A Competency-Based Approach to Assessment of Pharmacist Preceptors in Australia

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Statement of Originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

I certify that the intellectual content of this thesis is the product of my own work, and that all assistance received in preparing this thesis and all sources have been acknowledged.

Andrew David Bartlett

Date

28/01/2026

Acknowledgements

This is a journey that began with a chance discussion with Prof Ines Krass at a teaching retreat in 2018 and although the PhD journey began there, my thoughts concerning supervision and the experiences of students and interns had been ruminating for some time.

I am relatively late to academia, having graduated from the University of Sydney with a bachelor's degree in pharmacy in 1992, and buying my first pharmacy in 1994. This started a 25-year career in pharmacy ownership in a number of pharmacy businesses. I was fortunate to have had a fantastic preceptor and mentor in Ian Marsden who inspired and continues to inspire me to this day. My sincere thanks go to him for taking a risk on a new graduate. I have also been a preceptor to several interns over my career. I would like to think that I have been able to inspire them onto bigger things in their careers the way that I was inspired by a great role model, but in truth, a number of them inspire me.

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Table of Contents

List of Key Abbreviations

ACPE	Accreditation Council for Pharmacy Education
AHPRA	Australian Health Practitioner Regulation Authority
APC	Australian Pharmacy Council
APPE	Advanced Pharmacy Practice Experiences
AUS	Australia
BPharm	Bachelor of Pharmacy
CASP	Critical Appraisal Skills Program
CCAPP	Canadian Council for Accreditation of Pharmacy Programs
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CPD	Continuing Professional Development
GRADE	Grading of Recommendations, Assessment and Evaluation
CERQual	Confidence in the Evidence from Reviews of Qualitative Research
GSAT	Generic Supervision Assessment Tool
HREC	Human Research Ethics Committee
IPA	International Pharmaceutical Abstracts
IPPE	Introductory Pharmacy Practice Experience
KPI	Key Performance Indicators
MKO	More Knowledgeable Other
NAPRA	National Association of Pharmacy Regulatory Authorities
NZ	New Zealand
PCC	Population, Concept, Context
Ph.C	Pharmaceutical Chemist
PharmBA	Pharmacy Board of Australia
PharmD	Doctor of Pharmacy
PRISMA-ScR	Preferred Reporting Items for Systematic reviews and Meta-Analyses - Scoping Review
PSA	Pharmaceutical Society of Australia
QCPP	Quality Care Pharmacy Program
REDCAP	Research Electronic Data Capture
TEQSA	Tertiary Education Quality Standards Agency
UK	United Kingdom
US	United States of America
WBA	Workplace Based Assessment
WIL	Work Integrated Learning
ZPD	Zone of Proximal Development
ZPTD	Zone of Proximal Teacher Development

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Preface

Preceptorship is a critical component of health professions education, providing a structured and supervised environment where novices can transition into competent professionals. It is a model of supervision that is utilised in a number of health professions, including pharmacy, nursing and medicine. The need for a consistent and effective preceptorship experience is underscored by its impact on the professional development and practice readiness of students and interns.

Through the presentation of four empirical publications, this thesis aims to explore how preceptor competencies can be identified, validated, and feasibly assessed to ensure quality preceptorship in Australian pharmacy education. By addressing the variability in preceptorship quality and aligning it with robust assessment methods, the study seeks to contribute significantly to the field by ensuring that preceptorship not only meets educational standards but also supports the professional growth and development of both preceptors and preceptees and the needs of the profession.

Abstract

Background: Pharmacy preceptors play a critical role in the professional development of pharmacy students and interns during work-integrated learning (WIL). Pharmacy education providers depend on the capability of preceptors to supervise, teach and assess students, and for a good WIL experience. Currently, there is no standardised framework for assessing preceptor competence in Australia despite accreditation bodies emphasising the need for quality assurance of experiential education. The aim of this thesis is to explore how preceptor competencies can be identified, validated, and feasibly assessed to ensure quality preceptorship in Australian pharmacy education.

Methods: A mixed-methods approach was employed across four studies. Focus groups explored stakeholders' views of preceptor competence, including motivations and barriers to becoming a preceptor. A systematic scoping review examined the literature from multiple health professions on preceptor competencies and methods of assessment. A cross-sectional survey of pharmacy education providers in Australia and New Zealand examined current preceptor assessment practices. A modified Delphi study was conducted to reach consensus on the competencies that need to be assessed along with the method of assessment and the most appropriate assessor.

Results: Sixteen evidence-based competencies were identified, and consensus was reached that eight should be considered mandatory and four preferable for assessment. Agreement was also reached on the method of assessment and appropriate assessor for each competency. One single method of assessment did not capture all competencies, supporting a multimodal assessment approach combining preceptee survey, self-assessment and peer observation.

Conclusion: Preceptor competency assessment is necessary and feasible. Implementation of national preceptor standards and systematic evaluation would promote quality assurance and support professional development of preceptors.

Notes

This thesis is presented as a thesis by publication according to the Higher Degree by Research Thesis and Examination Procedures (2026), Section 6.2 and consists of 6 Chapters. Chapters 1 and 6 present significant introduction and discussion respectively, while Chapters 2, 3 and 5 represent published peer reviewed works. Chapter 4 has been submitted for peer review but has not yet been accepted for publication.

The terms intern and preceptee have been used interchangeably due to differences in how they are referred to in various contexts.

Ethics approvals for the research projects reported in Chapters 2, 4 and 5 are contained in Appendix A and consist of letters of approval from The University of Sydney

Reference lists are presented with each chapter.

Authorship Attribution Statements

The following authorship attribution statements have been written using the Contributor Roles Taxonomy (CRediT) for each content chapter in this thesis.

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As supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

Dr Irene Um

28/01/2026

Artificial Intelligence

During the preparation of this thesis the author used Microsoft Co-pilot for the purposes of improving original text. The use of generative AI was to improve readability, improving sentence structure and clarity. Generative AI suggestions for text modification were reviewed for possible errors, inaccuracies or bias and text edited manually by the author as needed. The author takes full responsibility for the submitted thesis and ensures the work is their own and has used generative AI in accordance with the University's guidelines and policies.

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Publications and Communications

Published papers

- Bartlett AD, Um IS, Luca EJ, Krass I, Schneider CR. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. *BMC Medical Education*. 2020;20:1-9. https://doi.org/10.1186/s12909-020-02082-9

- Bartlett AD, Um IS, Krass I, Schneider CR. Ensuring the quality of clinical supervision: Stakeholder perceptions of pharmacy preceptor competence. *Currents in Pharmacy Teaching and Learning*. 2023;15(8):722-729. https://doi.org/10.1016/j.cptl.2023.07.003.

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Manuscripts submitted for publication – currently under review

- Bartlett AD, Schneider CR, Krass I, Um IS. Preceptor assessment practices in Australian and New Zealand pharmacy education

Conference presentations

Oral

- The Australian and New Zealand Association for Health Professional Educators (ANZHPE) 2019 Canberra - Andrew D Bartlett, Irene S Um, Edward J Luca, Ines Krass, Carl R Schneider. Measuring and assessing competencies of preceptors in health professions: A rapid review
- Lifelong Learning in Pharmacy (LLLP) 2021 Dublin (online)- Andrew D Bartlett, Irene S Um, Ines Krass, Carl R Schneider. Pharmacists' views on preceptor competency assessment - a qualitative study.
- Sydney Health Education Research Network (SHERN) 2020 Mini-Conference Lightning talks- Andrew D Bartlett, Irene S Um, Ines Krass, Carl R Schneider. Towards assessment of pharmacy preceptors: a qualitative study of preceptor and preceptee perspectives.

- International Social Pharmacy Workshop (ISPW) 2020 Sydney- Andrew D Bartlett, Irene S Um, Ines Krass, Carl R Schneider. Towards assessment of pharmacy preceptors: a qualitative study of preceptor and preceptee perspectives.
- Ottawa Conference 2024 Melbourne - Andrew D Bartlett, Irene S Um, Ines Krass, Carl R Schneider. Establishing a Consensus-Based Framework for Assessing Pharmacist Preceptor Competencies in Higher Education

Podcast

- Waranara Many Voices Podcast May 31, 2022 – Andrew Bartlett. Measuring and assessing competencies of preceptors in health professions https://podcasters.spotify.com/pod/show/waranara/episodes/Measuring-and-assessing-the-competencies-of-preceptors-in-health-professions-e1j9kb9

Poster

- International Pharmaceutical Federation (FIP) Brisbane 2023- Andrew D Bartlett, Irene S Um, Ines Krass, Carl R Schneider Developing consensus on competency and assessment of pharmacist preceptors
- Life Long Learning in Pharmacy (LLLP) 2025 Sydney Australia. Andrew D Bartlett, Irene S Um, Carl R Schneider. Preceptor assessment practices in Australia and New Zealand

Chapter 1. Introduction

1.1 Pharmacy education in Australia

The education of pharmacists in Australia has evolved significantly from its traditional origins through to the current integrated approaches to pharmacy education. Prior to the 1960's, pharmacy education followed an apprenticeship model where an aspiring pharmacist would learn "hands-on" through the guidance of an established practitioner along with part-time studies.[1] This led to the qualification of Pharmaceutical Chemist (Ph.C.). During the 1960's with the advent of the Bachelor of Pharmacy, pharmacy education transitioned to formal university-based education consisting of theoretical coursework, initially three years duration, followed by a structured internship.[2] Students would graduate and apply for provisional registration, then find a practice site and undergo a one year internship (or 1575 hours) under the supervision of a pharmacist preceptor and complete an intern training program prior to sitting a registration examination.[3] Pharmacy education continues to evolve with universities currently offering four year undergraduate degrees plus a one year internship, two year masters programs along with a one year internship, as well as five year degree programs that integrate the internship year and allow graduates to register as soon as their degree is completed.[4-6] All of these degree programs have components of work integrated learning (WIL) which must be undertaken during the degree that are required as part of their accreditation. The term preceptorship is used to describe periods of supervised practice.

1.2 Work Integrated Learning

WIL is a term often used interchangeably with terms like experiential education, project based learning, placements or internships, with a 2009 scoping review identifying approximately 50 terms used to describe WIL.[7] In general, WIL blends academic learning with practical work experiences and has been defined as an intentional component of

curriculum consisting of authentic work-focused experiences with students, education providers and external stakeholders working together.[8] In pharmacy curricula, this typically involves a university developing relationships with industry partners to facilitate placement in a community pharmacy or hospital pharmacy with students being under the supervision of a volunteer pharmacist practitioner for a period of time.[9,10]

Cooper et al (2010) describe seven dimensions of effective WIL, being: *Purpose, Context* (the workplace), *Integration, Curriculum, Learning, Partnerships and Support.*[11] This is a useful way to think about how WIL fits into pharmacy education and what makes for a good WIL experience. Clear purpose helps define expectations, the practice setting (workplace) plays an important role, and integration refers to productive work in a workplace team. Curriculum means there should be defined outcomes and ways to assess learning and learning involves observation, participation, reflection and review (as described by Kolb),[12] and finally support. Support has aspects related to individual support for students learning needs, but also the administrative support and development support for preceptors.[11]

As WIL becomes increasingly integrated into university curricula, workplace experiences are also being used to assess competency through Workplace Based Assessment (WBA).[13] WBA is an assessment approach where a student's competency is evaluated in a workplace setting.[14] The supervising pharmacist observes the students performing a task and provides feedback, consolidating a number of observations over time, then making an assessment of the student's competency.[15-17]

In Australia, pharmacy degree programs must, according to Criteria 1.6 of the Australian Pharmacy Council's (APC) accreditation standards,[18] include an element of experiential learning in their programs.[19] The APC is the independent accrediting authority responsible for setting and maintaining standards for pharmacy education and training programs.[20] These

experiential learning experiences typically involve short-term placements in community or hospital settings, where students are supervised by registered pharmacists.[21,22]

Following completion of their pharmacy degree, graduates in Australia must undertake 12 months of supervised practice as an intern.[23] During this internship, the preceptor is required to assess the intern using a range of WBA tools and sign off on several professional activities that make up a portfolio of work that must be submitted during the application for general registration.[24] While WIL has become an integral part of pharmacy education,[14] the success of these workplace-based learning experiences depends on the capability of preceptors to supervise, teach and assess students in a practice setting.[16] To aid this assessment of competency, the APC has developed specific WBA tools to evaluate intern pharmacists' competency development in real practice settings before general registration.[16]

1.3 Accreditation systems in pharmacy education and higher education

The provision of pharmacy education in Australia is governed through legislation and frameworks by a number of different organisations. Educational institutions such as universities are accredited by the APC and the Tertiary Education Quality and Standards Agency (TEQSA). The APC also provides a Performance Outcomes Framework (updated in 2023),[25] that outlines the standards a graduate applying for general registration must meet before becoming a registered pharmacist and subsequently practice according to the National Competency Standards Framework (2016).[26] For undergraduate and postgraduate courses, university programs must demonstrate that learning outcomes map to these performance outcomes in order to become accredited by the APC. TEQSA regulates and quality assures the education providers under the authority of the *Tertiary Education Quality and Standards Agency Act 2011 (Cth)*. [27,28]

A role is also played by the Australian Health Practitioner Regulation Agency (AHPRA) who safeguards the public by setting standards for practitioners. [29] AHPRA supports 16 health

professional boards including the Pharmacy Board of Australia (PharmBA). The PharmBA is responsible for setting the requirements for becoming a registered pharmacist including the number of hours that must be completed under supervision during an internship.[3,23]

Traditionally, pharmacy interns in Australia have been required to undertake 1824 hours (reduced to 1575 during COVID) of supervised practice. This equated to approximately one year of full-time work before being able to become fully registered as a pharmacist.[23] This time-based requirement ensures all interns gain substantial workplace experience, but at the same time equates hours worked with competency. There has been discussion about removing the requirement for a specified number of practice hours (currently 1575 hours) that an intern must complete before applying for general registration, and instead, a transition to a competency-based system whereby an intern could complete the exams required for general registration having fulfilled all WBAs and their intern training program requirements.[30]

The current system of preceptorship for provisionally registered pharmacists in Australia requires an intern to apply for PharmBA's approval of the preceptor and the placement site. However, this requirement is assessed only insofar as the site can offer a range of experiences expected for general registration, and that the preceptor has been registered for at least 12 months and does not have conditions on their registration.[23] There is currently a gap in quality assurance, as there is no oversight or feedback mechanism built into this approval process.

