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Elaine McGivern

The University of Queensland

Allison Mandrusiak

The University of Queensland

Ann Rahmann

Australian Catholic University

Roma Forbes

The University of Queensland

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**Preparing Physiotherapy Students for Caseload Management in Clinical Practice
Placements: Perspectives of Students and Clinical Educators**

Elaine McGivern, * Allison Mandrusiak, * Ann Rahmann, ♦ Roma Forbes *

* The University of Queensland
♦ Australian Catholic University

Abstract

Background: Caseload management is a core component of physiotherapy practice and a required competency for professional registration. However, there is limited understanding of how it is navigated during clinical practice placements and to what extent current practices prepare students for new graduate practice.

Aims: To investigate how clinical practice placements prepare physiotherapy students for caseload management, focusing on experiences and perceptions of students and clinical educators.

Methods: A qualitative research design employing reflexive thematic analysis was utilised to analyse data gathered from six semi-structured focus groups comprising pre-registration physiotherapy students in clinical practice placements (n=19) and semi-structured one-on-one clinical educator interviews (n=19).

Results: Four key themes were generated: 1. Variable interpretations of caseload management; 2. Navigating the complexities of caseload management; 3. Realising caseload management matters; and 4. Preparation prior to clinical practice placements is crucial.

Conclusion: This study provides insights into caseload management opportunities during clinical practice placements, from clinical educator and student perspectives. Exposure to caseload management varies significantly, often contextual and opportunistic, shaped by educators' perception of individual student capabilities. Findings emphasise the need for physiotherapy training to ensure equitable learning and exposure to practice, fostering core competencies required for new graduates in caseload management.

I INTRODUCTION

Clinical practice placements play a critical role in physiotherapy education, offering valuable learning experiences that prepare students for the challenges of new graduate practice (Chesterton et al., 2023; Clouder & Adefila, 2017; Hills et al., 2019; Nyoni et al., 2021). Entry-level physiotherapy programs must adhere to national accreditation standards set by their respective professional accreditation bodies. In Australia, these standards stipulate that students must have clinical education experiences with clients across the lifespan and across acute, community and rehabilitation settings (Australian Physiotherapy Council, 2023). Upon completion of training, national standards of practice serve as critical benchmarks for the competencies required for initial registration and ongoing practice as a physiotherapist. New graduate physiotherapists should therefore demonstrate competence to practice autonomously within multidisciplinary teams, effectively organising and prioritising their workload (American Physical Therapy Association, 2020; Health and Care Professions Council, 2023; Physiotherapy Board of Australia, 2023). It is vital that clinical practice placements align with these competencies allowing students to undertake clinical learning experiences that support the transition from student to practitioner (Kurunsaaari et al., 2018; World Physiotherapy, 2019). However, existing literature suggests that clinical practice placements may not fully replicate the challenges and demands of new graduate workloads (Chesterton et al., 2023; Kennedy et al., 2022; Stoikov et al., 2022). Research suggests that insufficient exposure to real-life workloads and limited problem-solving opportunities during clinical practice placements may hinder the development of essential skills such as time management, clinical reasoning, advanced communication, and conflict resolution (Stoikov et al., 2021; McGivern et al., 2024). This research highlights concerns regarding the readiness of physiotherapy new graduates to manage caseload expectations, to make autonomous clinical decisions, and engage effectively with members of the multidisciplinary team upon workforce entry. For the purposes of this current paper, the term 'caseload' refers to the number of active patients a clinician is responsible for, while 'caseload management' encompasses the tasks and responsibilities or workload associated with managing these cases (Royal College of Occupational Therapists, 2020).

Newly graduated health professionals encounter relatively unfamiliar and often demanding environments, navigating a significant transition from supervised student roles in controlled clinical environments, to practicing autonomously in often unpredictable situations (Naidoo et al., 2014). This transition is marked by a stark shift in clinical expectations, including a reported 50% increase in caseload volume (Stoikov et al., 2021). It is widely acknowledged that this challenging period poses a time of stress, leading to feelings of fear, anxiety and overwhelm often exacerbated by a perceived inadequacy of exposure to real-life clinical experiences and expected clinical demands during student clinical placements (Atkinson & McElroy, 2016; Lao et al., 2022; Martin et al., 2020; Phan et al., 2023; Stoikov et al., 2022). Despite widespread acknowledgement of these challenges, there is limited literature exploring how clinical practice placements prepare students for the demands of new graduate practice. Proposed strategies such as exposure to higher caseloads, increased patient complexity, and opportunities to engage in the full spectrum of activities typical of physiotherapy practice have been suggested to facilitate the transition from student to practicing new graduate (McGivern et al., 2024; Stoikov et al., 2021). Different clinical placement models may affect the application and impact of such strategies, requiring adaptations to better align with the realities of caseload management, especially in settings with limited patient capacity or high student:supervisor ratios. However, there is a lack of research examining how physiotherapy clinical practice placements address caseload management, making it unclear whether such approaches are implemented or effective in preparing students for graduate practice.

Enhanced understanding of experiences during physiotherapy clinical education, particularly in preparing students for caseload management in professional practice, may improve the effectiveness of clinical practice placements, leading to increased readiness and competence among students transitioning to new graduate practice. To our knowledge, no studies have endeavoured to understand students' and clinical educators' experiences and perceived learning

needs in this area. By addressing this knowledge gap, this study seeks to provide valuable insights informed by both student and clinical educator perspectives, to inform clinical practice placements. Thus, the aim of this study is to explore how clinical practice placements prepare physiotherapy students for caseload management, by examining the experiences and perceptions of students and clinical educators.

II METHODS

A Study Design

A qualitative research design employing reflexive thematic analysis (Braun & Clark, 2019) was used for this study. Both semi-structured interviews, which collected in-depth data exploring participants' thoughts and feelings on the topic of interest (DeJonckheere & Vaughn, 2019), and focus groups, which encouraged rich discussions to provide a deep understanding of experiences and perceptions (Stalmeijer et al., 2014), were used in this study. Interview (Table 1) and focus group (Table 2) guides were developed by the research team consisting of physiotherapy academics, researchers and clinicians. These guides aimed to encourage open discussions about lived experiences and personal perspectives, providing a narrative framework for understanding the drivers that influence participants' actions and behaviours (Tuckerman et al., 2020). Pilot testing of guides with one clinical educator and one student not involved in the study were undertaken to check and improve timing and depth of questions. Ethical approval was granted by The University of Queensland Institutional Human Research Ethics, approval number 2023/HE000693.

Table 1 Example semi-structured interview guide for clinical educators

Can you provide examples of the different caseload management activities you assign to students?

