated learning, such as clinical placement, is key to quality pedagogy (Ash et al., 2012), where students have an opportunity to integrate theory and practice; develop required competencies, such as professional skills, knowledge and attitudes; and begin professional socialisation (Williams et al., 2011). When clinical placements are undertaken in a supportive atmosphere with positive educational relationships, they are a valuable part of paramedic education (Wongtongkam & Brewster, 2017) and are important in developing the work readiness of paramedic graduates (K. O’Brien et al., 2014).

Evidence and anecdote suggest that paramedicine students often experience poor quality ambulance clinical placements, leading to a negative learning experience. In one Australian study, over half of students felt they were treated with disdain by paramedic preceptors while on ambulance clinical placement, with other negative aspects including displays of sexist attitudes, being made to feel unwelcome, unproductive downtime, ineffective supervision, exclusion from patient management and inappropriate questioning of physical ability (Boyle et al., 2008). Further to this, paramedicine students have reported experiencing verbal abuse, intimidation (Boyle & McKenna, 2016), workplace incivility (Siggins Miller Consultants, 2012) and personal and destructive feedback while on clinical placement (Carroll et al., 2023). These findings, reflecting the current status quo of paramedicine student supervision, are in conflict with the Paramedicine Board of Australia’s (2021) professional capabilities for registered paramedics, which highlight that registered paramedics must support the development of others, including supporting students to meet their learning objectives.

Both students and their preceptors have described a mismatch of expectations around ambulance clinical placement (O’Meara et al., 2015; O’Meara, Williams, et al., 2014), leading to misunderstandings on both sides. Further reported barriers to a positive learning environment include frustration when paramedic preceptors are not aware of students’ arrival or their learning requirements, lack of communication between the university and ambulance service, poor mentorship and education by paramedic preceptors and inadequate support after critical events (McCall et al., 2009). In the Australian context, these issues mean ambulance clinical placements may not adhere

to the *Higher Education Standards Framework* for work-integrated learning set by the Tertiary Education Quality and Standards Agency (2022).

Clinical placement quality

A report commissioned by Health Workforce Australia (HWA) found that five factors enable quality and improve the clinical placement experience (Siggins Miller Consultants, 2012). Conversely, two factors hinder the quality of clinical placements (Siggins Miller Consultants, 2012). These factors are described in Table 1.

Table 1

Factors That Enable or Hinder the Quality of the Clinical Placement Experience

Enable Quality	Hinder Quality
<ul style="list-style-type: none"> • A culture of quality, comprising relationships, learning and best-practice • Effective supervision founded on a good supervisory relationship • Learning opportunities and largely supported participation in direct patient care • Effective communication and collaboration between students, academic institutions and placement sites to ensure adequate placement preparation • Resources and facilities to conduct placement activities 	<ul style="list-style-type: none"> • Occupational stress that induces a state of anxiety that inhibits learning, impairs performance and can compromise health and wellbeing • Workplace incivility and aggression that threatens the socioemotional and physical safety of students in the placement environment

Siggins Miller Consultants (2012)

Evidence suggests that, currently, ambulance clinical placements may not always be aligned with the factors that enable quality clinical placements in paramedicine education, and strategies to improve this situation, such as trialling various clinical placement supervision formats, are warranted.

Facilitator and preceptor models of clinical placement supervision

While many different placement models of supervision exist in other allied health professions (Pope et al., 2023), traditionally, paramedicine has adopted the “preceptor” model of clinical facilitation, whereby a student is supervised by the two members of the ambulance crew. These preceptors are employed by the ambulance service and work directly with the student in the operational ambulance environment. Paramedics supervising students in this model are referred to as “paramedic preceptors” herein, but elsewhere in the literature, they have been referred to as mentors, educators, training officers, clinical instructors, preceptors or clinical supervisors (Carroll et al., 2023; Carver & Lazarsfeld-Jensen, 2018; Jadzinski & Hirdle, 2023; Page et al., 2021).