1.4 An international comparison on pharmacy education

Pharmacy education in Australia has in some ways followed the trends seen in other countries such as the United States (US) and Canada, responding to the increasing range of clinical skills required for contemporary practice.[2] The US moved from a Bachelor of Science in Pharmacy to a Doctor of Pharmacy (PharmD) in 1992 and Canada has also moved to the

PharmD model exclusively from 2020.[31] The PharmD program is an extended program that has a focus on clinical experiential learning and a number of countries such as Saudi Arabia, Korea and Thailand have now adopted the PharmD as the entry to the pharmacy profession.[32] Critically, under the PharmD model, students complete 40 weeks of the curriculum in a workplace setting (under previous programs students would undertake 16 weeks of experiential learning).[33,34] Given this intensive workplace learning, pharmacy preceptors play a critical role in education delivery in the PharmD model. Recognising this, standards have been put in place by both the US Accreditation Council for Pharmacy Education (ACPE) and the Canadian Council for Accreditation of Pharmacy Programs (CCAPP).[35,36] These standards outline the requirements to become a preceptor and how pharmacy schools should prepare preceptors for the role, including initial training, continuing education and evaluation.[35,37,38]

Despite the presence of preceptor standards in multiple countries, implementation varies considerably. O'Sullivan et al (2020) found that only 42% of US pharmacy schools surveyed mandated preceptor preparation, while Shtaynberg et al (2020) found that while the majority of US pharmacy schools conducted preceptor evaluation, only 58.8% of schools had a process for preceptor reappointment based on the evaluations and there was considerable variation in how preceptors were evaluated.[39] This variation in implementation and lack of clarity regarding assessment raises questions about the consistency and rigour of quality assurance processes, even in jurisdictions with well-established experiential education programs.

Furthermore, differences between the Australian and international pharmacy education contexts with regards to preceptors' appointment and regulatory environment may influence pharmacy preceptor evaluation practices in Australia. In the US and a number of other PharmD jurisdictions, whilst there are voluntary preceptor roles, there is a significant number

of adjunct preceptors who have a formal faculty appointment.[41] In contrast, Australian preceptors have no formal faculty role and there is no accompanying requirement from a regulator to prepare preceptors for the role, only that they be "suitably qualified".[24,42] The absence of formal faculty affiliation means that evaluation approaches developed in the other PharmD curriculum jurisdictions, with appointment and accountability mechanisms in place, may not translate to the Australia. Additionally, it is not known if the competencies identified in the US and Canada can be directly applied to Australian pharmacy education, with potential implications for how preceptor preparation, support and evaluation should be designed for an Australian setting.

In 2024, the Federal Health Minister announced approval for Australian pharmacy education providers to offer a PharmD. This has the potential to increase the volume and intensity of workplace-based learning, placing greater demands on preceptors and increasing the need for strong quality assurance processes. This has underscored the need to develop an evidence-based preceptor competency assessment framework suited to the Australian regulatory and education context, that addresses the competencies that should be assessed, as well as the appropriate methods of assessment that are feasible and acceptable to Australia's largely volunteer preceptors.

1.5 Preceptor vs supervisor

Healthcare professions utilise multiple models of supervision that are designed to meet the developmental needs and contexts of healthcare professionals as they move through their careers. Clinical supervision is a concept that is often discussed, but finding a definitive definition can be challenging. In a 2001 literature review, Kilminster and Jolly provide a useful summary of the key aspects of clinical supervision.[43] They suggest this helpful definition for the medical profession: "The provision of monitoring, guidance and feedback on matters of personal, professional and education development in the context of doctor's

care of patients." Other authors such as Yeomans et al (2021) suggest that clinical supervision is crucial for lifelong learning, supporting practice, improving standards by identifying strategies for future practice. Clinical supervision is crucial to education in fields such as medicine, nursing, physiotherapy and psychology, providing essential oversight that protects patient welfare while also enabling students to develop clinical skills and professional judgement in an authentic setting.

Preceptorship, on the other hand, is a more formal arrangement between a learner and an experienced practitioner over a defined period of time.[44] The preceptor acts as a role model and supervisor and facilitates educational experiences and professional socialisation in order to help transition learners to independent professionals. The sustained nature of a preceptorship provides opportunities to reflect on some of the more complex elements of professional practice such as challenging therapeutic cases or ethical dilemmas.[45] Through observing and internalising the preceptor's approach to clinical reasoning and professional conduct, the preceptee begins to think and act like an independent professional.[46,47] This model of supervision is designed to bridge the gap between theoretical education and clinical practice and aligns with the principles of WIL, with preceptors providing support to meet specific performance outcomes over the preceptorship period.

Walter et al (2017) proposed a preceptor competency framework consisting of nine core competencies along with performance indicators.[40] The competencies proposed by Walter were based on a literature review and included: Demonstrate commitment to teaching, create practice-based learning opportunities, engage in continuing professional development, demonstrate effective communication, create professional relationships with students, adapt to students learning needs, demonstrate positive role modelling, facilitate critical thinking and problem solving and assess and document student performance.[40] Importantly, the study did not investigate how assessment should occur, and validation was through feedback from a

steering committee rather than a rigorous consensus process and evaluation of the strength of the evidence was not conducted, further strengthening the need for further research and validation in an Australian context.[40]

1.6 Why preceptorship in pharmacy education?

Central to understanding why preceptorship is so well suited to pharmacy education are two complementary theories, Vygotsky's sociocultural learning theory and role theory. Together, these provide a theoretical foundation for examining how professional identities are developed through scaffolded learning within authentic work contexts and how professional identities are sustained through social interaction and observational learning.[48,49,50]

Vygotsky's social learning theory,[50] though originally developed in the context of child development, has been extensively validated and applied to adult professional learning, particularly in health professional education. In professional learning contexts, Vygotsky's Zone of Proximal Development (ZPD) represents the gap between current competence and independent professional practice, with scaffolding provided through mentorship and guided workplace experience.[51]

Role theory proposes that individuals learn professional behaviours, values, and expectations through a process of role acquisition, where they observe, internalise, and eventually enact the behaviours demonstrated by established practitioners.[52,53] For example, the relationship between surgeons and their surgical residents goes well beyond demonstrating surgical techniques. It is also involves modelling professional behaviours and some of the unwritten rules of surgical culture such as presenting during rounds, handling complications or maintaining composure during stressful situations. This professional socialisation occurs through observation, informal conversations and guided practice and helps residents transition to the role of surgeon. Within the preceptorship model, this theoretical perspective becomes particularly relevant as preceptors inherently function as role models, consciously

and unconsciously demonstrating professional competencies, ethical decision-making, and appropriate workplace behaviours that learners observe and gradually adopt.[47]

The role modelling aspect of preceptorship operates through both explicit teaching moments and implicit demonstration of professional practice. Preceptors serve as "living examples" of competent practice, allowing learners to witness how theoretical knowledge translates into real-world clinical decisions, patient interactions, and professional conduct.[47] This observational learning process enables learners to develop not only technical skills but also the professional attitudes, communication patterns, and ethical reasoning that characterise expert practice.[49] Ideally, through repeated exposure to exemplary practice, learners begin to internalise professional norms and develop their own professional identity within the established framework of their discipline.[54]

1.7 Preceptor training

While preceptors play a critical role in the education of health professions, they often come to the role with no preparation, formal education or training for the role of preceptor.[55,56] Preceptors must not only possess clinical knowledge, but they also need to understand how adults learn, be able to provide constructive feedback, assess student competence and provide appropriate learning environments.[40,57,58] Preceptor competencies have been identified in several studies,[40,59-62] but these vary considerably and development of these competencies through structured training programs has become a focus of many jurisdictions in order to ensure the quality and consistency of experiential education.[40,63-67]

1.7.1. Approaches to preceptor training

Approaches to training also vary considerably across jurisdictions. In New Zealand, preceptor training is mandatory, with the Pharmaceutical Society of New Zealand requiring completion of a formal program, successful post training assessment, and ongoing

reaccreditation.[68] In the US, the ACPE sets expectations that colleges apply quality criteria for recruiting preceptors of Introductory Pharmacy Practice Experience (IPPE) and Advanced Pharmacy Practice Experience (APPE) students.[35] The expectations of a preceptor include that they must have appropriate credentials and expertise relating to the role, be orientated to the programs' learning expectations, and that the college or school provides professional development.[35] Specific training requirements can vary between colleges and states in the US, for example, Minnesota state requires completion of an approved preceptor continuing education course when applying to be a preceptor or when renewing registration as a preceptor,[69] whereas in Ohio, the responsibility is on the college to set requirements and provide training for preceptors.[70]

In contrast to these mandatory models, Australia and the United Kingdom currently adopt a voluntary approach to preceptor training, where training is recommended as professional development, but not enforced.[71] The PharmBA's Intern Pharmacist and Preceptor Guide[72] recommends that preceptors have "suitable relevant training or experience to act in this role", but does not mandate specific training requirements, nor is there any credential or formal recognition for pharmacists who have competed a preceptor training course. Whilst this voluntary approach may reflect practical considerations, such as imposing additional requirements on busy practitioners which may lead to decreases in available placement sites, it does lead to concerns about equity, consistency and quality assurance. It has been documented that the quality of a student or intern's placement experience can have a lasting impact on work readiness and their future career.[73,74] How can students be assured of receiving a comparable, high-quality experience when preceptors can have vastly different levels of preparation for the role? The lack of minimum standards is a challenge for accrediting bodies seeking to assure the quality of experiential education.

1.7.2. Evidence for training effectiveness

There is emerging evidence that structured preceptor training programs provide measurable benefits. Recent research at one pharmacy school in Australia has demonstrated that structured preparation programs significantly improve both the preceptor's performance and the student's experience,[67] measured by a preceptor's self-assessment and a student's evaluation of the preceptor, with free-text responses about their experience. The evaluation of the program followed an adaption of Kirkpatrick's 4-level model training criteria.[75] It identified improvements in a preceptor's behaviours and confidence, particularly regarding provision of feedback and identifying students' needs. Training was based on competencies identified in the literature including communication skills, provision of feedback, role modelling, teaching strategies and setting learner expectations.[40,76-78] Students also rated their experience more highly with reports of better communication and more effective feedback. Internationally this has also been demonstrated, with one study from Iowa, US, demonstrating a comprehensive preceptor development program with emphasis on teaching skills, provision of feedback and role modelling, which led to significant increases in students' ratings of preceptors as "good" and lower ratings of "fair" or "poor."[79] A recent study in medicine found that accuracy and consistency of WBA ratings and quality of feedback improved following a 2-day "rater" training on observation, performance dimension training, frame of reference training, and counselling skills, followed by three additional modules spaced at 6-week intervals, with trigger videos and practice ratings.[80] This study noted greater improvement as engagement with the follow-up training increased, making a case for ongoing training and development.

1.7.3. Barriers to participation in training

Despite demonstrated benefits, participation in voluntary training programs can be low.[81] Barriers such as accessibility, time constraints, balancing clinical workloads, lack of

employer support, and the absence of professional recognition[42] are important considerations for effective implementation of sustainable preceptor training programs.

1.7.4. Incentives and recognition

Incentivising preceptors is a strategy to maintain placement capacity and encourage participation in training programs, considering most pharmacy preceptor roles are voluntary.[40] A "Master Preceptor", "Distinguished Preceptor" or a "Preceptor Academy" are some methods established in the US.[82] These programs provide formal recognition, academic titles or affiliations, and in some cases an honorarium payment to encourage uptake of preceptor roles. These programs seek to celebrate excellence and build relationships and engagement by recognising the contribution of preceptors to the education of pharmacy students.[82,83]

Whilst training programs are designed to develop preceptor competency, without systematic assessment, it is difficult to determine whether preceptors have acquired and apply these competencies in practice, a process referred to as training transfer.[84] Well-structured evaluation programs may ensure that training translates into a better preceptorship experience.