What factors do you consider when deciding to assign or withhold a caseload management activity from student?

Can you give examples of the strategies you use to introduce caseload management activities?

What preparation do you feel students need prior to attending clinical placements to help them with caseload management activities on placement?

Table 2 Example focus group questions for students.

What are some of the caseload management activities that you have been involved in during your clinical placements?

What support strategies did your clinical educator put in place to allow you to engage in these caseload management activities?

Why do you think it is important that you have the opportunity to engage in caseload management activities during your clinical placement?

In what ways do you think your clinical educators / clinical placement sites / university training could better prepare you for engaging in caseload management activities as a new graduate?

B Participants

Physiotherapy clinical educators and final year pre-registration physiotherapy students were recruited. Students were recruited from a single facility. No clinical educators were affiliated with this facility, thereby minimising the likelihood of prior relationships between the groups. Clinical educators were recruited using a snowballing strategy with some purposive elements to ensure representation across clinical practice areas. Inclusion criteria required physiotherapists to have served as the primary clinical educator for a pre-registration physiotherapy student in the twelve months preceding the study. Two members of the research team (EM, RF) initially approached six professional clinical educator contacts via email, with an aim of recruiting participants with diverse experiences. Recruitment was expanded through the Australian Physiotherapy Association social media member groups reaching a broader range of CEs across various geographical locations, clinical settings and speciality areas. Interested participants received a participation information sheet via email and were asked to provide written consent. Upon consent, a second email was sent to schedule a virtual one-to-one interview. Recruited participants were encouraged to refer colleagues meeting the inclusion criteria. This purposeful referral process sought to include a range of relevant experiences and perspectives aligned with the research objectives.

A convenience sample of final year pre-registration physiotherapy students, including both undergraduate and graduate entry masters students, attending clinical practice placements at The University of Queensland Health and Rehabilitation clinics were recruited. Inclusion criteria required students to have completed at least two five-week clinical placements to ensure relevant clinical placement experiences. An invitation letter was distributed to all students at the start of their clinical practice placements, emphasising participation in the study was optional and would have no impact on their remaining program. Interested students provided their email address for contact by the lead researcher, who then provided a participant information sheet and a request for written consent. All eligible students providing consent were recruited, and a final email was sent to schedule an online focus group at a mutually convenient time.

C Data Collection

Two members of the research team (EM, RF) were involved in data collection. All interviews and focus groups were conducted via videoconferencing platforms and were recorded for future analysis. Data collection commenced in May 2023 and was ceased in September 2023 when no new insights or themes emerged indicating that theoretical sufficiency was reached.

Clinical educator one-on-one interviews (n=19) and six student focus groups (n=19) were conducted. All interviews were conducted by the lead researcher (EM) who was known to some of the participants. The duration of interviews ranged from 22 - 62 minutes (mean = 41.40). Student focus groups were facilitated by two members of the research team (EM, RF), both of whom were known to participants through their roles within the university. However, neither had been involved in the students' current or future clinical education or remaining assessment of their physiotherapy programs. The duration of focus groups ranged from 23 – 61 minutes (mean = 40.58).

At the start of all interviews and focus groups participants were provided with a working definition of caseload management, devised by the research team, following a review of the literature (Royal College of Occupational Therapists, 2020) and informed by the research team's clinical experiences of the realities of caseload management in physiotherapy practice:

"A caseload refers to the number of patients a student, or physiotherapist, provides physiotherapy interventions for. Caseload management refers to the volume and kinds of tasks undertaken in relation to their caseload. Examples include performing interventions; prioritisation of a ward or patient lists; participating in MDT discussions and meetings; liaising directly with family members and carers; providing carer training for family members; letter writing; and onward referrals etc...".

This definition was intended to ensure a shared and consistent understanding among all participants to guide subsequent discussions.

D Data Analysis

Braun and Clarke's (2019) reflexive thematic analysis provided the methodological framework for data analysis. According to Braun and Clarke (2019), reflexivity involves the researcher's reflective engagement with the data and the analytic process. In line with this approach, analysis of the data followed the key phases of data familiarisation, coding, generation, refinement and definition of themes. Familiarisation began with the lead researcher immersing themselves in the data to gain an understanding of the experiences and perceptions expressed by participants. Audiovisual recordings were carefully reviewed, with particular attention paid to the non-verbal communication used by participants, such as pauses, silences, gestures, or facial expressions, to facilitate a deeper insight and understanding of the data. Interview and focus groups were transcribed verbatim to capture participants exact words and expressions allowing for precise analysis of their responses and views. Iterative comparison of audiovisual recordings and transcripts enabled the lead researcher to capture nuances in language, tone, and emphasis, providing valuable context for deeper interpretation of the data. This process facilitated reflection on the researcher's positionality within the study, conducting a critical self-assessment of their interactions with participants during data collection to mitigate bias (Bourke, 2014) and ensure thoroughness in questioning (Smith & Sparkes, 2016).

Preliminary coding commenced with analysis of clinical educator interview transcripts, with subsequent analysis of student focus group transcripts. Analysing each participant group separately enabled the researcher to delve deeply into the experiences and perspectives of each group ensuring the unique insights of each were thoroughly explored and understood. Codes were organised together into sub-themes and themes that captured patterns. These foundational codes and sub-themes were refined through team consensus. Rigorous review and scrutiny by the research team ensured that the resulting themes accurately represented the dataset and addressed the overall aims of the study.

To enhance methodological rigor and reflexivity, independent data analysis was subsequently undertaken by another member of the research team (RF). These processes were reviewed by the entire research team who refined the themes until consensus was reached. The research team held regular review meetings throughout data collection, analysis, and result writing to maximise rigour, ensure trustworthiness, transparency, and credibility of results. Furthermore, reflexivity was upheld by considering the researchers' roles in knowledge construction, acknowledging potential biases in data interpretation (Mays & Pope, 2000; Olmos-Vega et al., 2023). The lead researcher (EM), with extensive clinical and student supervisory experience, provided valuable insights into the challenges of integrating complex patients into clinical practice placements. Additionally, the second researcher (RF), an experienced physiotherapy educator and qualitative researcher, contributed to the analysis process by conducting all steps of data analysis independently, further strengthening the study's credibility and validity.

III RESULTS

Out of twenty-four interested clinical educators, twenty met the inclusion criteria and consented to participate. However, due to workload demands, only nineteen took part in the study. All twenty-two interested students met the inclusion criteria and provided consent, nineteen participated, with three students missing their scheduled focus group sessions without explanation.

An online survey was used to collect demographic information from all participating clinical educators, with seventeen responding, resulting in an 85% response rate (Table 3). Before each focus group, student participants verbally shared their demographic details (Table 4).