To bridge the institutional gap between the university and health service, and to improve the quality of clinical placements, various healthcare disciplines have used some form of supernumerary supervised practice model. The nursing discipline has successfully

utilised a “facilitator” model. Nash (2007) defines a “nursing facilitator” as a registered nurse who is a supernumerary supervisor who oversees a group (usually six to eight students) during clinical placement. The facilitator is responsible for evaluating a student’s educational requirements, discussing their progression and performance, briefing and debriefing, managing student welfare issues, providing clinical oversight and maintaining communication between the university and the health service staff (Nash, 2007). Similar models of successful facilitation can also be found in other health disciplines, such as midwifery (McKellar et al., 2018), physiotherapy (Fairbrother et al., 2016) and radiography (England et al., 2017). A summary of the differences between a preceptor and facilitator is found in Table 2.

Table 2

Comparison of Roles of Paramedic Preceptor and Facilitator

Preceptor	Facilitator
<ul style="list-style-type: none"> Part of “normal” staffing levels 	<ul style="list-style-type: none"> Supernumerary position
<ul style="list-style-type: none"> Employed by health/ambulance service 	<ul style="list-style-type: none"> Employed by university
<ul style="list-style-type: none"> Focus on day-to-day operations 	<ul style="list-style-type: none"> Focus on education
<ul style="list-style-type: none"> Emphasis on policy, culture, guidelines 	<ul style="list-style-type: none"> Emphasis on critical reflection, complex concepts
<ul style="list-style-type: none"> Supervises an individual student 	<ul style="list-style-type: none"> Supervises a small group of students
<ul style="list-style-type: none"> Clinical expertise 	<ul style="list-style-type: none"> Both clinical and pedagogical expertise

Definitions adapted from Nash (2007) and Siggins Miller Consultants (2012)

A comparative study analysing a facilitator versus preceptor model during undergraduate nursing students’ clinical placement found value in both models. However, the facilitator model enhanced critical thinking, knowledge, reflection and technical skills when compared to the preceptor model of supervision (Walker et al., 2013). When surveyed, it was noted that undergraduate nursing students rated the level of support provided by a facilitator to be higher than that of a preceptor (Courtney-Pratt et al., 2012). Additionally, nursing students felt the facilitator model increased the opportunity to achieve clinical objectives, practise clinical skills and have one-on-one education time (Croxon & Maginnis, 2009). Preceptor nurses noted that the facilitator’s role was instrumental in supporting them and allowed educational opportunities for students during times of high workload or time constraints (Courtney-Pratt et al., 2012). To understand what constitutes a quality placement, both student and preceptors’ views must be considered (Courtney-Pratt et al., 2014).

Research aim

It is clear that the current model of paramedicine clinical placement supervision is amenable to improvements. To the best of the authors’ knowledge, no prior primary

research has been conducted regarding a paramedic facilitator model of supervision for paramedicine students while they are on clinical placement. Against this background, the aim of this study is to describe the experiences of a clinical facilitator model for paramedicine students and preceptors during ambulance clinical placements.

Methods

This manuscript was prepared following the Standards for Reporting Qualitative Research (SRQR) recommendations (B. C. O'Brien et al., 2014), and the resulting manuscript includes each of the aspects of the JBI (2020) critical appraisal checklist for qualitative research to ensure quality and transparency of the study report.

Approach and paradigm

Rather than being limited to strictly following an established qualitative methodology, this study used a more flexible qualitative research approach as has been used and advocated for in previous emergency and prehospital care and educational research (Cooper & Endacott, 2007; Ellis & Hart, 2023; Marsden et al., 2023). As the purpose of this research is to understand the experience of the participants, an inductive qualitative research design was employed (Merriam & Tisdell, 2016; Thomas, 2006). The underlying philosophical approach we have taken is the constructivist perspective, where an individual's reality is socially constructed as they engage with the world (Merriam & Tisdell, 2016). The researchers' aim is to contribute to the understanding of a complex phenomenon rather than explain an absolute truth, and we acknowledge both the strengths and weaknesses of this approach.