1.8 Preceptor evaluation practices

The evaluation of preceptors represents a critical component of quality assurance in health professional education. While preceptorship is recognised as important for developing competent, independent practitioners, the systematic assessment of preceptors remains inconsistent, particularly in Australia. The majority of literature on preceptor evaluation practices in pharmacy is centred in the US and Canada, likely stemming from the recognition of precepting as a professional responsibility.[39,85] The Canadian National Association of Pharmacy Regulatory Authorities (NAPRA) has as one of its principles that pharmacists

should participate in training of colleagues and students and enhance the development of the profession through supervision.[40] The ACPE also includes in its standards (2025)[35] that education programs include mechanisms for both formative and summative feedback of both faculty and preceptors. Research has shown that 98.8% of US pharmacy colleges perform evaluation of volunteer preceptors[39] and 93.3% assess full-time faculty preceptors.[85] To our knowledge, similar studies have not been conducted in the Australian context and there are significant differences between these two jurisdictions regarding preceptorship, with Australian preceptors acting in a voluntary capacity, and incentives such as promotion opportunities and formal recognition as a preceptor not being available.[24] While existing literature highlights barriers to the acceptability of preceptor evaluation and outlines strategies for expanding WIL capacity,[10] there remains limited evidence regarding the most effective and practical methods for evaluating preceptors. Identifying such methods are crucial to improving both feasibility and acceptability of preceptor evaluation processes.

Understanding current evaluation practices and their limitations is essential for developing frameworks that are both feasible and sustainable and ensure high-quality experiential learning.

1.9 Aim

The overarching aim of this thesis is to explore how preceptor competencies can be identified, validated, and feasibly assessed to ensure quality preceptorship in Australian pharmacy education.

This thesis has the following objectives:

1. Explore preceptors' and students'/interns' views on preceptorship, preceptor competency and assessment. (Chapter 2)

2. Explore the literature on preceptorship and identify the competencies of preceptors and how they are assessed. (Chapter 3)
3. Explore the preceptor assessment practices of Australian and New Zealand pharmacy education providers. (Chapter 4)
4. Develop consensus on the competencies of preceptors, how they should be assessed and by whom. (Chapter 5)

1.10 Approach to research and creating knowledge

This thesis uses a practical, problem-solving approach to research, which is often described in this type of work as a pragmatist research paradigm.[86] Using an approach such as this gives flexibility in the methodologies used. Rather than a positivist paradigm, where variables are measured and the researcher is an unbiased observer,[87] or a purely interpretivist approach where an understanding of the contexts, experiences and meaning behind them combine with the assumption that the researcher is linked with the research subject,[88] a pragmatist approach would consider the nature of the enquiry to determine the research method.[86] A pragmatist paradigm also considers why a particular choice of research method is used and how this choice over another may have influenced the result.[89] Essentially this means that the research is focused on creating a useful implementable solution that works in real pharmacy education settings using methods that address the research question in a considered way. This practical focus shapes how I think about creating knowledge and the research methods used.

When talking about what makes a good preceptor or how we can improve the experience of preceptorship, I acknowledge that there is not one simple answer. Context matters and the context of the data collection for a large portion on this research has been in pharmacy education in Australia, so regulation, professional culture and the experiences raised and discussed by participants are related to that environment. Although an Australian pharmacy

context is the focus, I hope that what has been learned in this process has application to pharmacy education in other jurisdictions as well as other health professions more broadly.

1.10.1. Acknowledging my perspective (aka Reflexivity)

I acknowledge that as someone who has been in pharmacy practice for over 30 years, has been a preceptor for at least five interns, and now works in academia and in particularly WIL, I am not a neutral party in this research. How I have experienced preceptorship in these various ways shapes my approach to the research, as well as my understanding of the findings. Also reflecting on and acknowledging my own biases and preconceived ideas is important as a researcher. For example, as a pharmacist involved in WIL, I have an assumption that preceptor training and evaluation will provide a better experience for students or interns, by making preceptors aware of the importance of their role and improving the skills and confidence of preceptors to be educators. Seeking diverse viewpoints, using systematic methods, being open to new ideas and getting feedback from supervisors (each who have their own viewpoints and backgrounds that may influence their understanding), all contribute to ensuring that the findings reflect more than my own perspective.

1.11 Methods used in this research

The thesis is presented as chapters based on four related research projects creating a comprehensive understanding of preceptorship and quality assurance.

The sequential presentation moves from:

- Exploration: What are stakeholders' lived experiences and concerns? (Objective 1-focus groups)
- Synthesis: What does the evidence tell us about preceptor competencies and how they are assessed? (Objective 2-review of the literature)

- Investigation of current practice: What assessment practices are currently implemented? (Objective 3-cross sectional survey)
- Consensus-building: What do experts agree should be prioritised, is it feasible to assess and how should they be assessed? (Objective 4-modified Delphi consensus method)

The research design methods chosen seek to address the overarching research question of how preceptor competencies in pharmacy can be identified, validated, and feasibly assessed to ensure quality preceptorship in Australian pharmacy education.

1.11.1. Focus groups with semi-structured interview guide

The thesis begins with qualitative focus groups involving pharmacy students, interns, and practicing pharmacists to explore the lived reality of preceptorship, barriers to quality supervision, and stakeholders' attitudes towards preceptor assessment. Focus groups are an interviewing method where a number of participants are interviewed together, exploring a specific topic.[90] Whilst also being an efficient method of interviewing, it also has the benefit of being a group discussion, with the interviewer interacting with participants to collectively make sense of the topic. Participants can express opinions or discuss things that have significance for themselves, whilst also being able to offer alternative views or interpretations of the views of others, or to further clarify positions after hearing others respond.

1.11.1.1. Rationale

Focus groups were selected for this exploratory phase for the following reasons:

Interactive data generation: Focus groups enabled the researcher to explore the interaction between participants,[91] allowing them to build on ideas, present differing opinions and generate richer discussion compared to individual interviews.[90,91]

Natural exploration of the subject: The focus group format allowed participants to use their own language and present issues important to them, rather than follow set categories. This was essential for ensuring subsequent research addresses real world concerns.[91]

Efficiency with homogenous groups: Conducting separate focus groups for students, interns, and pharmacists allowed for role-specific discussions while efficiently gathering multiple perspectives. Participants could speak freely around peers without concerns about hierarchy.[91]

1.11.2. Systematic scoping review with quality of evidence assessment

Following the presentation of the results from the focus group study, the thesis presents a systematic scoping review.

Scoping reviews are a form of knowledge synthesis that use a systematic approach to map evidence on a topic, identify concepts, frameworks and gaps in current understanding.

The review follows the PRISMA extension for scoping reviews (PRISMA-ScR) guidelines to map the international evidence base on preceptor competencies and assessment methods across multiple health professions. Preceptorship is common in a range of health professions such as nursing and medicine, so looking beyond pharmacy was an important strategy to ensure that the review was a comprehensive exploration of preceptorship. Further, a risk of bias appraisal and assessment of confidence level of evidence were completed.[92]

1.11.2.1. Rationale

Systematic scoping review

The scoping review[93] methodology was chosen because the research question required mapping of competencies across multiple health professions and diverse practice settings, rather than a well-defined clinical question. Scoping reviews are designed for broad questions that require exploration of the extent, range and nature of evidence. A scoping review also accommodated inclusion of a diversity of study designs. Evidence on preceptor competencies

came from various sources such as competency frameworks, validation studies, qualitative research and educational interventions. The goal was to identify what competencies exist and how they have been assessed, not to determine the effectiveness of a specific intervention. A scoping review is a methodology that allowed for this type of conceptual mapping.

Quality of evidence assessment

Due to the diverse range of study designs included in this scoping review, finding a tool that allowed assessment of risk of bias and quality of evidence was needed. Tools such as Critical Appraisal Skills Programme (CASP)[94] checklists are useful for assessing the quality of included papers and two separate tools were used, one for qualitative papers, CASP Qualitative checklist, and one for quantitative papers, CASP Cohort checklist.[94] The Grading of Recommendations Assessment, Development and Evaluation-Confidence in Evidence from Reviews of Qualitative research (GRADE-CERQual) [92] is a tool typically applied to qualitative research and provides an assessment of confidence you have in your evidence synthesis. It examines four components of a research paper, Methodological limitations, Coherence, Adequacy and Relevance. After examining these elements, an assessment of confidence is given. It was decided that we could also apply these four elements to the included studies of the scoping review, which provided an additional layer of confidence in the findings.

1.11.3. Cross-sectional survey of current practice

The final study employed a cross-sectional survey[95] design to investigate the current preceptor assessment practices across Australian and New Zealand pharmacy education providers. This included both undergraduate and postgraduate degrees as well as intern training programs. The survey was a series of questions based on similar surveys carried out in the US, that also included some free-text responses to understand barriers and enablers to implementation of systematic preceptor assessment.

1.11.3.1. Rationale

Cross sectional surveys give a snapshot of practices, attitudes or behaviours at a point in time and are valuable for describing the current practice and identifying variations in practice.

The survey design allowed for comparison of the competencies being assessed and what the evidence suggests as being the necessary competencies of good preceptors. The survey also examined through, free-text responses, how education providers valued the concept of preceptor assessment, the barriers to implementation and resource requirements. This data is essential for ensuring any proposed preceptor assessment framework would be feasible and acceptable for education providers.

1.11.4. Modified Delphi consensus technique

The Delphi technique[96] is a well-established consensus methodology that uses iterative rounds of anonymous questionnaires sent to an expert panel. It is a technique, that along with other consensus techniques, is commonly used in medical education research often with slight variations in processes and reporting criteria.[97,98] Between rounds there is some controlled feedback or refining of the questions or statements designed to facilitate agreement without face-to-face interaction. This approach minimises bias from dominant members of the panel and is valuable for developing evidence where there is limited empirical evidence or where expert judgement may be needed to interpret and apply evidence into practice contexts.

1.11.4.1. Rationale

This consensus study was designed to bridge the gap between the competencies identified in our systematic scoping review and the ways in which they should be assessed in practice. There were several questions that needed to be answered: Which competencies are most essential for pharmacy preceptors? Which competencies are feasible to assess in practice? Who should assess the competencies? And by what method? These questions required expert

judgement to interpret in the context of Australian pharmacy practice, and hence why a Delphi technique was appropriate.

For this study, a modified Delphi approach was used that adapted the traditional methodology to fit the context of this topic and research plan. Rather than beginning with open ended exploration of the topic, the initial survey was grounded in the 16 evidence-based preceptor competencies identified through the systematic scoping review. The expert panel was purposively sampled to represent diverse stakeholder perspectives. The panel were able to propose additional competencies that were then presented back to the panel for opinion, along with whether agreement was achieved or not for the previous responses. This approach encouraged convergence of opinion to the point of consensus, and in achieving expert consensus on the competencies requiring assessment, the feasibility of assessment and the appropriate methods and assessors for each competency, we are a step closer to translating evidence into an actionable and sustainable preceptor assessment framework.

1.12 Ethical approval

Ethics approval when required, was obtained through the University of Sydney Human Research Ethics Committee (HREC) for each of the research studies conducted:

1. Ensuring the quality of clinical supervision. HE 2018/476
2. Measuring and assessing the competencies of preceptors in health professions: A systematic scoping review. Covered under same as (1) HE 2018/476
3. Preceptor assessment practices in Australian and New Zealand Pharmacy education. HE 2024/1289
4. Developing consensus on competency and assessment of pharmacist preceptors. HE 2020/643

1.13 Conclusion

As pharmacy education adapts to contemporary health care challenges and expectations of practice, the significance of WIL and the preceptor role is becoming more critical to bridging the gap between academic knowledge and professional practice. This also highlights the need for quality assurance in WIL. The standards put in place by TEQSA and the APC, highlight that quality assurance is not an aspirational goal, but a mandatory requirement for program accreditation. Despite these clear mandates, a critical gap persists between expectation and current practice in the systematic assessment of pharmacy preceptors in Australia.

Despite the preceptor's central role in competency development of students and interns, the evidence base for defining, measuring and assuring preceptor quality is fragmented, as demonstrated in the scoping review presented in Chapter 2 of this thesis. This is also supported by an independent review of accreditation systems within the national registration and accreditation scheme for health professions which noted in their draft report, the lack of minimum standards for preceptors and lack of appointment oversight that may result in varying quality of preceptorship experiences (Woods, 2017).[99] While the APC has developed competency standards and assessment tools for students and interns, there is no corresponding standard or validated framework for evaluating preceptor performance and capability. This represents a significant gap in the quality assurance of pharmacy education which this research seeks to address. Without systematic approaches to preceptor assessment, there is no mechanism to ensure consistency in students experiences, identify preceptors requiring support or objectively recognise preceptor excellence.