Four key themes were generated: 1. Variable interpretations of caseload management; 2. Navigating the complexities of caseload management; 3. Realising caseload management matters; and 4. Preparation prior to clinical practice placements is crucial.

Table 3

Clinical educator demographics

Demographic	
Gender	
Female	14 (74%)
Male	5 (26%)
Clinical experience	13.67 years (range 6-26)
Clinical educator experience	8.2 years (range 2-20)
Clinical setting	
Public hospital	11 (57.9%)
Private practice	2 (10.5%)
Community	3 (15.8%)
Disability	1 (5.3%)
Rural	2 (10.5%)

Table 4

Student demographics

Demographic	
Gender	
Female	15 (79%)
Male	4 (21%)
No. clinical placements	
2	4 (21%)
3	12 (63%)
4	2 (11%)
5	1 (5%)
Clinical setting	
Musculoskeletal	6 (10.5%)
Neurological	17 (29.7%)
Cardiorespiratory	12 (21%)
Orthopaedics	3 (5.3%)
Paediatrics	1 (1.8%)
Private practice	15 (26.3%)
Community rehab	1 (1.8%)
Residential aged care	1 (1.8%)
Private disability service	1 (1.8%)

*Total of 57 placements completed by participants

A Variable Interpretations of Caseload Management

Both participant groups acknowledged the significance of exposing students to caseload management activities during clinical practice placements, believing these experiences provide real-world preparation for the realities and expectations of new graduate clinical practice. However, clinical educators had varied perceptions regarding what constitutes 'caseload management', highlighting it is a multifaceted concept perceived differently by clinicians based on their individual roles and responsibilities. Notably student participants also provided varied responses, suggesting students' perceptions and understanding is influenced by exposure during clinical practice placements.

Both clinical educators and student participants identified several key caseload management activities that students frequently have the opportunity to engage in, such as communication practices for coordinating patient care and engaging in practices that facilitate collaborative teamworking within the multidisciplinary team. Such activities were perceived to allow students to understand the roles and contributions of other healthcare professionals thus developing their ability to work effectively in multidisciplinary teams:

CE18: "They definitely have to provide feedback at our MDT meetings and give a prioritisation of goals and what we're working on"

S5: "In the hospital you get more chance to interact with different staff...a lot of communication across different disciplines"

Prioritisation and effective time management of patient care and managing daily responsibilities were also emphasised. Clinical educators perceived a vital component of placements as allowing students to develop skills in efficient time management and task prioritisation. Student participants placed high importance on opportunities to take ownership of prioritising their daily schedules as a valuable learning tool:

CE16: "They have to plan their day and then if they needed to negotiate with OT or something, because they need a specific time, that was sort of on them"

S18: "She would give us the pen and be like plan your day, so we were able to discuss between ourselves around the meetings of the day, ok this person is priority...So that was quite good to attempt that time management"

Clinical educators highlighted accurate and timely documentation is crucial for maintaining patient records, ensuring continuity of care, and efficiently managing caseloads. They emphasized its importance, particularly for coordinating discharges and post-discharge care. However, while some students recognised documentation as an important aspect of caseload management, many reflected on the time management challenges they faced balancing this with other clinical caseload management tasks:

CE16: "They should be really across you know, the discharge dates and things like that so they are making sure they are prioritising getting paperwork done for that"

S16: "How well you do with the non-clinical stuff is mainly note-taking, I think that gets put to the side, so if I'm late back one night it's note-taking it's not anything else"

B Navigating the Complexities of Caseload Management

Clinical educators agreed on the importance of involving students in caseload management during placements but noted that opportunities often depend on specific caseloads and tasks, leading to varied learning experiences for students. Furthermore, clinical educators noted that if opportunities do not naturally arise, they will not recreate these missed opportunities. Student participants echoed these concerns, suggesting that limited opportunities to engage in caseload management activities negatively impacts their learning and preparedness for handling such tasks as new graduates:

CE13: "What your caseload looks like really determines what activities that you get exposed to and I think that's why students or new grads, come out and they say depending on where you are depends on how prepared you feel for actually being a new grad"

S18: "I know there are other students who got to discharge patients to rehab quite often, but for me just one time practise and I would say I don't know how to do that properly"

Participants recognised that individual clinical educators set significantly varied expectations, influencing the volume and type of caseload management activities students engaged in. Some clinical educators set high expectations, offering students ample opportunities to manage diverse caseloads, while others were more conservative, providing fewer and less varied experiences, highlighting the impact of educator decisions on students' practical learning experiences:

S9: "I think it definitely depends on the educator and the environment of the hospital because at one of my hospitals it was very much students sit in the back row, students listen, students don't talk. And then in my next placement it was like this is your patient you have to come up with everything, you need to speak to the doctors, you need to go to the meetings, so like definitely different experiences depending on your educator"

CE9: "I think probably the biggest problem is that it's such a variation between every clinical educator of what is expected and what isn't"

Clinical educators highlighted several factors complicating their willingness to involve students in caseload management activities. Firstly, they frequently prioritised patient contact time, believing it to be more valuable for student learning. Secondly, a reluctance to involve students due to the priority placed on patient duty of care. Upon reflection, clinical educators recognise that students are often shielded from these essential caseload management activities, impacting their preparedness for professional practice:

CE14: "It's the time the face time with the clients that's more important"

CE6: "I just think the five weeks, you know that they're better off getting their chunky stuff and the patient exposure, that's what a placement is supposed to be"

Clinical educators widely recognised that effective communication and organizational skills are key factors when deciding to involve students in caseload management activities. Students who communicate clearly and confidently, and manage their time well, earn educators' trust and receive more opportunities due to an instilled confidence that they would be able to have "*more capacity to do some of the other tasks*" (CE16). Students who demonstrated skills in managing and prioritising individual patient care gave clinical educators confidence that they were ready for them to "*hand more over*" (CE15) and would be able to "*rise to the standard*" (CE10) of caseload management, stemming from their ability to make appropriate clinical decisions and respond effectively to clinical demands. Conversely, students who did not demonstrate these skills were not provided with the same opportunities to engage in caseload management activities:

CE12: "If a student is having trouble, then I won't introduce all of those things, but if they're doing well, the expectation is that they can"

During clinical practice placements, the timing for introducing caseload management activities varies among educators, however, typically occurs around the mid-point. This allows students to establish "*a good grounding*" (CE16) in clinical practice and demonstrate effective "*management of an individual client*" (CE8). Clinical educators consider students' placement stage, with those nearing completion receiving more caseload management opportunities, assuming they have developed necessary skills and experience to handle a higher level of responsibility. However, educators often overlook providing these opportunities earlier in placements, limiting students' exposure across clinical areas.