Context

The context was an Australian Capital Territory government-funded ambulance service, where students from a government-funded university were rostered for their ambulance clinical placement shifts. During their ambulance clinical placements, four to five students were placed at different ambulance stations at any one time. The students usually followed the standard ambulance shift rotation pattern: two 10-hour day shifts followed by two 6-hour evening shifts. Students completed two rotations in total, a total of 64–96 hours of clinical placement. The typical points of contact between the facilitator and students were direct emails prior to their placements, debriefing opportunities outside hospital emergency departments, phone calls after critical events plus opportunistic interactions at ambulance stations or events the ambulance crews were dispatched to. The period of study where the facilitator was present for clinical placement was 3 months.

Ambulance service

Servicing a population of around half a million people (Australian Bureau of Statistics, 2023), the ACT Ambulance Service is a government-run ambulance service responsible for the provision of emergency and non-emergency ambulance services in the territory (ACT Emergency Services Agency, 2023).

University

Student participants were enrolled in a 4-year dual Bachelor of Nursing/Bachelor of Paramedicine (BN/BP) degree at an Australian government-funded university (Australian Catholic University, 2023). It is acknowledged that this niche group may develop their professional identity and have different clinical placement expectations and experiences to paramedicine-only student cohorts. The majority of students had completed their second year of study, with 80 hours of prior ambulance clinical placement experience. A small number of students had completed the third year of the BN/BP with 160 hours of prior ambulance clinical placement experience.

Facilitator

The single facilitator was an existing employee of both the ambulance service (intensive care paramedic) and the university (lecturer in paramedicine). For this study, he was provided with a rental car, training equipment, a laptop and a mobile phone. Working on weekdays, the facilitator either operated from the morning to the afternoon or from the afternoon into the evening. Additionally, the facilitator was also on call via telephone 24 hours a day when required for critical event debriefing and follow-up, as well as any issues deemed to require facilitator involvement by either students or their preceptors (e.g., assisting with student access to an ambulance station when no crew was present or significant interpersonal issues). As the deployment of ambulance services is dynamic, the facilitator located students by phoning the ambulance service's communications centre. The facilitator's role broadly included liaising between the university and ambulance service regarding student placement rostering, student orientation and introduction to ambulance service staff, evaluating and progressing the students' educational journey, critical reflection of patient encounters after cases (including releasing students from ambulance responses to focus on a particularly educationally rich patient encounter, debriefing of critical cases (such as completed suicide or major trauma), managing student welfare issues (e.g., exposure to inappropriate workplace behaviours) and role modelling positive educational behaviours.

Sample selection

Student participants

This study used a purposive sampling technique. Potential participants were identified by reviewing the clinical placement roster during the facilitator trial period. There were a total of 74 student participants who had been on clinical placement during the trial period (November 2015 to March 2016). All of these students were invited to participate in an interview/focus group by way of an email invitation and consent form directed to their university student email accounts by the university's administration office.

Preceptor participants

After the trial period, potential paramedic preceptor participants were invited to participate if they were the preceptor of a student during the trial phase. The ambulance service, on behalf of the researchers, emailed the invitation and consent form to approximately 100 potential preceptor participants.

Sample size

A total of 11 paramedic students agreed to participate in focus groups, with four students in one group and seven in the other. A total of three paramedic preceptors agreed to participate in interviews, with two preceptors in one interview and one in the other. It should be acknowledged that this small sample size is a limitation of the study, however quality data that has provided a rich understanding of the experience was collected from this sample and contributes towards achieving the stated aims of the study in this unique placement environment (Gill, 2020).

Data collection methods

Prior to the commencement of interviews and focus groups, written consent was obtained from each participant. Two student focus groups and two paramedic preceptor semi-structured interviews were conducted. Focus groups were used with students to stimulate participants to comment and question, thus allowing for multiple understandings and meanings to be revealed within a short period of time (Gibbs, 1997). All interviews and focus groups were undertaken by a university academic who was not otherwise involved in this study. Interviews and focus groups took place at the university campus, with students and preceptors attending on different days to avoid power balance issues.