This thesis addresses this gap through a comprehensive, multi-method investigation of preceptor competency and assessment. It begins by establishing stakeholder perspectives on what constitutes competent preceptorship, then systematically maps the evidence base for preceptor competencies across health professions. Following this, the thesis outlines a

consensus position on the competencies that should be assessed, if they are feasible and who and how they should be assessed, then compares this to current assessment practices in Australia and New Zealand, highlighting barriers that need to be addressed in order to implement a feasible, sustainable preceptor assessment process for quality assuring WIL in pharmacy education.

The chapters that follow present a coherent body of work that not only identifies problems but offers evidence-based solutions. By establishing consensus on what should be assessed and how assessment should occur, this research provides the foundation for the adoption of national preceptor standards, a standardised preceptor assessment framework than can enhance quality assurance, support preceptor development, and ultimately improve learning outcomes for pharmacy students and interns. In doing so, this thesis contributes to the broader goal of ensuring that all pharmacy graduates receive high quality experiential education that prepares them for contemporary professional practice.

1.14 References

1. Newgreen DB. Winning of Australian Pharmacy Degrees – A Retrospect. *Journal of Pharmacy Practice and Research*. 2009;39(3):211-215. doi:https://doi.org/10.1002/j.2055-2335.2009.tb00455.x
2. Benrimoj SI, Frommer MS. Community pharmacy in Australia. *Aust Health Rev*. 2004 Nov 08 2024-12-05 2004;28(2):238-46.
3. Pharmacy Board of Australia. Internships. Accessed 11/08/2025, 2025. https://www.pharmacyboard.gov.au/Registration/Internships.aspx
4. The University of Sydney. Study Pharmacy. Accessed 08/08/2025, 2025. https://www.sydney.edu.au/medicine-health/study-medicine-and-health/study-areas/pharmacy.html
5. Monash University. Study at Monash, Pharmacy. Accessed 08/08/2025, 2025. https://www.monash.edu/study/courses/find-a-course/pharmacy-p3001
6. Marriott JL, Nation RL, Roller L, et al. Pharmacy education in the context of Australian practice. *Am J Pharm Educ*. Dec 15 2008;72(6):131. doi:10.5688/aj7206131
7. Patrick C-j, Peach D, Pocknee C, Webb F, Fletcher M, Pretto G. *The WIL (Work Integrated Learning) report: A national scoping study*. Queensland University of Technology; 2008.
8. Ferns SJ, Zegwaard KE, Pretti TJ, Rowe AD. Defining and designing work-integrated learning curriculum. *Higher Education Research & Development*. 2025/02/17 2025;44(2):371-385. doi:10.1080/07294360.2024.2399072

9. Faculty of Medicine and Health Sydney Pharmacy School. Becoming a pharmacy preceptor. The University of Sydney. https://www.sydney.edu.au/medicine-health/industry-and-community/industry-partnerships/become-a-pharmacy-preceptor.html
10. Tofade T, Samimi-Gharai M, de Bittner MR. Strategies to grow an experiential learning program—The role of administrators. *Currents in Pharmacy Teaching and Learning*. 2016;8(3):429-436. doi:doi.org/10.1016/j.cptl.2016.02.016
11. Cooper L, Orrell J, Bowden M. A Conceptual Framework for Work Integrated Learning. 1 ed. Routledge; 2010.
12. Kolb DA. *Experiential learning: Experience as the source of learning and development*. FT press; 2014.
13. Jacob SA, Power A, Portlock J, Jebara T, Cunningham S, Boyter AC. Competency-Based Assessment in Experiential Learning in Undergraduate Pharmacy Programmes: Qualitative Exploration of Facilitators' Views and Needs (ACTp Study). *Pharmacy*. 2022;10(4):90.
14. Croft H, Maundu J, Galbraith K, et al. Improving the Effectiveness of Workplace-based Assessment for Pharmacy Interns, An Evaluation Study. *American Journal of Pharmaceutical Education*. 2025/05/01/ 2025;89(5):101390. doi:https://doi.org/10.1016/j.ajpe.2025.101390
15. ten Cate O, Jonker G, Park Y, Holmboe E, Burch V. Workplace-based assessment to support entrustment decision-making: four sources of information. Ubiquity Press; 2024.
16. Maundu J, Galbraith K, Croft H, et al. Development of workplace-based assessment tools to support postgraduate training of provisionally registered pharmacists in Australia. *JACCP: Journal Of The American College Of Clinical Pharmacy*. 2023;6(4):370-376. doi:https://doi.org/10.1002/jac5.1714
17. Norcini J, Burch V. Workplace-based assessment as an educational tool: AMEE Guide No. 31. *Medical Teacher*. 2007/01/01 2007;29(9-10):855-871. doi:10.1080/01421590701775453
18. Australian Pharmacy Council. Accreditation standards for pharmacy programs in Australia and New Zealand. 2020. p. 32.
19. Kirschbaum M, Khalil H, Page AT. Clinical placements by Australian university schools of pharmacy. *Currents in Pharmacy Teaching and Learning*. 2016/01/01/ 2016;8(1):47-51. doi:https://doi.org/10.1016/j.cptl.2015.09.003
20. Australian Pharmacy Council. About APC. Accessed 25/11/2025, 2025. https://www.pharmacycouncil.org.au/who-we-are/about-apc/
21. Chaar BB, Brien JA, Hanrahan J, McLachlan A, Penm J, Pont L. Experimental education in Australian pharmacy: Preceptors' perspectives. *Pharmacy Education*. 2011;11(1):166-171.
22. Fejzic J, Henderson A, Smith NA, Mey A. Community pharmacy experiential placement: Comparison of preceptor and student perspectives in an Australian postgraduate pharmacy programme. *Pharmacy Education*. 09/17 2013;13(0)
23. Pharmacy Board of Australia. Registration standard: Supervised practice arrangements. Accessed 11/08/2025, 2025. https://www.pharmacyboard.gov.au/documents/default.aspx?record=WD15%2f18497&dbid=AP&chksum=%2fnbtmmDMJEmt%2fb0W95s4NQ%3d%3d
24. Pharmacy Board of Australia. Intern-pharmacist-and-preceptor-guide. Updated June 2021. Accessed 18/05/2022, https://www.pharmacyboard.gov.au/documents/default.aspx?record=WD10%2f4166%5Bv5%5D&dbid=AP&chksum=tYDwKFzipNvv3aqgsm7NsQ%3d%3d
25. Australian Pharmacy Council. Performance outcomes framework. 2023. Accessed 11/08/2025, 2025. https://www.pharmacycouncil.org.au/resources/pharmacy-program-standards/PerformanceOutcomes2020.pdf
26. The Pharmaceutical society of Australia. National competency standards framework for pharmacists in Australia. Accessed 10/12/2020, 2020. https://www.psa.org.au/practice-support-industry/national-competency-standards/
27. Tertiary Education Quality and Standards Agency T. TEQSA - Our Role. Updated 8/11/2025. https://www.teqsa.gov.au/about-us/teqsa-overview/our-role
28. Australian Government. Tertiary Education Quality and Standards agency Act 2011. In: Australian Government, editor. 2011.

29. Australian Health Practioner Regulation Agency. About AHPRA. AHPRA. Accessed 25/11/2025, 2025. https://www.ahpra.gov.au/About-Ahpra.aspx
30. Australian Health Practioner Regulation Agency. Consultation on the review of the supervised practice framework. AHPRA. Accessed 29/11/2025, 2025. https://www.ahpra.gov.au/documents/default.aspx?record=WD25%2f34830&dbid=AP&chksum=quuC6rgrT2c%2fPRUDDSbz3w%3d%3d
31. Davis E, Braha R, McAlorum S, Kelly D. A brief history of pharmacy admissions in North America. *Canadian Pharmacists Journal / Revue des Pharmaciens du Canada*. 2019;152(6):370-375. doi:10.1177/1715163519865571
32. Supapaan T, Low BY, Wongpoowarak P, Moolasarn S, Anderson C. A transition from the BPharm to the PharmD degree in five selected countries. *Pharmacy Practice (Granada)*. Jul-Sep 2019;17(3):1611. doi:10.18549/PharmPract.2019.3.1611
33. Harris BJ, Butler M, Cardello E, et al. Report of the 2011-2012 AACP Professional Affairs Committee: Addressing the Teaching Excellence of Volunteer Pharmacy Preceptors. *American Journal of Pharmaceutical Education*. 2012/08/01 2012;76(6):S4. doi:10.5688/ajpe766S4
34. Mulherin K, Walter S, Cox CD. National preceptor development program (PDP): Influential evidence and theory. The first of a 3-part series. Article. *Currents in Pharmacy Teaching and Learning*. 2018;10(3):255-266. doi:10.1016/j.cptl.2017.12.002
35. Accreditation Council for Pharmacy Education. Accreditation Standards And Key Elements For The Professional Program In Pharmacy Leading To The Doctor Of Pharmacy Degree Accessed 25/10/2025, 2025. https://www.acpe-accredit.org/pdf/ACPEStandards2025.pdf
36. The Canadian Pharmacy Residency Board. CPRB 2025 Accreditation Standards for Year 1 Pharmacy Residencies. https://cshp-scph.ca/sites/default/files/CPRB%202025%20Accreditation%20Standards%20for%20Year%201%20Pharmacy%20Residencies.pdf
37. Accreditaion Council for Pharmacy Education. Accreditation Standards And Key Elements For The Professional Program In Pharmacy Leading To The Doctor Of Pharmacy Degree 2016.
38. Programs CCfAoP. Accreditation standards for Canadian educational Pharmacyt Prograns leading to the degree of Doctor of Pharmacy (PharmD). 2025.
39. Shtaynberg J, Zerilli T, Kirschenbaum HL. Assessment of Volunteer Preceptors at Colleges and Schools of Pharmacy in the United States. *American Journal of Pharmaceutical Education*. 2021/03/01/ 2021;85(3):8343. doi:https://doi.org/10.5688/ajpe8343
40. Walter S, Mulherin K, Cox CD. A Preceptor competency framework for pharmacists. Part 2 of a 3-part series. *Currents in Pharmacy Teaching and Learning*. Mar 2017;10(3):402-410. doi:10.1016/j.cptl.2017.11.018
41. Clarke CL, Larson S, Feret B, Dy-Boarman E, Abu-Baker A. Adjunct Preceptor Perceptions of Motivation, Understanding, and Support for the Precepting Role. *American Journal of Pharmaceutical Education*. 2024/05/01/ 2024;88(5):100697. doi:https://doi.org/10.1016/j.ajpe.2024.100697
42. Knott GJ, Mylrea MF, Glass BD. How Should We Prepare Our Pharmacist Preceptors? Design, Development and Implementation of a Training Program in a Regional Australian University. *Pharmacy*. 2023;11(5):148.
43. Kilminster SM, Jolly BC. Effective supervision in clinical practice settings: a literature review. *Medical Education*. 2000;34(10):827-840. doi:https://doi.org/10.1046/j.1365-2923.2000.00758.x
44. Mills JE, Francis KL, Bonner A. Mentoring, clinical supervision and preceptoring: clarifying the conceptual definitions for Australian rural nurses. A review of the literature. *Rural and remote health*. 2005 2005;5(3):410.
45. Carlson E, Pilhammar E, Wann-Hansson C. "This is nursing": Nursing roles as mediated by precepting nurses during clinical practice. *Nurse Education Today*. 2010/11/01/ 2010;30(8):763-767. doi:https://doi.org/10.1016/j.nedt.2010.01.020
46. Mohammadi E, Mirzazadeh A, Shahsavari H, Sohrabpour AA. Clinical teachers' perceptions of role modeling: a qualitative study. *BMC Medical Education*. 2021/05/06 2021;21(1):261. doi:10.1186/s12909-021-02648-1