CE4: "If they've been on a placement before, they might be already thinking a little bit more management styles. Whereas if they're brand new, they're probably just focused on the actual treatment and what they're doing day to day and would struggle a little bit more with some of those management things and talking with the rest of the team about the care needs of the patient"

C Realising Caseload Management Matters

Clinical educators recognised that exposure to caseload management is pivotal for shaping students' skill development and readiness for future practice. They reflected on both the advantages of involving students in real-life caseload management activities and the potential consequences of withholding such experiences. Interestingly, some clinical educators suggested that perhaps they are not adequately preparing students, prompting a need to *“start to question ourselves as to why we're not and what else can we do”* (CE10):

CE7: “I think we equipped them with more tools than they come into the placement with, by the end of the placement most students are equipped with enough tools that they could (manage patients) independently. Probably not giving them enough of the exposure to the caseload. I think the caseload's something that they they're not getting exposed to”

Clinical educators varied in their expectations of students on placement versus new graduates, with differences noted across clinical areas and roles. While some saw similarities in expectations at the end of placements, others noted gaps suggesting a need for more preparation. It was also noted that new graduates are expected to independently manage their caseloads, however, further support is recognised as crucial to foster growth during the initial years of practice:

CE10: “Maybe we're not giving them all the skills that they need. Maybe we're not equipping them well enough to be new grads when they come out...it comes back to giving someone the best of what you can and prioritising what you do give them because you think it will give them maximum skill set for when they leave. But does that match to a new graduate who's come out at the end? Nah, definitely not”

CE4: “Whenever you get a new graduate they'll not be expected to be working at the same level as somebody that's been around for a few years, so still a bit of growth there as well”

However, student participants reported feeling underprepared for caseload management activities, noting a disparity in clinical expectations, particularly regarding the volume of caseload expected. They also reported that they would need ongoing support in managing caseloads of patients with complex needs during their new graduate clinical practice:

S16: “I've seen like at most 8 patients in a day, but from what I've been told 12 or 14 is what is expected (as a new graduate)”

S8: “I think I can feel a bit confident towards approaching these complex patients, primarily because I've seen the support the team can provide if you reach out in adequate time. So as a new grad, understanding my limitations, if I'm very open about what I know and don't know, and then obviously get their input and work through things”

Clinical educators unanimously agreed on the importance of guiding and supporting students in caseload management through supportive clinical reasoning discussions, vicarious learning opportunities, and gradually scaffolding their participation. They suggested this approach fosters students' independence and enhances active engagement placements. However, clinical educators also recognised that students are seldom given opportunities to independently lead caseload management activities, reflecting that enhancing this aspect may better prepare students for clinical practice as new graduates:

CE8: “Hopefully over time you will have modelled for them what they're supposed to do and talking them through your own clinical reasoning as to why you would manage a caseload in a certain way. As they get further down the placement, you'll give them less assistance and then probably I would give them a little bit of warning as well that I'm going to make them do it independently”

CE17: “I think we could probably on the whole step back a bit more and let students lead and manage caseloads and prioritise and timetable their week more”

While students appreciated structured guidance and mentorship provided by clinical educators when navigating caseload management tasks, they emphasised the importance of additional learning opportunities to enhance their skills during placements. They placed high value on receiving tutorials or templates for documentation and prioritisation, having opportunities to

actively practicing prioritising, observing clinical educators during caseload management activities like multidisciplinary team meetings and family meetings, and gaining insights from new graduates on effective caseload management strategies:

- S18: "I think it helped me to realise ok this is what goes on in these things, this is where I am expected to chime in and this is when someone else is, to get the flow of actually what goes on"
- S1: "Talking to the new grads who were working there and them giving us tips how they've been managing that was also quite helpful because they're the ones who are actually trying to get through all those caseloads"

Students anticipated the significance of developing effective caseload management skills for their future transition into clinical practice. They suggested increasing opportunities to shadow clinical educators throughout a full clinical day, to provide a comprehensive understanding of workload time management, prioritisation, patient and family interactions, and interdisciplinary communication, to thus enhance preparedness for new graduate clinical practice:

- S8: "I feel if the first two days or so are observational, like if you go through their entire day, that'll be most effective because you can actively implement it right away in placement. There's a significant gap between observationals and standardised patients to actually what we have to do on our placements. So, this might be most time effective"

D Preparation Prior to Clinical Practice Placements is Crucial

Both participant groups strongly perceived pre-clinical placement training opportunities as vital for adequately preparing students for clinical placements and the demands of caseload management that they will encounter during clinical practice placements. However, both participant groups suggested that a student's awareness of a physiotherapist's caseload management expectations is often lacking upon entering their placements:

- S9: "I probably wouldn't have thought that we would have to do those things, I mean originally before my hospital placement I thought that we would just go and treat patients and then we would go home"
- CE10: "Do students have an awareness of caseload management? Probably not"

Both participant groups agreed that universities bear responsibility for bridging the gap between classroom learning and clinical practice by equipping students with foundational knowledge and skills for caseload management. However, students reported feeling underprepared in this area. To enhance readiness, both groups recommended implementing pre-clinical placement training strategies that included simulated scenarios and problem-based learning focusing on prioritisation, documentation, communication within physiotherapy and multidisciplinary teams, and time management, aiming to develop basic practical skills and collaborative processes necessary for effective caseload management.

- S17: "We have a simulation ward to go up and actually run it like a day in the hospital"
- CE1: "I've got this many patients to fit into my day plus this task, this task, this task, how would you work that into your day in terms of prioritisations and delegations as well, I suppose just like actual case like scenario learning"

Both participant groups recognised that clinical education providers also have a responsibility to enhance pre-clinical placement preparation for their specific clinical context. Both participant groups agreed that pre-clinical placement information and orientation content could be enhanced to be more in-depth regarding caseload management expectations, including clinical responsibilities and time management, prioritisation tools, care pathways, and documentation templates with written examples:

- S18: "I feel like the orientation and introduction to the placement could cover things that we do, ok so the norm patient time as a physio in the hospital looks like this, and these are the types of things that you may be required to do. I think something like that would be quite good"

- CE3: "It probably could be something we could include in the pre-information packs to be like you will be expected to talk to the MDT, to prepare your notes for case conference to attend the huddles and observe that, to observe family meetings, to go on home visits. Maybe we could make that a bit more clear, a bit more specific to the patient loads that we are gonna be giving them and some of the other expectations that we're going to hold"

IV DISCUSSION

This study provides insight into how clinical practice placements prepare physiotherapy students for caseload management. By exploring the topic from the perspectives of both students and clinical educators, it provides a more in-depth understanding of the factors shaping clinical opportunities and their perceived impacts on student learning experiences.