Data collection instruments and technologies

Focus groups and semi-structured interviews followed a broad framework of a standardised set of guiding questions (Table 3). The interviewer used the participants' responses to follow up with more focused questions, which allowed the interviewer to explore various aspects of the experience of the clinical facilitator model. This allowed the participants to explore and describe their experiences rather than following a rigid set of predetermined questions. All focus groups and interviews were audio recorded and later transcribed verbatim using MS Word™ by an external company specialising in research interview transcription. The facilitator also kept a paper-based reflexive logbook each day during the trial, which was analysed in conjunction with the interview transcripts.

Data processing and analysis

All transcripts were anonymised during the transcription process, and each transcript was checked for accuracy by two members of the research team. Each participant was allocated a unique label, which was used to identify quotes from the participants. For example, "PSFG1, P2" corresponds with "Paramedic Student Focus Group 1, Participant 2" and "PPI1, P1" corresponds with "Paramedic Preceptor Interview 1, Participant 1".

Table 3

Interview Frameworks

Student Interview Framework	Preceptor Interview Framework
<ul style="list-style-type: none"> • Placement stations and shift configurations • Clinical placement learning expectations with vs without a facilitator • Did the quality of the placement vary with vs without a facilitator? • Were there negatives to the facilitator model of supervision? • Describe specific examples of interactions with the facilitator. • What improvements could be made to the facilitator model of supervision? • Anything further to discuss? 	<ul style="list-style-type: none"> • Expectations of student placements with vs without a facilitator • Experience as preceptor with students with vs without a facilitator • Describe specific examples of interactions with the facilitator. • Were there negatives to the facilitator model of supervision? • What improvements could be made to the facilitator model of supervision? • Anything further to discuss?

Examples of prompts only. Probing questions varied according to participant responses.

Thematic analysis is a data analysis method that supports a rich, detailed description of data, and the 6-phase process of thematic analysis outlined by Braun & Clarke (2022) was utilised in this study. Two researchers (LL and JP) familiarised themselves with the data by reading and rereading the transcripts and diary, noting and comparing initial thoughts. Next, the researchers independently undertook initial coding of data, which involved systematically reviewing the transcripts and identifying and deriving the most basic elements of the data. Next, we arranged our initial codes into potential themes, reviewed our potential themes against our codes, then refined, clarified and named our themes. Finally, we produced this report, which includes compelling extracts from the data. Overall, an inductive, data-driven approach was used for this study with data coded, conceptualised and arranged into themes in a collaborative and iterative process using a combination of traditional paper-based methods and MS Word™. The researchers reviewed the data analysis until consensus was reached.

Researcher characteristics and reflexivity

In studies where the researchers are the main research instruments, reflexivity or positionality are vitally important to consider, as the researcher’s perceptions and potential biases influence the research (Lees et al., 2022). The researchers accept the subjectivity inherent in qualitative studies and acknowledge and celebrate our influence on the collection and interpretation of the data. We acknowledge that “we affect the research, and it affects us” (Meyer & Dykes, 2019, p. 91). All of the authors have a background in the discipline of paramedicine, and each, through quite different pathways, has extensive experience in clinical practice and education, which we contend is a strength of the research as we understand the unique cultural and practical aspects of the area under investigation (Olmos-Vega et al., 2023). The lead researcher (LL) was

the clinical facilitator in this study and was well known to both the students (as one of their university lecturers) and preceptors (as a paramedic clinician colleague). He was actively involved in the phenomenon under investigation as a “participant-observer”, which allowed close insight into the students’ lived experience (Jorgensen, 2015). Intimate observation, including the use of a reflexive logbook, gave the researchers a way to triangulate their findings instead of relying on a single data collection method (i.e., interviews), and the researchers considered and discussed their influence on the research at stages throughout the research.