47. Cruess SR, Cruess RL, Steinert Y. Role modelling—making the most of a powerful teaching strategy. *BMJ*. 2008;336(7646):718-721. doi:10.1136/bmj.39503.757847.BE
48. Masava B, Nyoni CN, Botma Y. Scaffolding in Health Sciences Education Programmes: An Integrative Review. *Medical Science Educator*. 2023/02/01 2023;33(1):255-273. doi:10.1007/s40670-022-01691-x
49. Koh EYH, Koh KK, Renganathan Y, Krishna L. Role modelling in professional identity formation: a systematic scoping review. *BMC Medical Education*. 2023/03/29 2023;23(1):194. doi:10.1186/s12909-023-04144-0
50. Vygotsky LS, Michael C, Vera J-S, Sylvia S, Ellen S. *Mind in Society : Development of Higher Psychological Processes*. Harvard University Press; 1978.
51. Lave J, Wenger E. *Situated learning: Legitimate peripheral participation*. Cambridge university press; 1991.
52. Dinmohammadi M, Peyrovi H, Mehrdad N. Concept Analysis of Professional Socialization in Nursing. *Nurs Forum*. 2013;48(1):26-34. doi:https://doi.org/10.1111/nuf.12006
53. Turner RH. Role Theory. In: Turner JH, ed. *Handbook of Sociological Theory*. Springer US; 2001:233-254.
54. Noble C, McKauge L, Clavarino A. Pharmacy student professional identity formation: a scoping review. *Integrated Pharmacy Research and Practice*. 2019:15-34.
55. Knott GJ, Mylrea MF, Glass BD. A Scoping Review of Pharmacy Preceptor Training Programs. *Am J Pharm Educ*. Oct 2020;84(10):ajpe8039. doi:10.5688/ajpe8039
56. Haggerty C, Holloway K, Wilson D. Entry to nursing practice preceptor education and support: could we do it better? *Nurs Prax N Z*. Mar 2012;28(1):30-9.
57. Gueorguieva V, Chang A, Fleming-Carroll B, Breen-Reid KM, Douglas M, Parekh S. Working Toward a Competency-Based Preceptor Development Program. *J Contin Educ Nurs*. Sep 01 2016;47(9):427-32. doi:https://dx.doi.org/10.3928/00220124-20160817-10
58. Marriott J, Galbraith K, Taylor S, et al. Pharmacists' views of preceptorship. *Pharmacy Education*. 2006;6(4)
59. Hsu LL, Hsieh SI, Chiu HW, Chen YL. Clinical teaching competence inventory for nursing preceptors: instrument development and testing. Validation Studies. *Contemp Nurse*. 2014;46(2):214-24. doi:https://dx.doi.org/10.5172/conu.2014.46.2.214
60. L'Ecuyer KM, Hyde MJ, Shatto BJ. Preceptors' Perception of Role Competency. *J Contin Educ Nurs*. 01 May 2018;49(5):233-240. doi:http://dx.doi.org/10.3928/00220124-20180417-09
61. Srinivasan M, Li S-TT, Meyers FJ, et al. "Teaching as a Competency": Competencies for Medical Educators. *Academic Medicine*. 2011;86(10):1211-1220. doi:10.1097/ACM.0b013e31822c5b9a
62. Sutkin G, Wagner E, Harris I, Schiffer R. What makes a good clinical teacher in medicine? A review of the literature. Review. *Academic Medicine*. 2008;83(5):452-66.
63. Cotton P, Sharp D, Howe A, et al. Developing a set of quality criteria for community-based medical education in the UK. *Education for Primary Care*. May 2009;20(3):143-151.
64. Elmore L, Blair M, Edgerton L. Preceptor development strategies used in a mixed academic-community teaching hospital. *Currents in Pharmacy Teaching and Learning*. January 2014;6(1):167-173.
65. Fuller PD, Peters LL, Hoel R, Baldwin JN, Olsen KM. Residency preceptor development and evaluation: A new approach. *American Journal of Health-System Pharmacy*. 2013;70(18):1605-1608. doi:10.2146/ajhp120684
66. Stuart MR, Orzano AJ, Eidus R. Preceptor development in residency training through a faculty facilitator. *J*. Oct 1980;11(4):591-5.
67. Knott GJ, Mylrea MF, Glass BD. Pharmacist and student evaluation of a preceptor training program in a regional Australian University: a multi-method study. *BMC Medical Education*. 2024/01/10 2024;24(1):49. doi:10.1186/s12909-023-04979-7
68. Pharmaceutical Society of New Zealand Incorporated. Preceptor Training. Pharmaceutical Society of New Zealand Incorporated,. Accessed 23/08/2024, 2024. https://www.psnz.org.nz/itp/preceptors/training
69. Minnesota Board of Pharmacy. Preceptor registration and renewal. Accessed 12/10/2025, 2025. https://mn.gov/boards/pharmacy/licenseregistration/preceptorregistrationandrenewal.jsp

70. Northeast Ohio Medical University. College of Pharmacy Preceptor Training. Accessed 12/10/2025, 2025. https://www.neomed.edu/pharmacy/academics/preceptor/training/
71. General Pharmacy Council UK. Becoming a designated supervisor. Accessed 13/10/2025, 2025. https://www.pharmacyregulation.org/pharmacists/changes-registration/becoming-designated-supervisor
72. Pharmacy Board of Australia. Intern Pharmacist and preceptor guide. 2021. Accessed 22/08/2025, 2025. https://www.ahpra.gov.au/documents/default.aspx?record=WD10%2f4166%5Bv5%5D&dbid=AP&chksum=tYDwKFzipNvv3aqgsm7NsQ%3d%3d
73. Sito E. Importance of preceptor competency and its role in orientee satisfaction and retention. *Biology of Blood and Marrow Transplantation*. February 2013;1):S368-S369.
74. Smith C, Ferns S, Leoni R. Placement quality has a greater impact on employability than placement structure or duration. *International Journal of Work - Integrated Learning*. 2019

2025-07-16 2019;20(1):15-29.
75. Praslova L. Adaptation of Kirkpatrick's four level model of training criteria to assessment of learning outcomes and program evaluation in Higher Education. *Educational Assessment, Evaluation and Accountability*. 2010/08/01 2010;22(3):215-225. doi:10.1007/s11092-010-9098-7
76. Bartlett A, Um I, Luca E, Krass I, Schneider C. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. *BMC medical education*. 2020;doi:https://doi.org/10.1186/s12909-020-02082-9
77. O'Sullivan TA, Lau C, Patel M, et al. Student-Valued Measurable Teaching Behaviors of Award-Winning Pharmacy Preceptors. *American Journal of Pharmaceutical Education*. 2015;79(10)doi:10.5688/ajpe7910151
78. Young S, Vos SS, Cantrell M, Shaw R. Factors associated with students' perception of preceptor excellence. *American journal of pharmaceutical education*. 17 Apr 2014;78(3):53. doi:http://dx.doi.org/10.5688/ajpe78353
79. Vos SS, Trewet CB. A comprehensive approach to preceptor development. *American journal of pharmaceutical education*. 10 Apr 2012;76(3):47. doi:http://dx.doi.org/10.5688/ajpe76347
80. Kogan JR, Dine CJ, Conforti LN, Holmboe ES. Can Rater Training Improve the Quality and Accuracy of Workplace-Based Assessment Narrative Comments and Entrustment Ratings? A Randomized Controlled Trial. *Academic Medicine*. 2023;98(2):237-247. doi:10.1097/acm.0000000000004819
81. Boyle CJ, Morgan JA, Layson-Wolf C, de Bittner MR. Developing and implementing an academy of preceptors. *American Journal of Pharmaceutical Education*. 2009;73(2):34.
82. American Association of Colleges of Pharmacy. Distinguished Preceptor Recognition Program. AACP. Accessed 22/11/2025, 2025. https://www.aacp.org/resource/distinguished-preceptor-recognition-program
83. Association for Nursing Professional Development. Preceptor Certificate of Mastery. ANPD. https://www.anpd.org/preceptorproud
84. Baldwin TT, Ford JK. Transfer of training: A review and directions for future research. *Personnel psychology*. 1988;41(1):63-105.
85. Kirschenbaum HL, Zerilli T. Assessment of Full-time Faculty Preceptors By Colleges and Schools of Pharmacy in the United States and Puerto Rico. *American Journal of Pharmaceutical Education*. 2012/10/12/ 2012;76(8):148. doi:https://doi.org/10.5688/ajpe768148
86. Yvonne Feilzer M. Doing Mixed Methods Research Pragmatically: Implications for the Rediscovery of Pragmatism as a Research Paradigm. *Journal of Mixed Methods Research*. 2010;4(1):6-16. doi:10.1177/1558689809349691
87. Park YS, Konge L, Artino ARJ. The Positivism Paradigm of Research. *Academic Medicine*. 2020;95(5):690-694. doi:10.1097/acm.0000000000003093
88. Alharahsheh HH, Pius A. A review of key paradigms: Positivism VS interpretivism. *Global academic journal of humanities and social sciences*. 2020;2(3):39-43.
89. Morgan DL. Pragmatism as a Paradigm for Social Research. *Qualitative Inquiry*. 2014;20(8):1045-1053. doi:10.1177/1077800413513733
90. Bryman A. *Social research methods*. Fifth edition. ed. Oxford University Press; 2016.

91. Willis K, Green J, Daly J, Williamson L, Bandyopadhyay M. Perils and possibilities: achieving best evidence from focus groups in public health research. *Australian and New Zealand journal of public health*. 2009;33(2):131-136.
92. Munthe-Kaas H, Bohren MA, Glenton C, et al. Applying GRADE-CERQual to qualitative evidence synthesis findings—paper 3: how to assess methodological limitations. journal article. *Implementation Science*. January 25 2018;13(1):9. doi:10.1186/s13012-017-0690-9
93. Westphaln KK, Regoeczi W, Masotya M, et al. From Arksey and O'Malley and Beyond: Customizations to enhance a team-based, mixed approach to scoping review methodology. *MethodsX*. 2021;8:101375. doi:10.1016/j.mex.2021.101375
94. CASP - UK. Critical Appraisal Skills Programme (2023). CASP Cohort Study Checklist. https://casp-uk.net/wp-content/uploads/2018/03/CASP-Cohort-Study-Checklist-2018_fillable_form.pdf
95. Tanner K. Chapter 6 - Survey designs. In: Williamson K, Johanson G, eds. *Research Methods (Second Edition)*. Chandos Publishing; 2018:159-192.
96. Dalkey N, Helmer O. An Experimental Application of the DELPHI Method to the Use of Experts. *Management Science*. 1963;9(3):458-467. doi:10.1287/mnsc.9.3.458
97. Brink D, Simpson D, Crouse B, Morzinski J, Bower D, Westra R. Teaching Competencies for Community Preceptors. *Fam Med*. 01 May 2018;50(5):359-363. doi:http://dx.doi.org/10.22454/FamMed.2018.578747
98. Humphrey-Murto S, Varpio L, Wood TJ, et al. The Use of the Delphi and Other Consensus Group Methods in Medical Education Research: A Review. *Academic Medicine*. 2017;92(10):1491-1498. doi:10.1097/acm.0000000000001812
99. Woods M. Draft Report Independent Review of Accreditation Systems within the National Registration and Accreditation Scheme for health professions. 2017;

Chapter 2. Ensuring the Quality of Clinical Supervision: Stakeholder Perceptions of Pharmacy Preceptor Competence

Following the foundational overview of preceptorship, WIL, quality assurance, and accreditation systems presented in Chapter 1, this chapter explores the perspectives of key stakeholders within the pharmacy profession regarding their experiences of preceptorship and their views on preceptor competency assessment.

Reviewing the existing literature identified discussion on motivations to become a preceptor, barriers such as workload concerns, the need for standardisation of the preceptorship experience, and lack of confidence in teaching ability of preceptors. What was missing was the perspectives of the others, such as students or interns or other important elements, such as acceptability of assessment as a means of quality assurance.

This chapter presents a qualitative study that examines the views of pharmacy students, interns, and practicing pharmacists regarding preceptorship quality and the potential for systematic preceptor assessment. The research used focus groups to capture diverse perspectives across rural, regional, and urban pharmacy settings, encompassing both community and hospital practice environments. This approach allowed for triangulation of opinions between preceptors and preceptees, providing a comprehensive understanding of the multifaceted nature of the preceptorship relationship and the various factors that influence its quality. The study was conducted between July 2018 and January 2020, involving 56 participants across 13 focus groups and three individual interviews.

This study sought insight into:

- What stakeholders perceive as the essential purpose and elements of effective preceptorship in pharmacy practice.
- How preceptors and preceptees experience the preceptorship relationship, and what factors contribute to positive or negative experiences.
- What barriers exist to becoming a preceptor, and what motivates pharmacists to take on this role.
- How competing workplace demands and the dual role of preceptor-employer affect the preceptorship experience.
- What are stakeholders' views on the feasibility, benefits, and potential barriers to implementing systematic preceptor competency assessment.
- How quality assurance systems could be designed to be both educationally valuable and practically feasible within current pharmacy practice contexts.

This chapter contributes to the thesis by establishing the empirical foundation for understanding how preceptorship is experienced in contemporary Australian pharmacy practice. Rather than beginning with a theoretical framework imposed from the literature, this approach grounds subsequent research in the lived realities of those who participate in and deliver preceptorship programs. The chapter demonstrates that quality assurance in preceptorship is not merely a regulatory or educational concern but a deeply practical issue that must account for workplace realities, professional culture, and the sustainability of the preceptor workforce.

Appendix B contains a copy of the semi-structured interview guide.

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2.1 Ensuring the Quality of Clinical Supervision: Stakeholder Perceptions of Pharmacy Preceptor Competence

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Research Paper

Ensuring the quality of clinical supervision: Stakeholder perceptions of pharmacy preceptor competence

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ABSTRACT

Introduction: Experiential education helps to integrate knowledge into practice, develops professionalism and understanding of a pharmacist's role in practice, and is a major component of pharmacy education. The role of the preceptor in experiential education is to model professional behaviours and provide feedback on student preceptee performance and competence. Little is known about how preceptors feel about their competency being assessed or the most appropriate way to assess competency.