Previous research has indicated a disparity between the expectations and standards of physiotherapy practice and the practical experiences of students (Barradell et al., 2018). More recent research suggests that restricting students' exposure to essential skills required for independent clinical practice may hamper their ability to effectively prioritize and manage caseloads as new graduates, potentially impacting the quality of patient care (Stoikov et al., 2022). The findings of this current study align with these concerns. Students, reported feeling unprepared for caseload management tasks, noting gaps in clinical expectations and their preparedness to manage anticipated caseloads. Clinical educators similarly expressed concerns that clinical practice learning opportunities do not sufficiently prepare students for the demands they will face as new graduates.

The results of this study emphasise the significance of exposing students to caseload management activities during clinical practice placements. However, there were varied perceptions regarding what activities constitute caseload management. Given the diverse clinical roles and responsibilities of clinical educators across various practice areas, and that physiotherapists work across the lifespan in diverse healthcare settings (Australian Physiotherapy Association, 2024), it is understandable that perceptions of caseload management differ widely, especially considering its complexity. Understanding these variations is crucial in clinical education to prepare students to adapt to diverse settings and gain deeper insights into effectively managing caseloads in preparation for new graduate clinical practice. Moreover, gaining a deeper understanding of healthcare professionals' perceptions of caseload management is vital for informing future learning strategies aimed at increasing student exposure to these activities. Therefore, further research is necessary to gain deeper insights in this area.

This study's findings demonstrate that both students and clinical educators acknowledged the crucial impact of exposure to caseload management on the development of students' skills and their perceived readiness for future clinical practice. This aligns with Kolb's widely accepted theory of experiential learning, which emphasizes the importance of real-world experiences in the learning process (Long & Gummelt, 2020). Both participant groups indicated that there was inconsistency in the learning opportunities available during clinical practice placements, suggesting that opportunities for caseload management are often shaped by contextual factors and available opportunities, rather than being systematically planned by clinical educators. Inconsistency in learning opportunities results in each students' placement experience being unique, leading to varied perceptions, understandings, and perceived skill levels in caseload management depending on their individual placement experiences and clinical exposure. To address this, Gibson and Palmero (2023) recommend that clinical placement hosts, universities, and physiotherapy accreditation bodies collaborate to provide consistent caseload management learning opportunities during training, including clinical practice placements. This collaboration aims to ensure uniform preparation for future physiotherapy practice and to reduce the variability in student experiences.

Fundamental to student learning is the role of clinical educators (Newstead et al., 2023). However, both sets of participants in this study noted considerable variability in the expectations held by individual clinical educators. This variability influenced the range and frequency of caseload management learning opportunities provided, thus highlighting the influential role of

clinical educators in shaping student practical learning experiences. Recent research indicates that there is a need for clinical educators and students to share a common understanding of the expectations for the activities and tasks students engage in during clinical placements, including expected performance standards (Gibson et al., 2019). However, students in this current study suggested that clinical educators do not openly collaborate with them to clarify expectations for caseload management or explain the reasons behind introducing or withholding such opportunities. Previous research in clinical educator decision-making indicates that students who are not informed about these decisions may encounter learning disadvantages and restricted opportunities for skill progression (Clouder et al., 2022). It has been proposed that offering students practical insights into their skill development needs may increase clinical opportunities, thereby potentially enhancing the transition into new graduate practice (McGivern et al., 2024). By fostering a more collaborative approach, clinical educators may better support students to participate in caseload management activities, thereby improving preparedness for professional practice.

Clinical educators are responsible not only for ensuring that students gain the necessary skills and competencies for new graduate practice but also for maintaining patient safety and high standards of care (Gibson & Palermo, 2023; Judd et al., 2023). This study's findings suggest that prioritising patient safety often limits students' opportunities to engage in caseload management, thereby limiting their hands-on experiences and potentially impacting their development of clinical caseload management skills. The literature on how students are exposed to caseload management activities is scarce, highlighting a need for further research to develop balanced educational strategies that ensure effective student learning without compromising patient safety. Clinical educators in the current study indicated that they evaluate students' ability to effectively and safely manage individual patient cases to determine whether to expose them to caseload management activities. They noted that students who exhibit high proficiency in prioritisation, time management, and communication inspire trust, leading to opportunities for caseload management. This practice is consistent with previous research, which suggests that clinical educators regulate students' access to activities, allowing for a gradual assumption of responsibility based on clinical educator evaluations (Clouder & Adefila, 2017; Patton et al., 2018). Moreover, students nearing the completion of their clinical practice placement year typically have greater opportunities to engage in caseload management activities than those earlier on, reflecting their perceived developed competencies and readiness for increased responsibility. This suggests that clinical educators perceive caseload management as a higher-level skill that perhaps not all students are able to handle the demands of. However, this disparity in clinical learning opportunities may hinder the transition to new graduate practice. Previous research suggests that limiting students from the caseload expected of new graduates amplifies challenges related to their preparedness for independent practice and adaptation to professional roles (Stoikov et al., 2021). However, further research is needed to explore the optimal strategies for assessing and facilitating student readiness for caseload management, ensuring that all students receive equitable and effective learning experiences. Notably, no studies have yet explored the perspectives of new graduates and their supervisors on how current training activities, or the lack thereof, impact new graduate practice and readiness for caseload management. Addressing this gap is essential for identifying key areas for improvement in physiotherapy training. Focusing on these perspectives, may facilitate the development of consistent, targeted and effective strategies to prepare graduates for the demands of independent caseload management, supporting a smoother transition from student to professional practice

Both students and clinical educators agreed upon the crucial role of support during caseload management activities. Clinical educators emphasised support strategies such as clinical reasoning discussions, opportunities for observation, and a gradual scaffolding of increased participation as important for developing students' clinical skills and confidence. Students however, suggested additional supports such as written documentation templates, real-life working examples of how to manage caseloads and having opportunities to learn caseload management strategies from new graduates to enhance their readiness for caseload management during clinical practice placements. Students also emphasised the importance of

spending extended time observing clinical educators throughout an entire day. This perspective aligns with previous research indicating that observation is a critical learning tool. Through activities such as observation, students can experience, in safe ways, the practical application of theoretical knowledge, enhance their clinical problem-solving skills, and learn behaviour traits necessary for challenging encounters (Burgess et al., 2020; Edgar & Connaughton, 2018; Henshaw & Qasem, 2020; Mohammadi et al., 2021).