Ethics approval

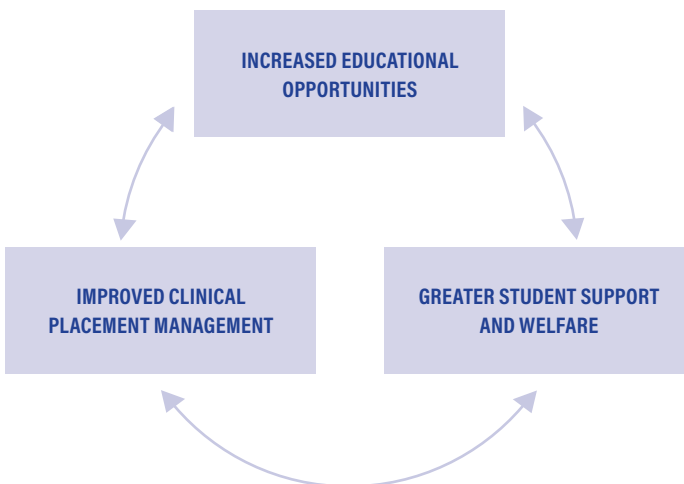
Ethical approval for the study was gained through the Australian Catholic University’s Research Ethics Committee (approval number 2016-113E). As a requirement of the research process, site-specific assessment approval was gained from the participating ambulance service. The study was performed in accordance with the research protocol and the Declaration of Helsinki. Before commencing data collection in the form of interviews, all participants provided a signed written informed consent form. At the completion of the interviews, paramedic preceptor participants were given a movie voucher as a token of appreciation for supporting the study.

Findings

Thematic analysis of the data led to the conceptualisation of three broad, overarching themes. The three themes identified were: 1) increased educational opportunities, 2) improved clinical placement management and 3) greater student support and welfare (Figure 1).

Figure 1

Themes Conceptualised From Clinical Facilitator Model Data



Increased educational opportunities

Both student and preceptor participants reported that due to the preparatory work of the paramedic facilitator before the students attended their clinical placements, preceptors better understood the students' curriculum and learning outcomes for their clinical placements. The facilitator emailed preceptors approximately a week before the student's arrival to introduce the student and explain what stage they were at in their course progression, which is not part of the traditional "preceptor" model of placement supervision:

You had a point of reference as opposed to having to trudge through the same questions all the time with every student you get, and then not knowing exactly what they do or don't know, and whether or not you're pitching things too advanced or too low for them. (PPI1, P1)

Where possible, the paramedic facilitator introduced the student to the crew at the ambulance station at the commencement of their first placement. The facilitator reinforced the capabilities of the students. Students felt increased confidence with this positive start:

I was at a station, and he [facilitator] was there. He explained, "She's just done this unit and this unit so she'll be good to do this, this and this", and listed off skills we knew. They [paramedic preceptors] were like "Oh, OK!" (PSFG2, P6)

Participants reported feeling an increase in overall confidence due to the role of the facilitator. This confidence boost led to students participating more actively in supervised patient management and in preceptors' confidence in allowing the students to demonstrate their skills and knowledge:

Because our facilitator knew the [paramedic preceptor] staff and he knew us, it got us in with them, so they felt more confident. Because he was confident with us, then they were confident with us, so it actually allowed us to do more on the road. (PSFG1, P2)

The facilitator encouraged a positive learning environment, providing an example for preceptors. This modelling led to a culture of teaching and learning, where preceptors were more willing to engage with students educationally:

I think mine literally said to me, "Oh, Liam sent me an email; I guess we'd better do this", so ordinarily they probably wouldn't have volunteered but, "Oh yeah, okay, let's go do it!" (PSFG2, P4)

A major issue identified by both student and preceptor participants was that the ambulance clinical placement was undertaken in a "live" emergency ambulance environment where, understandably, operational issues were the priority rather than student education. Students perceived that the preceptors were often reluctant to provide educational opportunities to students due to this competing priority. The paramedic

facilitator helped to address this imbalance by being a dedicated educational resource. Students' learning opportunities were increased and productive time was maximised while on placement:

Your time often on station without jobs, you would be doing something helpful like scenario practice or learning something rather than just sitting around. (PSFG1, P3)

Students especially appreciated the opportunity to debrief and critically reflect after cases. Regular debriefing allowed an opportunity to strengthen the learning from each case:

You are still in a work environment, and there is no time to stop and talk about it, but with the facilitator you can do that. (PSFG1, P4)

Paramedic preceptors appreciated the enhanced, more personal clinical placement experience. They valued their contribution to the students' learning:

It's really isolating just having a student turn up, look after them for a few shifts, and then they disappear. It doesn't let you feel like you're involved in any way other than almost like in a caretaker. ... It's almost like an observer; it's not really like having a student placement. Facilitators make that become more like a student placement and less like a disjointed experience for us. (PPI2, P1)

Overall, students felt supported in an enhanced educational relationship with the paramedic facilitator. The increased support reduced workplace stress, allowing students to perform at their best:

You don't feel bad about saying, "Can you help me?" or "This happened". The facilitator's job is for students. They come in and you're like okay cool, I've got this, and you don't feel bad. It's such a breath of fresh air when he walks in. (PSFG2, P4)

Improved clinical placement management

Students and preceptors found it advantageous having a designated point of contact between the university and ambulance service to manage the issues that inevitably occurred with the day-to-day management of student clinical placements. Increased communication allowed for improved coordination and resolution of issues. Students especially noted positives with having a dedicated contact to manage logistical issues:

My second shift got cancelled and then someone else couldn't make it (to their shift) so I jumped on her shift instead. (PSFG1, P2)

The facilitator, having prior knowledge of both the students' and preceptors' backgrounds and personalities, instigated preemptive strategies to improve team coherence before any issues became apparent, such as re-allocating students to more willing preceptors:

The facilitator would move, or recommend you move, into a different station just because he knew the crew that were going to be working would be better suited to a student. (PSFG1, P3)

On several occasions, students had negative experiences with allocated preceptors. The facilitator was able to manage these conflict situations and implement an appropriate strategy, such as counselling the student or preceptor or re-allocating the student to more receptive preceptors at an alternative station:

I think sometimes you're not always comfortable with the crew, so it's nice to know that you can talk to somebody, or ask questions, that you might have a better relationship with. (PSFG2, P1)

Greater student support and welfare

As expected in an emergency ambulance environment, while on clinical placement, several incidents had the potential to impact student welfare significantly. These included confronting and traumatic cases, preceptor hostility towards students and stress and anxiety about workplace issues. The facilitator had a previously established trusting relationship with both students and preceptors. Furthermore, the facilitator was seen as trustworthy and approachable regarding sensitive matters. Preceptors utilised the facilitator as a referral and intervention point for student welfare post incidents, including debriefing and access to further services:

My crew actually contacted the facilitator about an experience that I did have that was overall a very difficult one. So the fact that he actually—he called me the next day to make sure I was okay and walked through what happened. (PSFG1, P2)

Students reported that having access to the facilitator to support them after critical events resulted in potentially adverse events turning into learning experiences:

That definitely wasn't a negative learning experience anymore where it possibly could have been had I not had that support from the clinical facilitator. (PSFG1, P1)

Overall, students felt they were better supported at all times by the paramedic facilitator due to the increase in socioemotional and physical safety. This level of continuity and support resulted in increased student confidence to perform optimally:

Having a dedicated clinical facilitator meant that support was there all the time. (PSFG1, P1)

Discussion

No prior primary research has been conducted regarding a paramedic facilitator model of supervision for paramedicine students while they are on clinical placement. The aim of this study was to describe both the students' and preceptors' experiences of a clinical facilitator model during ambulance clinical placements. We found that according to the students and preceptors, a paramedic clinical facilitator model improves the quality of ambulance service clinical placements for both undergraduate paramedicine students and their preceptors, leading to a more positive learning experience. Many of the recognised contributing factors to quality clinical placement were fulfilled when the facilitator model

was used, and the recognised barriers were reduced, as highlighted in the key themes that were conceptualised from the data.

Our research echoes previous literature that asserts that students have a positive clinical placement when workplace supervisors support them educationally, are informed about their studies and their strengths and limitations, and are tolerant and supportive of learners (Lazarsfeld-Jensen et al., 2014). The facilitator model appears to provide continuity, which is important for students to gain the most from their placement (O'Meara, Hickson, & Huggins, 2014; Wallin et al., 2013). This study found that the role of the paramedic facilitator is similar to that of a paramedic assigned to work with newly practising paramedics as part of their employment in a graduate transition to professional practice program, including the roles of coach, role model, socialiser and protector (Carver & Lazarsfeld-Jensen, 2018).