Methods: A qualitative study using focus groups was designed, and a purposive convenience sampling strategy was used to target pharmacy students, current pharmacy interns, and registered pharmacists. A semi-structured interview guide was used to probe participants' views of what makes for a good preceptorship experience, opinions about assessment of preceptor competency, and barriers to training and assessment of preceptors.

Results: Thirteen focus groups and three interviews were conducted with 56 participants from rural, regional, and urban areas in New South Wales, Australia. Six main themes were generated: the purpose of preceptorship, becoming a preceptor, developing shared expectations, experiences, competing demands, and assessment of preceptor competence.

Conclusions: Preceptorship plays a vital role in the career development of pharmacy students and graduates. Preceptees expect the experience they attain will be the same as their peers regardless of site. Assessing preceptor competency has been identified as a way of standardising performance. This study highlights the need to better support preceptors with the aim of better standardising the preceptorship experience.

Introduction

Experiential learning is essential for students studying to become health professionals.[1] Experiential education helps to integrate knowledge into practice, develops professionalism and understanding of a pharmacist's role in practice, and is a major component of pharmacy education programs worldwide.[2–8] The model of experiential education commonly employed in the pharmacy profession is preceptorship.[9,10] Preceptorship has been defined in the literature as "the formal arrangement, situated within a clinically related setting, between a practicing health professional (the preceptor) and a graduate or student (the preceptee)."[10] Preceptorship shares characteristics with clinical supervision, in that it is a formal relationship based on supervision by a qualified health professional.[11] The terms are often used interchangeably, however the situations are unique. Preceptors are required to spend extended amounts of time

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one to one with their preceptee whilst juggling the demands of a complex workplace environment. This is in contrast to the more intensive and structured nature of clinical supervision defined by Milne.[11]

The role of the preceptor is to model professional behaviours and provide feedback on student preceptee performance and competence.[12] In Australia, preceptors play an integral role in experiential learning for pharmacy students during their undergraduate degree, as well as during a graduate's (commonly referred to as "intern") internship, in the pathway to becoming a registered pharmacist. To qualify as a registered pharmacist in Australia, a graduate must have completed an approved pharmacy degree, a 12-month intern training program, and 1824 practice hours supervised by a preceptor.

The current literature describes pharmacists' perceptions of preceptorship, including motivations for becoming a preceptor, providing feedback to preceptees, assessing preceptee competency, and preceptor training and support needs. Early work by Marriott et al.[13] discussed preceptor challenges including a lack of time and resources. Chaar et al.[14] discussed workload concerns and a lack of confidence in teaching ability among preceptors. More recently, Lucas et al.[15] found a need for standardisation of the preceptorship experience with goals specific to a practice area such as hospital, community, or industry allowing for standardised assessment of preceptees across various settings. A common feature of these three studies was their singular focus on preceptors without engaging with other perspectives. Due to the dyadic nature of preceptorship as an exchange between the preceptor and preceptee, triangulation of opinions and experiences is warranted. Further, what is unknown is the feasibility and acceptability of preceptor competency assessment as a mechanism of quality assurance. A review of international health practitioner accreditation practices noted a trend towards more scrutiny of individual preceptors and of the training site.[9] The review recommended that a quality assurance system should include feedback on preceptors from preceptees, as well as a method of assessing competency of preceptors against a defined standard.

Aim

To explore the preceptorship experiences of preceptees (including pharmacy students and interns) and preceptors, and their views on preceptor competence.

Objectives

To explore preceptors' views on preceptorship, preceptor competency assessment, and how preceptorship could be improved.

To explore students' and interns' views on preceptorship, preceptor competency assessment, and how preceptorship could be improved.

Methods

Prior to commencing this research, approval was obtained from the Human Research Ethics Committee of University of Sydney (Ethics no: 2018/476). Adopting a constructivist paradigm, a qualitative study using focus group interviews was designed to meet the study objectives.

Recruitment

A purposive convenience sampling strategy was used to target pharmacy students enrolled in a bachelor or master of pharmacy (BPharm, MPharm) who had undertaken clinical placements, pharmacy interns currently completing their internship in Australia, and registered pharmacists working in community or hospital pharmacy in both metropolitan and rural settings. Recruitment involved sending invitations to pharmacy professional organisations ($n = 5$), banner groups ($n = 4$), hospital departments ($n = 3$), universities ($n = 5$), the National Australia Pharmacy Students' Association ($n = 1$), and individual university pharmacy student bodies ($n = 3$), seeking assistance in the recruitment of potential participants. Those who agreed to assist in recruitment, disseminated an invitation or advertisement on behalf of the researchers. Interested individuals contacted the researchers to participate in a focus group. Focus groups consisted of similar participants (i.e. students or interns of registered pharmacists from particular settings). No incentives were provided to participate.

Data collection

A semi-structured interview guide, developed by the research team, was used to probe participants' views of their own experiences of preceptorship, asking what makes for a good preceptorship experience and how preceptorship could be improved. Opinions about assessment of preceptor competency and barriers to training and assessment of preceptors were also explored. The interview guide was piloted with a group of academic staff experienced with focus group interviews, prior to commencement of data collection. Focus groups and interviews were conducted by trained facilitators face to face (AB or SN) between July 2018 and January 2020, until no further themes were elicited. Prior to each focus group, all participants were given a participant information statement and asked to provide consent to take part in the research study. Data were digitally recorded except for one interview where consent was not given by the participant and contemporaneous field notes were taken instead. Recordings were transcribed verbatim by AB and SN, de-identified to maintain participant confidentiality, and imported into NVivo version 12 (Lumivero) for data management and analysis.

Data analysis

The analysis process was based on the phases of thematic analysis outlined by Braun and Clarke[16] and described by Kiger and Varpio.[17] This process involves familiarization, generating codes, generating themes, reviewing themes, and defining and refining themes followed by reporting.[16] Initially, the transcripts were coded independently by two researchers (AB and SN). The thematic analysis was conducted inductively by AB using the coding done by both AB and SN, to be inclusive of multiple perspectives. AB is a male registered pharmacist who had previous experience as a preceptor whilst SN was a male pharmacy student who had undertaken experiential placements at the time of the analysis. Codes were condensed into themes and discussed among the research team. Finally, the resultant major themes and subthemes were once again discussed and refined by the research team. Reporting followed the COnsolidated criteria for REporting Qualitative research Checklist.[18]

Results

Thirteen focus groups and three interviews were conducted in dedicated meeting spaces with a total of 56 participants from rural, regional, and urban areas in New South Wales, Australia. The participants comprised 15 students, 11 interns, 18 community pharmacists, and 12 hospital pharmacists. The duration of focus groups and interviews ranged from 30 to 120 min. Six main themes were identified: the purpose of preceptorship, becoming a preceptor, shared expectations, variety of experience, competing demands, and assessment of preceptor competence.

The purpose of preceptorship

"The intern year for me is definitely a buffer period, your safety net." (Intern focus group 6, participant 3); "To have the preceptor there and knowing they are there and that they still trust you." (Intern focus group 6, participant 3); "I felt my role was to lead by example and also to deal with the stress and anxiety that they are dealing with that year and trying to kind of relax them and talk them around." (Community metro focus group 4, participant 5).

Participants in the focus groups had clear views about why preceptorship exists and the positive benefits to be gained from this model of supervised practice. These perspectives came from personal experiences and reflections of those either currently serving as a preceptor and observing their preceptees development or having been a preceptee influenced by their preceptor.

Preceptors recognised that interns graduate from university with high levels of knowledge of medicines and disease states, but varying levels of actual practice experience. Participants felt students/interns often lacked the ability to apply their knowledge into practice. Preceptors believed their main role was to help bridge this gap by exposing preceptees to real-world situations, building their understanding of relationships between theory and practice, thereby allowing for more complex and independent decision making. Preceptees spoke about observation being a key part of their experience whereby they learned by imitating their preceptors.

Participants expressed that the preceptor's role was also to serve as a backstop or safety net to allow the preceptee to practice in a safe place and make mistakes. The interns recognised that after graduation they still had a lot to learn about being a pharmacist as well as a need to develop their own way of doing things such as procedures for checking prescriptions. They valued a preceptor who supported them during this time, allowing them hands-on experience with close oversight. Such an approach may have a significant impact on preceptees' future practice and their views about the profession. One preceptor expressed that she felt she had a responsibility to provide reassurance for an anxious preceptee during preparation for the registration exams in a coach-like support role.

Becoming a preceptor

"Having an intern alongside of you is reassuring and comforting on a personal and professional level." (Community regional interview 5, single participant); "I haven't taken a preceptee and the reason I haven't done it is because I wouldn't take someone and not put the effort in." (Community focus group 3, participant 5); "It's still a business. And if I were a business owner, I would … someone like maybe AHPRA [Australian Health Practitioner Regulation Agency] or maybe PSA [Pharmaceutical Society of Australia] gives me like a certain fund for me to actually train interns." (BPharm student focus group 6, participant 1).

This theme centered around participants' views on deciding to become a preceptor, and reasons why they may not. These reasons varied and often related to the circumstances of the preceptors' work environment or their self-perceived abilities or strengths and weaknesses as a pharmacist.

Preceptors described various reasons for becoming a preceptor, ranging from wanting to give back to the profession and professional satisfaction, to being asked by an employer or for workforce planning reasons. Preceptors, particularly from rural regions, where it is often difficult to get employee pharmacists, were highly motivated to become preceptors with the view to encourage interns to stay on after their internship and work for a longer period as a registered pharmacist. Some participants also discussed monetary compensation to motivate people to become preceptors, but there were also concerns that this would encourage some people to take preceptees for financial gain rather than for educational purposes.

Time and financial commitment along with lack of confidence in the preceptors' own abilities were cited as barriers to becoming preceptors. One pharmacist had chosen not to become a preceptor because he appreciated the effort that would be involved and did not believe he could commit to providing the experience needed whilst juggling the running of the pharmacy business and other work commitments. Whilst there was a view among some respondents that preceptees could take some load off a busy pharmacist and "earn their keep," this was more likely towards the end of their internship when interns were more confident and independent. Another

barrier was pharmacists recognising their own areas of weakness and not being confident that they could provide a well-rounded experience. Some felt they had strong clinical skills, but lacked management skills, and hence perceived that this would make them an inadequate preceptor, and vice versa. In addition, support from employers to be able to provide protected one-on-one time with preceptees was viewed as something missing from the current preceptorship model, with systematic change needed to address this.

Developing a shared expectation

"I also do my intern year in a community pharmacy … It wasn't structured and in the sense of that you have to control your own learning." (Hospital preceptor metro focus group 2, participant 4); "We encourage the interns to carry the diary or pad around so if they come across that drug that they're not aware or of, or a condition that they jot it down and then do a bit of homework themselves, read up." (Hospital metro interview 2, participant 1); "I feel like if you are a preceptor, you get that role, I feel like you need to be held accountable to be the preceptor. There should be a standard. You should be expected to perform in a standard way across the board." (BPharm student interview 9, participant 1).

Shared expectation was a theme common to both preceptors and preceptees. Underpinning this was that both parties needed to come to a shared understanding on several points prior to commencing a preceptorship relationship.

For example, some preceptees enjoyed an unstructured style, learning as things came up, whilst others preferred a more structured approach, where a plan was followed and opportunities to learn were sourced to fit that plan. Participants discussed the benefits of meeting to discuss these arrangements before commencing the preceptorship to avoid misunderstandings later.

Preceptees had an expectation that they would experience similar mentorship and coaching from preceptors no matter the experiential placement setting, and those preceptors should consider the level of preceptees' prior experience. There was general agreement that education providers could provide more guidance on what should be covered during a placement and the expected level of performance to be reached by preceptees. Preceptees felt the preceptors should undergo training to aid consistency of experience but acknowledged that it would be difficult to encourage without an incentive. Preceptors agreed that training was valuable, preferring online formats and desired preceptor-specific continuing professional development (CPD) activities.

The value of experiences

"Definitely the more exposure you get the more you realize as the learner, you then know what you don't know. So, then you go off and read up more about it, learn about it so that you can apply it next time you actually get exposed to it again." (Hospital metro interview 2, participant 1).; "Yeah, if you do it in community you stay in community." (Intern interview 6, participant 2); "I did my rego at two places. I started in a large retail pharmacy and I didn't like it at all, I wasn't learning anything, so I actually moved half way through and moved to a smaller pharmacy and I would say that that experience there was probably the most important of any of the learning I did … I think it was really formative to me and a really opened my eyes to the opportunities that pharmacy had." (Community regional interview, participant 5).

Both preceptor and preceptee participants reported that they valued a variety of experiences during their preceptorship. Preceptors expressed this from the perspective of their own preceptorship experience and how that had shaped the way they practice as both a pharmacist and a preceptor. Preceptees valued and desired variety as it helped them understand the direction they would like to pursue in their career as well as highlighting what they didn't yet know. Spending time in a setting that lacked variety was regarded as a lost opportunity. Despite a desire for variety, the consistency of how preceptorship is conducted across settings was still considered paramount.