Students expressed a strong desire to be more actively involved in aspects of caseload management. Interestingly, clinical educator participants acknowledged that not allowing students to engage fully in caseload management activities might limit their preparedness for the demands of new graduate clinical practice. The concept of students as partners is gaining recognition in tertiary education (Barradell & Bell, 2021). Engaging students as co-inquirers in their education has been suggested to enhance learning by fostering metacognitive awareness, self-evaluation, and greater awareness of graduate attributes and employability skills (Mercer-Mapstone et al., 2017). Involving students as partners in clinical practice placements and the design of clinical education content offers an innovative approach to enriching their learning and professional development through hands-on experiences. These insights, supported by the findings from this current study, call attention to the critical need for greater emphasis on student perspectives and their active involvement in clinical learning. Further research is indicated to explore how incorporating student voices and perspectives into the design and structure of clinical practice placements can better equip students with the competencies required for successful transition to new graduate practice.

Pre-clinical preparation is a vital component of physiotherapy education, laying the foundation for students to effectively manage caseloads during their clinical practice placements. Such preparatory training ensures that students are not only academically and technically prepared, but also confident in their ability to perform clinical activities (Forbes & Mandrusiak, 2020; Martin et al., 2022). Both students and clinical educators, in this current study, highlighted the need for enhancing pre-clinical preparation with a greater focus on caseload management skills and experiences. They suggested that the responsibility for preparing students for the specific demands of caseload management should not rest solely with university education providers but also with clinical placement hosts who are better placed to provide context-specific preparatory training. This aligns with previous research indicating that this collaboration ensures that university education providers, clinical educators, and students share a collective understanding of the expectations for student activities in clinical settings, including the standards of performance expected (Gibson et al., 2019).

Students and clinical educators acknowledged the role of universities in preparing students for the transition from classroom to clinical practice. However, they emphasised the need for more focus on exposure to caseload management prior to placement experiences. Clinical educators suggest students' lack of awareness of caseload management expectations upon commencement of clinical placements negatively impacts decisions to assign such activities, students further suggest that a lack of exposure in pre-clinical training resulted in inefficiencies in time management and elevated feelings of stress during placements. These findings indicate that relying exclusively on clinical placements to expose students to the demands and expectations of caseload management may be insufficient, emphasising the importance of integrating caseload management training into pre-clinical curricula. However, findings from this current study also highlighted the heterogeneity in caseload management practices and across clinical practice placement settings, presenting challenges for entry-level curricula in equitably preparing students for the transition to diverse clinical placement learning environments. In response to these challenges, both participant groups suggested that specific interactive educational approaches, including simulated case scenarios and problem-based learning, may be beneficial. Simulated learning experiences (Copley et al., 2024; Rossler et al., 2021) and problem-based learning (Lennon et al., 2019; Matlala, 2021) have been employed in healthcare education to recreate elements of real clinical practice and enrich student learning in a safe and supported environment. Findings from this study advocate for the inclusion of interactive learning opportunities that

emphasize prioritisation, effective communication within physiotherapy and interdisciplinary teams, time management, and documentation. These skills were perceived by clinical educators as essential for effective caseload management during clinical practice placements. However, given the extensive content of university pre-entry training programs, further investigation is needed to explore the depth and breadth of pre-clinical training required.

Both participant groups in the current study highlighted the need for enhanced focus on caseload management responsibilities and expectations within pre-placement information guides and during clinical orientations. This study's findings advocate for the integration of context-specific topics, such as effective time management and prioritisation strategies, as well as case studies of previous patient cases to provide practical insights into caseload management and documentation requirements, supported by written examples. By highlighting these findings, this study hopes to shape the development of future pre-placement preparatory information and orientation, ensuring students are equipped with foundational knowledge required for a rich learning experience while maintaining quality patient care.

V IMPLICATIONS AND RECOMMENDATIONS

This is the first study to investigate this topic from the viewpoint of students and clinical educators, providing unique and valuable insights into current practice and the challenges involved in developing students' caseload management skills. Previous research has identified significant gaps in new graduates' preparedness for independent caseload management, highlighting their perceived training deficiencies during pre-registration training. The findings of this study highlight the need for a comprehensive understanding of the specific learning opportunities necessary to improve caseload management skills during pre-registration physiotherapy training. Future research should therefore focus on exploring this concept directly with new graduates in the workplace. These insights will inform targeted recommendations aimed at enhancing learning opportunities, thereby improving the quality of physiotherapy education by ensuring students acquire essential skills and competencies in caseload management for successful entry into the workforce.

This study aims to contribute to the enhancement of clinical learning experiences for students by highlighting the perceptions and challenges related to caseload management. The variation among clinical educators and their decision-making warrants further investigation. Specifically, there is a need to explore the facilitators and barriers to caseload management clinical training and how these factors impact the development of students' caseload management skills. Additionally, attention should be given to the training needs of clinical educators in caseload management to reduce disparities in clinical learning experiences.

Given the challenges and limited exposure to caseload management within university education, this study advocates for the inclusion of pre-placement education within the university curriculum. This education should target caseload management expectations and include dedicated learning activities, such as simulations and problem-based case scenarios, to better support the transition from classroom learning to clinical practice.

VI STRENGTHS AND LIMITATIONS

A key strength of this study is the diversity of the participants, and the richness of the data collected. The study captured the experiences of students and clinical educators across various clinical areas and sectors, allowing for an in-depth exploration of caseload management expectations and practices. While this diversity likely enhances the generalisability of the findings, several limitations should be acknowledged. Participants were predominantly from one state in Australia, and all student participants were recruited from a single university, which may have reflected a limited perspective regarding pre-clinical training needs. Additionally, there was variation in the clinical experiences of the students; those who were earlier in their placements may not have had sufficient exposure or a wide range of practical experiences to reflect upon, which may have influenced the results. Furthermore, this study did not collect data on clinical

educator:student ratio which may have influenced learning opportunities for caseload management.

Additionally, the researchers who conducted interviews and focus groups were known to some of the participants. This familiarity may have introduced personal bias. To mitigate this, the team engaged in discussions and reflections and conducted additional analysis of de-identified transcripts. Participants were aware of the research objectives and might have provided responses they perceived to be favourable, potentially introducing bias. However, it is also worth noting that this familiarity may have been beneficial by making participants feel more comfortable sharing their perceptions and opinions openly.

VII CONCLUSION

This study offers insights into the current practice of providing students with opportunities to engage in caseload management activities during clinical practice placements, from perspectives of students and clinical educators. The findings highlight the significance of exposure to caseload management for effective skill development and preparation for independent practice as new graduates. Opportunities for such exposure vary significantly and are often influenced by clinical educators' personal judgments and their assessment of student capabilities. The results offer guidance for clinical educators and university education providers to enhance entry-level physiotherapy training, ensuring equitable learning opportunities that facilitate students' development of core competencies required for new graduate clinical practice in caseload management.