A strength of the facilitator model is that it aids students to better achieve learning outcomes required by the university from the clinical placement (as both a teaching/learning activity and assessment task), thus improving constructive alignment of undergraduate learning (Biggs, 2014). Further, as the facilitator was aware of the level of the students' development and passed this on to the preceptors, students were more likely to be better scaffolded in learning through what Vygotsky termed the zone of proximal development (Wass & Golding, 2014), including being permitted to perform assessments and skills with assistance from a "more knowledgeable other" (either their paramedic preceptors or the facilitator) (Vygotsky, 1978). Participants also noted the facilitator provided the opportunity to debrief cases and critically reflect during or near the immediate period after each case, which may be more valuable than delayed feedback (Embo et al., 2014). As reflection is an integral component of experiential learning (Kolb, 1984), students were able to utilise concrete experiences while on placement and were assisted in concept creation by the facilitator.

Additionally, as the facilitator provided a thorough introduction to students and their preceptors, they were potentially accelerated through the "forming" and "storming" stages of small group development into the "norming" and "performing" stages (Tuckman & Jensen, 1977), where optimal learning occurs. The facilitator's modelling of a positive learning and teaching culture was also imitated by preceptors, representing a form of social learning (Bandura, 1977). However, it could be speculated that the facilitator's prior rapport with students and preceptors contributed to the positive sociocultural aspects highlighted. It is not known whether the same findings could be replicated if there was no prior relationship between all parties.

Previously, researchers in the area have called for a more collaborative approach to clinical placements (Hickson et al., 2015). To encourage quality clinical placement, universities and ambulance services could consider collaborating, implementing and evaluating a sustainable paramedic facilitator model for students while on ambulance clinical

placements in their local contexts. Further research is required in the area of health professional clinical placement (Hou et al., 2013), especially in the area of paramedic education (Hanna et al., 2021). This further research could include replication of this study with a larger sample size or a similar study design in other placement settings (e.g., residential aged-care facilities or urgent primary care centres). There is also potential to investigate the use of other facilitator delivery models, including teleconference or web-based learning technologies (e.g., a “virtual facilitator” akin to virtual care models of patient care).

Limitations

This study has several limitations. The study took place within a single, small (by geographic area and population) ambulance service, with a small group of students from a single university, over a short time period. In larger ambulance services, with greater student numbers and vast geographical footprints, the experiences and perceptions of the students and preceptors may be quite different to this study. It is also unique to find a facilitator who works within the university system, and is known to many students, and is also a paramedic known to the paramedic workforce. This may have influenced the findings of this study and may be hard to replicate in other populations and settings.

Further to this, the setting of the study was based in a metropolitan/suburban geographical location. There may be logistical challenges in implementing a face-to-face facilitator model in a regional and rural environment due to increased distances and travel times.

Having only three paramedic preceptor participants provides some insight, but it may not be an accurate representation of the true paramedic preceptor’s experience of the facilitator model. Also, students who are eager to participate in research activities may not be representative of the whole student population. Additionally, as it was a participator-observer model of inquiry, there may be students who had a negative experience who were not willing to participate in focus groups.

As the facilitator either worked during the day or late afternoon/evening throughout weekdays, it meant that some students had limited face-to-face contact with the facilitator experience while on weekend placements. Again, this would influence the experience and perceptions of the facilitator model.

Conclusion

Previous research has shown that, currently, there are multiple barriers to robust, high-quality learning experiences for students while on ambulance service clinical placements. This study suggests that a paramedic clinical facilitator model moderates current challenges by increasing learning opportunities, improving placement management, providing greater support and welfare to students and offering a more positive experience for paramedic preceptors as well. Overall, the paramedic clinical facilitator model appears

to improve the quality of ambulance service clinical placements for undergraduate paramedicine students, potentially leading to a more positive learning experience. Universities and ambulance services could consider collaborating, implementing and further evaluating a paramedic facilitator model for ambulance clinical placements in their local contexts.

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Conflicts of interest and funding

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