Participants favoured having more opportunity to experience both hospital and community practice settings during their undergraduate degree or internship. They felt that the choice of where you undertook your internship defined your career in that you would most likely stay in the same practice setting afterwards. Participants who were practicing in hospital settings agreed they would find transitioning to community pharmacy difficult and vice versa. Participants who had previously worked in more than one setting, be it in multiple community pharmacies or in both hospital and community pharmacy, considered this diverse experience as a highly valuable contributor to their professional development. Having a variety of experience within one setting was also of value to participants. Often this was possible within larger pharmacies with more than one pharmacist with varying scopes of expertise, or in a hospital environment rotating through different departments. This allowed for preceptees to observe different pharmacists and gain insight into various directions they could consider for their career.

Challenge of competing demands

"But I think because of the work demand on preceptor, because of too much workload and KPIs [key performance indicators] all those kinds of things. They are always under pressure and they don't have time educate us, especially in the large discount chain they never have time to teach you." (Intern interview 8, participant 2); "Obviously, it can be intimidating with the preceptor, I'm guessing the preceptor is the manager or owner. Obviously, they are not always there so you would be with the pharmacist in charge or another pharmacist. They are a lot easier to talk to because you feel a little more comfortable making mistakes in front of them as they are not the ones responsible for you to know whether you have that job or not." (Student interview 2, participant 2); "Yeah, but in community as well, you have a boss and they're interested in how many scripts you are putting through per hour so they will probably not let you have a bit of time off and let you focus on the learning." (Hospital metro interview 6, participant 3).

The preceptorship experience is influenced by competing demands that affect both the preceptor and the preceptee. The nature of

experiential education dictates that learning takes place whilst performing a role within a workplace environment that has its own real-life demands. Preceptors talked about not being remunerated to perform this role which meant there is generally no time dedicated to supervision and teaching considering other competing demands such as day-to-day workplace tasks.

Preceptees talked about being reluctant to ask for help for fear of appearing incompetent and jeopardising future employment prospects. Preceptors also wanted preceptees to provide value as employees. However, they recognised that as preceptees were at varying stages of competence, this value may not be immediately apparent but may develop over time.

Assessment of preceptor competence

"I think it's good to be evaluated by other people. As long as you're open to looking at yourself and improving yourself, that self-evaluation is supported by outside evaluation." (Community interview 3, participant 5); "It's a whole risk assessment thing as well. Because if I'm a student and if I see someone that had accreditation, in the end it does mean that they are more likely to be a good preceptor." (Student focus group 9, participant 1); "I think it would increase the quality but decrease the quantity. Which more students need to fight for." (Preceptee interview 7, participant 2).

Some form of assessment of preceptor competency was seen by both preceptors and preceptees to be a way to achieve consistency of preceptorship experience. However, it was acknowledged that implementation could be challenging and would require culture change to be considered as something that assured quality rather than being punitive. Preceptors acknowledged the likely benefits of having their competency as a preceptor assessed. It was seen by many as an opportunity to improve practice.

On the other hand, a preceptor who had been supervising preceptees for many years was not receptive to the concept of having to undergo assessment. In addition, if these assessment ratings were published, preceptors felt this would help to align the expectations of students with the experience they receive, recognising areas of expertise. Preceptors from rural regions in particular saw assessment and some form of accreditation as a way of attracting candidates for intern positions, being an employer of choice for the preceptorship experience they could offer.

Hospitals and pharmaceutical industry sites were more accustomed to having peer evaluation as part of their workplace development and so were quite accepting of this process. Peer evaluation is less common in community pharmacy, and pharmacists felt that it would be an imposition to have someone observing you in the pharmacy with your customers. Their preferred assessment system would be a student evaluation of the preceptor.

Strategies/incentives to encourage assessment

"I agree with that, however, with community, if there was to be accreditation or whatever for preceptors, what's the incentive for someone in community pharmacy. And if there is no incentive, then there might be less intern places, if at least their boss isn't willing to pay for training or let them have time to spend with the interns." (Hospital metro focus group 6, participant 4); "That's where you are going to get resistance if there is not time and money or compensation in some way." (Hospital metro focus group 6, participant 2); "I would personally want to do it to be a better preceptor, to be a better pharmacist. So that would be my motivation." (Hospital metro focus group 6, participant 3).

Preceptors acknowledged that one way of encouraging preceptors to undergo assessment would be to have a process of recognition or accreditation. For preceptees, having an accredited preceptor was viewed very positively and would be an influencing factor in choosing a site for their internship. Preceptees felt it gave some assurance that you would be getting the best experience possible.

For preceptors, some took on this role to give back to the profession and being recognised in some way would be attractive but not essential. Accreditation on the other hand is a more formal process with an accrediting body overseeing the process. Most pharmacists agreed that accreditation was a good thing, but there was little incentive to undergo it, particularly financial.

Discussion

This qualitative study explored the views of pharmacy students, interns, and pharmacists on preceptorship and assessment of preceptor competencies. The relationship between preceptor and preceptee is a complex one with competing roles of employer and educator for the preceptor, and students adapting from the role of student to an independent professional. There is a need to develop a culture of education in pharmacy. The supervision of students and training staff are recognised competencies of pharmacists. Internationally, it has been suggested that becoming a preceptor is something that should be expected of pharmacists[19,20] with appropriate value placed on training preceptees through dedicated time and reward.

As preceptorship occurs in a functioning, often busy workplace, preceptors have expressed desire for dedicated precepting time which is consistent with regulatory guidelines.[21] In hospital settings, from this study, apparently this may occur when supported by directors. However, in community pharmacy it is far less frequent due to financial constraints. Preceptors have financial obligations as owners or managerial responsibilities and need to balance these with the role of educator. Preceptees are still learners requiring adequate supervision and this is often difficult for preceptors to manage as they also have professional and administrative tasks to complete unrelated to their role as a preceptor. This research highlighted a need for dedicated time to focus on training and assessment of preceptees.

One aspect of the current preceptorship model that can have a major impact on a preceptee's development is that preceptorship often occurs in the context of an employer/employee relationship, particularly in community pharmacy. These roles have particular significance in a learning relationship. Turner[22] describes roles as a fixed set of behaviours that are expected of a person with a

particular status (status implying place in a group). Role modelling is an important part of preceptorship as professional socialisation is the process through which these behavioural norms and expectations are passed onto a preceptee.[23] There are complexities inherent in the dual role of the preceptor as employer of the workplace and preceptor to the student or intern, and problems may arise when a person occupies more than one role. Yong et al.[24] identify a number of "role stressors" in their review, including role ambiguity, conflict, overload, and underqualification. The results described in this study bear these out. In this case, apart from some preceptors feeling like they are good clinicians but not good educators, both preceptor and employer or preceptee and employee are roles that can come into conflict. They come into conflict when varying expectations of a particular role converge resulting in a dissonance for the person occupying those dissimilar roles.[25] A possible consequence of this is reluctance of the preceptee to ask questions to the preceptor due to a fear of appearing incompetent to their employer. Similarly, role overload is likely to result in conflict when it comes to the competing demands of being a preceptor. The stress of being responsible for "nearly everything"[26] including clinical, business, and education of graduates could be overwhelming and a significant barrier to becoming a preceptor. The results of this study suggest that separating the role of preceptor and employer could improve communication between preceptor and preceptee and focus more on the professional role modelling aspect of the preceptor role.

Research into incentives for preceptor training and accreditation is limited but it has been suggested that rewards should be personally meaningful, but also benefit the preceptor professionally.[27] Engaging in CPD activities may be an incentive for some, but not others. The support provided to preceptors also plays a part in breaking down barriers to becoming a preceptor and ultimately can lead to a better outcome for preceptees. Benner's[28] "From Novice to Expert" talks of the importance of recognition, reward, and retention of experienced preceptors as key to improved patient outcomes with career pathways being a key feature. In pharmacy, this career pathway is not currently identified nor is it supported. The concept of a "Master Preceptor" has been raised in the United States,[29] and was also identified in the focus group interviews as a possible career path for preceptors to specialise in education. This could be one way of recognising an accreditation or advanced practitioner credential. The results of this study suggest that there is still a financial concern to implementing an accreditation system, with fears this critical barrier to implementation could lead to fewer internship positions, at least in the initial stages, if not carefully thought through.

The current preceptorship model in Australia places the preceptee in one setting, generally hospital or community pharmacy for either short-term placements as undergraduates, or the 12-month internship period. There was a sense that one's career becomes limited to the internship chosen setting, whereas a pharmacy degree prepares one for multiple settings including hospital, community, and industry. Having a variety of experiences could help preceptees to decide future career paths and could encourage transferability across different settings. However, one clear message that emerged was that no matter the setting there should be a degree of consistency with preceptees being assured that they would develop a core set of competencies. Even within settings, gaining experience in all aspects of the workplace was valued but is not mandated in current policy.[21]

Extrinsic barriers, such as the financial burden described by participants on employing someone full time, could be addressed by sharing preceptees between more than one site in a formalised process. Moreover, multiple preceptors taking responsibility for different aspects of preceptees' learning experiences may lessen the time commitment of individual preceptors. Ideally this should include preceptors in different settings, such as hospitals sharing a preceptee with a community pharmacy. Intrinsic barriers such as self-perceived competence are difficult to address unless there is something to benchmark performance. How a preceptor self-perceives their abilities without that context can become a barrier to becoming a preceptor. A form of competency assessment may help to address this barrier and identify opportunity for professional development. Assessment of preceptor competency could also help standardize performance across a core set of competencies that would be relevant in any practice setting. Assessment was recognised by both preceptors and preceptees as the way to achieve this consistency in experience, and an accreditation framework was seen as a way of recognising this. Further study of the acceptability of the methods of assessment is needed to understand the effect that a change of this type may have on the willingness of pharmacists to train graduates.

A strength of this study was the sampling of a variety of stakeholders involved in preceptorship, which provided rich data for analysis and triangulation. Limitations were that despite invitations having been sent to interstate organisations, participants were recruited from only one state of Australia and it is possible that the full range of experiences and attitudes of preceptors and preceptees may not have been captured. It must also be acknowledged that social desirability bias may have influenced some of the participants' responses. Interviewers AB and SN were both male.

Conclusions

Preceptorship plays a critical role in the career development of pharmacy students and graduates, serving as a valuable experience that should be consistent across different sites and contexts. It is essential for preceptees to have the expectation that their preceptor will have both the desire and time to assist them in developing as independent professionals. To standardize performance and identify areas of professional growth, assessing the competency of preceptors has been recognised as a crucial step. Moreover, incorporating role theory into the preceptorship model can further enhance the relationship between preceptors and preceptees by clarifying conflicting roles and promoting effective communication, teamwork, and respect. This study underscores the necessity of providing better support for preceptors within the structure of the preceptorship model, with the goal of standardising and improving the preceptorship experience. Further research to identify the acceptability and preferred methods of assessment of preceptor competency is also required.

Ethics approval and consent to participate

The ethical aspects of this study have been approved by the HREC of the University of Sydney (2018/476).

Consent for publication

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Authors' contributions

- AB – Andrew Bartlett
- IU – Irene Um
- CS – Carl Schneider
- IK – Ines Krass
- SN – Shaleen Naiker

AB, IU, IK and CS jointly conceptualised the work.
AB, SN were responsible for data collection.
AB, IU, and CS were responsible for initial analysis.
AB was responsible for original draft.
All authors reviewed and contributed to the final version of the manuscript.

Declaration of Competing Interest

The authors declare that they have no competing interests

Data availability

All data generated or analysed during this study are included in this published article [and its supplementary information files].

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cptl.2023.07.003.

References

1 Yardley S, Teunissen PW, Dornan T. Experiential learning: transforming theory into practice. *Med Teach*. 2012;34(2):161–164. https://doi.org/10.3109/0142159X.2012.643264.
2 Burrows J, Dall' Alba G, La Caze A. Becoming pharmacists: students' understanding of pharmacy practice at graduation from an Australian University. *Curr Pharm Teach Learn*. 2016;8(6):729–741. https://doi.org/10.1016/j.cptl.2016.08.007.
3 Carrido DI, Macaldo ACL, Lorenzo CAA, Loquias MM. Evaluation of community pharmacy internship programme ippines. *Pharm Educ*. 2016;16(1):103–108. Accessed 11 July 2023. https://pharmacyeducation.fip.org/pharmacyeducation/article/view/479/374.
4 Fejzic J, Henderson A, Smith NA, Mey A. Community pharmacy experiential placement: comparison of preceptor and student perspectives in an Australian postgraduate pharmacy programme. *Pharm Educ*. 2013;13(1):15–21. Accessed 11 July 2023. https://pharmacyeducation.fip.org/pharmacyeducation/article/view/218/191.
5 Galinski CN, Horosz PJ, Spooner JJ, Kennedy DR. Comparison of introductory pharmacy practice experiences among US pharmacy programs. *Am J Pharm Educ*. 2014;78(9):162. https://doi.org/10.5688/ajpe789162.
6 Hammer D. Improving student professionalism during experiential learning. *Am J Pharm Educ*. 2006;70(3):59. https://doi.org/10.5688/aj700359.
7 Noble C, O'Brien M, Coombes I, Shaw PN, Nissen L, Clavarino A. Becoming a pharmacist: students' perceptions of their curricular experience and professional identity formation. *Curr Pharm Teach Learn*. 2014;6(3):327–339. https://doi.org/10.1016/j.cptl.2014.02.010.
8 Vestergaard S, Nørgaard LS, Traulsen JM, Kaae S. Pharmacy interns' perception of their professional role. *Am J Pharm Educ*. 2017;81(1):10. https://doi.org/10.5688/ajpe81110.
9 *Health profession accreditation practices international literature review*. Australian Pharmacy Council; 1 August 2018. Accessed 11 July 2023. https://www.pharmacycouncil.org.au/media-hub/health-profession-accreditation-literature-review/.
10 Bartlett AD, Um IS, Luca EJ, Krass I, Schneider CR. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. *BMC Med Educ*. 2020;20:165. https://doi.org/10.1186/s12909-020-02082-9.
11 Milne D. An empirical definition of clinical supervision. *Br J Clin Psychol*. 2007;46(Pt 4):437–447. https://doi.org/10.1348/014466507X197415.
12 Marriott J, Taylor S, Simpson M, et al. Australian national strategy for pharmacy preceptor education and support. *Aust J Rural Health*. 2005;13(2):83–90. https://doi.org/10.1111/j.1440-1854.2005.00659.x.