References

- American Physical Therapy Association. (2020). *Standards of practice for physical therapy*. <https://www.apta.org/siteassets/pdfs/policies/standards-of-practice-pt.pdf>
- Atkinson, R., & McElroy, M. (2016). Preparedness for physiotherapy in private practice: Novices identify key factors in an interpretive description study. *Manual Therapy*, 22, 116-121. <http://doi.org/10.1016/j.math.2015.10.016>
- Australian Physiotherapy Association. (2024, May). *Statement on physiotherapist scope of practice*. https://australian.physio/sites/default/files/APA%20Position-Statement%20on%20Scope%20of%20Practice%20May%202024_FA.pdf
- Australian Physiotherapy Council (2024, November). *Australian physiotherapy council clinical placement and accreditation FAQ's*. <https://cdn.physiocouncil.com.au/assets/volumes/downloads/Clinical-Placement-Accreditation-FAQs.pdf>
- Barradell, S., & Bell, A. (2021). Is health professional education making the most of the idea of 'students as partners'? Insights from a qualitative research synthesis. *Advances in Health Sciences Education*, 26, 513–580. <https://doi.org/10.1007/s10459-020-09998-3>
- Barradell, S., Peseta, T., & Barrie, S. (2018). "There's so much to it": The ways physiotherapy students and recent graduates experience practice. *Advances in Health Sciences Education*, 23(2), 387–406. <https://doi.org/10.1007/s10459-017-9804-z>
- Bourke, B. (2014). Positionality: Reflecting on the research process. *The Qualitative Report*, 19(18), 1–9.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Burgess, A., van Diggele, C., Roberts, C., & Mellis, C. (2020). Key tips for teaching in the clinical setting. *BMC Medical Education*, 20, 463. <https://doi.org/10.1186/s12909-020-02283-2>
- Chesterton, P., Chesterton, J., & Alexanders, J. (2023). New graduate physiotherapists' perceived preparedness for clinical practice. A cross sectional survey. *European Journal of Physiotherapy*, 25(1), 33-42. <https://doi.org/10.1080/21679169.2021.1958007>
- Clouder, L., & Adefila, A. (2017). Empowerment of physiotherapy students on clinical placement: The interplay between autonomy, risk, and responsibility. *Physiotherapy Theory and Practice*, 33(11), 859-868. <https://doi.org/10.1080/09593985.2017.1357153>
- Clouder, L., Jones, M., Mackintosh, S., & Adefila, A. (2022). Development of autonomy on placement: Perceptions of physiotherapy students and educators in Australia and the United Kingdom. *Physiotherapy Theory and Practice*, 38(10), 2100–2100. <https://doi.org/10.1080/09593985.2021.1898066>
- Copley, J., Martin, R., Dix, C., Forbes, R., Hill, A., Mandrusiak, A., Penman, A., Patterson, F., Davies, S., Jauncey-Cooke, J., Mahendran, N., Hooper, K., & Collins, C. (2024). Fostering collaborative practice through interprofessional simulation for occupational therapy, physiotherapy, dietetics, and nursing students. *Journal of Interprofessional Care*, 38(3), 534–543. <https://doi.org/10.1080/13561820.2024.2303499>

- DeJonckheere, M., & Vaughn, L. M. (2019). Semistructured interviewing in primary care research: A balance of relationship and rigour. *Family Medicine and Community Health*, 7, e000057. <https://doi.org/10.1136/fmch-2018-000057>
- Edgar, S., & Connaughton, J. (2018). Exploring the role and value of pre-clinical experiences in a physiotherapy program in the development of employability skills: A qualitative case series. *Australian Journal of Clinical Education*, 2, Article 4. <https://doi.org/10.53300/001c.5095>
- Forbes, R., & Mandrusiak, A. (2020). Educating students to educate patients. *The Clinical Teacher*, 17(3), 244–248. <https://doi.org/10.1111/tct.13036>
- Gibson, S., & Palermo, C. (2023). Optimizing the role of clinical educators in health professional education. In Nestel, D., Wright, J. G. E., & Hay, M. A. A. O. (Eds.), *Clinical education for the health professions* (pp. 985–998). Springer Nature Singapore Pte Ltd. https://doi.org/10.1007/978-981-15-3344-0_125
- Gibson, S. J., Porter, J., Anderson, A., Bryce, A., Dart, J., Kellow, N., Meiklejohn, S., Volders, E., Young, A., & Palermo, C. (2019). Clinical educators' skills and qualities in allied health: A systematic review. *Medical Education*, 53(5), 432–442. <https://doi.org/10.1111/medu.13782>
- Health & Care Professions Council. (2023). *Standards of Proficiency*. Physiotherapists. <https://www.hcpc-uk.org/globalassets/resources/standards/standards-of-proficiency---physiotherapists.pdf>
- Henshaw, F. R., & Qasem, S. (2020). Observational placement: A useful learning tool to consolidate wound management amongst podiatry students. *Wound Practice and Research*, 28, 163–167. <https://doi.org/10.33235/wpr.28.4.163-167>
- Hills, C., Quigley, D., Bennett, A. E., Haughey, F., & McMahon, S. (2019). Core indicators of quality in practice education placements in allied health and social care professions: A scoping protocol. *JBI Database of Systematic Reviews and Implementation Reports*, 17(8), 1060-1070. <https://doi.org/10.11124/JBISRI-2017-004031>
- INACSL Standards Committee, Rossler, K., Molloy, M. A., Pastva, A. M., Brown, M., & Xavier, N. (2021, September). Healthcare simulation standards of best practice™: Simulation-enhanced interprofessional education. *Clinical Simulation in Nursing*, 58, 49–53. <https://doi.org/10.1016/j.ecns.2021.08.015>
- Judd, B., Brentnall, J., Scanlan, J. N., Thomson, K., Blackstock, F., Mandrusiak, A., Chipchase, L., Phillips, A., & McAllister, S. (2023). Evaluating allied health students' readiness for placement learning. *BMC Medical Education*, 23, 70. <https://doi.org/10.1186/s12909-023-04005-w>
- Kennedy, E., Bax, J., Blanchard, P., Drinkwater, K., Dysart, A., Horan, K., Jina, R., Leaming, A., Lee, P., Lepine, G., Jackson, D., & Alister, G. (2022). Clients and conditions encountered by final year physiotherapy students in private practice: A retrospective analysis. *Physiotherapy Theory and Practice*, 38(3), 3027-3036. <https://doi.org/10.1080/09593985.2021.1975340>
- Kurunsaari, M., Tynjälä, P., & Piirainen, A. (2018). Graduating physiotherapy students' conceptions of their own competence. *Vocations and Learning*, 11(1), 1-18. <https://doi.org/10.1007/s12186-017-9177-8>
- Lao, A., Wilesmith, S., & Forbes, R. (2022). Exploring the workplace mentorship needs of new-graduate physiotherapists: A qualitative study. *Physiotherapy Theory and Practice*, 38(12), 2160-2169. <https://doi.org/10.1080/09593985.2021.1917023>

- Lennon, O., Phelan, D., Wallace, D., King, J., & Barrett, T. (2019). "The more you did, the more it made sense": Problem-based learning to improve early evidence-based practice in an undergraduate physiotherapy professional programme. *Physiotherapy Research International: The Journal for Researchers and Clinicians in Physical Therapy*, 24(3), Article e1774. <https://doi.org/10.1002/pri.1774>
- Long, E. M., & Gummelt, G. (2020). Experiential service learning: Building skills and sensitivity with Kolb's learning theory. *Gerontology & Geriatrics Education*, 41(2), 219–232. <https://doi.org/10.1080/02701960.2019.1673386>
- Martin, R., Phan, A., Tan, S., Mandrusiak, A., & Forbes, R. (2022). Hospital discharge planning: A qualitative study of new-graduate physiotherapists' experiences. *Health Education in Practice*, 5(1), 43-57. <https://doi.org/10.33966/hepj.5.1.15759>
- Matlala, S. (2021). Educators' perceptions and views of problem-based learning through simulation. *Curationis*, 44(1), Article a2094. <https://doi.org/10.4102/curationis.v44i1.2094>
- Mays, N., & Pope, C. (2000). Qualitative research in health care: Assessing quality in qualitative research. *BMJ*, 320(7226), 50–52.
- McGivern, E., Mandrusiak, A., Rahmann, A., & Forbes, R. (2024). "This patient is not appropriate": Perspectives of physiotherapy students and clinical educators on exposing students to patients with complex needs during clinical practice placements. *Physiotherapy Theory and Practice*. Advance online publication. <https://doi.org/10.1080/09593985.2024.2355243>
- Mercer-Mapstone, L., Dvorakova, S. L., Matthews, K. E., Abbot, S., Cheng, B., Felten, P., Knorr, K., Marquis, E., Shammas, R., & Swaim, K. (2017). A systematic literature review of students as partners in higher education. *International Journal for Students as Partners*, 1(1). <https://doi.org/10.15173/ijsap.v1i1.3119>
- Mohammadi, E., Mirzazadeh, A., Shahsavari, H., & Sohrabpour, A. A. (2021). Clinical teachers' perceptions of role modelling: A qualitative study. *BMC Medical Education*, 21, 261. <https://doi.org/10.1186/s12909-021-02648-1>
- Naidoo, D., Van Wyk, J., & Joubert, R. N. (2014). Are final year occupational therapy students adequately prepared for clinical practice? A case study in KwaZulu-Natal. *South African Journal of Occupational Therapy*, 44(3), 24-28.
- Newstead, C., Johnston, C., Wakely, L., & Nisbet, G. (2023). An exploration of factors influencing physiotherapists' involvement in student clinical education. *Physiotherapy Theory and Practice*. <https://doi.org/10.1080/09593985.2023.2227245>
- Nyoni, C. N., Hugo-Van Dyk, L., & Botma, Y. (2021). Clinical placement models for undergraduate health professions students: A scoping review. *BMC Medical Education*, 21, Article 598. <https://doi.org/10.1186/s12909-021-03023-w>
- Olmos-Vega, F. M., Stalmeijer, R. E., Varpio, L., & Kahlke, R. (2023). A practical guide to reflexivity in qualitative research: AMEE Guide No. 149. *Medical Teacher*, 45(3), 241–251. <https://doi.org/10.1080/0142159X.2022.2057287>
- Patton, N., Higgs, J., & Smith, M. (2018). Clinical learning spaces: Crucibles for practice development in physiotherapy clinical education. *Physiotherapy Theory and Practice*, 34(6), 589–599. <https://doi.org/10.1080/09593985.2017.1423144>
- Phan, A., Tan, S., Martin, R., Mandrusiak, A., & Forbes, R. (2023). Exploring new-graduate physiotherapists' preparation for, and experiences working within, Australian acute hospital settings. *Physiotherapy Theory and Practice*, 39(12), 1918-1928. <https://doi.org/10.1080/09593985.2022.2059424>

- Physiotherapy Board of Australia & Physiotherapy Board of New Zealand. (2023). *Physiotherapy practice thresholds in Australia & Aotearoa New Zealand*. <https://www.physiotherapyboard.gov.au/Accreditation.aspx>
- Royal College of Occupational Therapists (2020). *Managing Caseload – Workload Weighting*. <https://www.rcot.co.uk/sites/default/files/Managing%20Caseload%20-%20Workload%20Weighting%20Briefing%20%282020%29.pdf>
- Smith, B., & Sparkes, A. C. (2016). Interviews: Qualitative interviewing in the sport and exercise sciences. In B. Smith & A. C. Sparkes (Eds.), *Routledge handbook of qualitative research in sport and exercise* (pp. 103–123). Routledge.
- Stalmeijer, R. E., McNaughton, N., & Van Mook, W. N. K. A. (2014). Using focus groups in medical education research: AMEE Guide No. 91. *Medical Teacher*, 36(11), 923–939. <https://doi.org/10.3109/0142159X.2014.917165>
- Stoikov, S., Gooding, M., Shardlow, K., Maxwell, L., Butler, J., & Kuys, S. (2021). Changes in direct patient care from physiotherapy student to new graduate. *Physiotherapy Theory and Practice*, 37(2), 323–330. <https://doi.org/10.1080/09593985.2019.1628138>
- Stoikov, S., Maxwell, L., Butler, J., Shardlow, K., Gooding, M., & Kuys, S. (2022). The transition from physiotherapy student to new graduate: Are they prepared? *Physiotherapy Theory and Practice*, 38(1), 101–111. <https://doi.org/10.1080/09593985.2020.1744206>
- Tuckerman, J., Kaufman, J., & Danchin, M. (2020). How to use qualitative methods for health and health services research. *Journal of Paediatrics and Child Health*, 56, 818–820. <https://doi.org/10.1111/jpc.14849>
- World Physiotherapy. (2019). *Education policy statement*. <https://world.physio/policy/ps-education>