13 Marriott J, Galbraith K, Taylor S, et al. Pharmacists' views of preceptorship. *Pharm Educ*. 2006;6(4):245–252. Accessed 11 July 2023. https://pharmacyeducation.fip.org/pharmacyeducation/article/view/811/687.
14 Chaar BB, Brien J, Hanrahan J, McLachlan A, Penm J, Pont L. Experimental education in Australian pharmacy: preceptors' perspectives. *Pharm Educ*. 2011;11(1):166–171. Accessed 11 July 2023. https://pharmacyeducation.fip.org/pharmacyeducation/article/view/320/291.
15 Lucas C, Williams K, Tudball J, Walpola RL. Community, hospital and industry preceptor perceptions of their role in experiential placements - the need for standardization of preceptor responsibilities and evaluations on students. *Curr Pharm Teach Learn*. 2018;10(11):1447–1455. https://doi.org/10.1016/j.cptl.2018.08.002.
16 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. https://doi.org/10.1191/1478088706qp063oa.
17 Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. *Med Teach*. 2020;42(8):846–854. https://doi.org/10.1080/0142159X.2020.1755030.
18 Booth A, Hannes K, Harden A, Noyes J, Harris J, Tong A. COREQ (Consolidated Criteria for Reporting Qualitative Studies). In: Moher D, Altman DG, Schulz KF, Simera I, Wager E, eds. *Guidelines for reporting health research: A user's manual*. Wiley; 2014:214–226.
19 *A global competency framework for services provided by pharmacy workforce*. International Pharmaceutical Federation Pharmacy Education Taskforce; 2012. Accessed 11 July 2023. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwje6KPfr9D_AhUDEFkFHccAAxYQFnoECBEQAQ&url=https%3A%2F%2Fwww.fip.org%2Ffiles%2Ffip%2FPharmacyEducation%2FGbCF_v1.pdf&usg=AOvVaw1ASGNBx2UdwxT6q2V_GlXV&opi=89978449.
20 Cox CD. Quantity vs quality in experiential education. *Am J Pharm Educ*. 2016;80(3):36. https://doi.org/10.5688/ajpe80336.
21 *Intern pharmacist and preceptor guide*. Pharmacy Board Ahpra; June 2021. Accessed 11 July 2023. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjjybH7s9D_AhV1D1kFHXO5CA0QFnoECB0QAQ&url=https%3A%2F%2Fwww.pharmacyboard.gov.au%2Fdocuments%2Fdefault.aspx%3Frecord%3DWD10%252F4166%255Bv5%255D%26dbid%3DAP%26chksum%3DtYDwKFzipNvv3aqgsm7NsQ%253D%253D&usg=AOvVaw1R71uhFh-NrMt2PI2wK5B1&opi=89978449.
22 Turner RH. Role theory. In: Turner JH, ed. *Handbook of Sociological Theory*. Springer; 2001:233–254.
23 Guirguis LM, Chewning BA. Role theory: literature review and implications for patient-pharmacist interactions. *Res Soc Adm Pharm*. 2005;1(4):483–507. https://doi.org/10.1016/j.sapharm.2005.09.006.
24 Yong FR, Garcia-Cardenas V, Williams KA, Benrimoj SIC. Factors affecting community pharmacist work: a scoping review and thematic synthesis using role theory. *Res Soc Adm Pharm*. 2020;16(2):123–141. https://doi.org/10.1016/j.sapharm.2019.05.001.
25 Lynch KD. Modeling role enactment: linking role theory and social cognition. *J Theory Soc Behav*. 2007;37(4):379–399. https://doi.org/10.1111/j.1468-5914.2007.00349.x.
26 McCann L, Adair CG, Hughes CM. An exploration of work-related stress in Northern Ireland community pharmacy: a qualitative study. *Int J Pharm Pract*. 2010;17(5):261–267. https://doi.org/10.1211/ijpp.17.05.0002.
27 Brenner ZR. Preserving preceptors: a valuable resource. *Crit Care Nurse*. 1995;15(2):101–104.
28 Benner P. From novice to expert. *Am J Nurs*. 1982;82(3):402–407.
29 Harris BJ, Butler M, Cardello E, et al. Report of the 2011-2012 AACP Professional Affairs Committee: addressing the teaching excellence of volunteer pharmacy preceptors. *Am J Pharm Educ*. 2012;76(6):S4. https://doi.org/10.5688/ajpe766S4.

Chapter 3. Measuring and Assessing the Competencies of Preceptors in Health Professions: A Systematic Scoping Review

The previous chapter identified a number of critical needs, including standardisation of preceptorship experiences, clear expectations of preceptor roles and competencies, and feasible methods for assessing preceptor competency.

This chapter presents a systematic scoping review of the literature identifying competencies of preceptors along with performance indicators of preceptors. The objectives were to explore the evidence base for the competencies of preceptors as well as how they may be assessed. While the focus of this thesis is on pharmacy preceptorship, the intention was to look across health professions with the view of getting a broad perspective on the subject that could inform the following research projects of this thesis.

The systematic scoping review aimed to:

- Evaluate evidence for competencies or performance indicators of preceptors in health professions.
- Described implemented methods of measurement and assessment of preceptor competency.

The findings from this review inform the subsequent survey of assessment practices of Australian and New Zealand pharmacy education providers presented in Chapter 4 and the consensus study presented in Chapter 5 and provides an evidence link between stakeholder perspectives and consensus development.

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3.1 Measuring and Assessing the Competencies of Preceptors in Health Professions: A Systematic Scoping Review

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Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review

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Abstract

Background: In healthcare, preceptors act as a role model and supervisor, thereby facilitating the socialisation and development of the preceptee into a professional fit to practice. To ensure a consistent approach to every preceptorship experience, preceptor competencies should be measured or assessed to ensure that the desired outcomes are achieved. Defining these would ensure quality management and could inform development of an preceptor competency framework.
This review aimed to evaluate the evidence for preceptor competencies and assessment in health professions.

Methods: This study followed the PRISMA ScR scoping review guidelines. A database search was conducted in Embase, Medline, CINAHL and IPA in 2019. Articles were included if they defined criteria for competency, measured or assessed competency, or described performance indicators of preceptors. A modified GRADE CERQual approach and CASP quality assessment were used to appraise identified competencies, performance indicators and confidence in evidence.

Results: Forty one studies identified 17 evidence-based competencies, of which 11 had an associated performance indicator. The competency of preceptors was most commonly measured using a preceptee completed survey (moderate to high confidence as per CERQual), followed by preceptor self-assessment, and peer-assessment. Preceptee outcomes as a measure of preceptor performance had good but limited evidence.

Conclusions: Competencies with defined performance indicators allow for effective measurement and may be modifiable with training. To measure preceptor competency, the preceptor perspective, as well as peer and preceptee assessment is recommended. These findings can provide the basis for a common preceptor competency framework in health professions.

Keywords: Preceptorship, Preceptor, Assessment, Competency

Background

Preceptorship may be defined as the formal arrangement, situated within a clinically related setting, between a practicing health professional (the preceptor) and a graduate or student (the preceptee). The preceptor acts as a role model, supervises, provides guidance, learning experiences, and facilitates the socialisation and development of the preceptee into a competent professional, fit for practice during the taught curriculum and pre-registration [1–3]. In some countries, professional bodies mandate a period of supervised practice or an internship prior to full registration [4]. The nature of the preceptor's role will differ depending on the scope of supervision, which can range from a short-term clinical

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placement within an undergraduate/postgraduate curriculum to a long-term pre-registration internship [5]. A good placement or internship experience lays a solid foundation for development of professionalism [6] throughout a practitioner's career. Developing and supporting preceptors also leads to improvements in retention and satisfaction of new graduates [7].

Competencies comprise a combination of knowledge, skills, abilities or attributes[66] . Multiple preceptor competencies have been articulated in the literature such as effective communication skills and being a role model practitioner [8–11]. However, the evidence for identified competencies have yet to be evaluated. To ensure a consistent approach to every preceptorship experience, it then follows that competencies are measured or assessed to ensure that delivery is of a standard that achieves the desired outcomes. Assessment allows for setting a benchmark for comparison as well as for measuring the effect of change over time, eg the effect of an educational intervention such as a training program. Defining the standards that preceptors should strive to attain, as well as methods of assessment, could inform development of a preceptor competency framework and a standard by which preceptors may be measured.

Aim

The aim of this review was to evaluate the evidence for preceptor competencies and assessment in health professions. The objectives of this review were to:

(i) Evaluate evidence for competencies or performance indicators of preceptors in health professions;
(ii) Describe implemented methods of measurement and assessment of competency;

Research question

What is the evidence for preceptor competencies in health professions and to how are they assessed?

Operational definitions

- Preceptorship: Preceptorship is the formal arrangement between a practicing health professional (the preceptor) and a graduate or student (the preceptee). Within a clinically-related setting, the preceptor supervises, provides guidance and facilitates the socialisation and development of the preceptee into a competent professional fit for practice [1–3].
- Assess: To consider (give careful thought to) someone or something and make a judgement about them or it [12].
- Measure: to determine magnitude or quantity based on a standard [13].
- Rating: a classification based on assessment of quality, standard or performance [14].

Methods

The literature was comprehensively searched using the following databases: Embase, Medline, Cumulative Index of Nursing and Allied Health Literature (CINAHL) and International Pharmaceutical Abstracts (IPA). A search strategy was developed via consensus with all authors and then applied to each database by the primary author (AB) on 19th June 2019 with no date limitation applied. The following PCC (population, concept, and context) strategy was developed a priori. The study population included medicine, nursing, pharmacy or other allied health practitioners. The concept of preceptor was captured using the terms clinical teacher, clinical educator, clinical supervision, preceptor, preceptorship, tutor or clerkship. The context of professional competence incorporated evaluation, guideline, framework, education, skill or quality. Each term was grouped with the boolean operator "OR", and each concept with the operator "AND". The search was restricted to peer-reviewed journal articles and those published in English. The search strategy used for Medline is presented in Additional file 1.

Selection criteria

The inclusion and exclusion criteria were developed in an iterative fashion as described by Arksey and O'Malley [15] as more familiarity with the literature was gained (Table 1). A systematic approach was taken based on the PRISMA-ScR (Preferred Reporting Items for Systematic Scoping Reviews) guidelines [16]. Search results were collated in the reference management program EndNote, then de-duplicated. All titles, abstracts, and full-text articles were screened by the primary author (AB). A random sample of 10% of citations were assessed for eligibility by two additional authors (IU and CS), with consensus agreement being reached. Reference lists were hand searched to identify any additional articles that may fit the eligibility criteria.

Table 1 Eligibility criteria

Inclusion criteria	Exclusion criteria
Primary research articles, synthesised findings from literature review, or expert opinion that: - define criteria for the competency of preceptors - measure or assess the competency of preceptors - describe performance indicators of preceptors	Non-English language Studies focused on preceptee competence Reviews of clinical programs Evaluation of preceptor development programs Conference abstracts Full text unable to be obtained Unsupported opinion papers

Data extraction

Data were extracted and analysed by the primary author (AB), using a standardised data extraction form containing a predefined set of items. Items included study characteristics (e.g. author; year; setting; health discipline; type of study/study design; sample size); mode of measurement, measurement tool and scale; competency criteria; results; reliability/validity. The form was pilot tested with three articles, and discrepant items were clarified and resolved by discussion.

Risk of bias appraisal

As the included articles in this review had mixed study designs, two critical appraisal tools were used, the Critical Appraisal Skills Program (CASP) Cohort checklist [17] and the Qualitative checklist [18]. The primary author (AB) allocated each article to either checklist, depending on the study design, and evaluated all included articles. A random article from each checklist was independently evaluated by two authors (IU and CS). Any discrepancies identified were resolved by discussion and consensus agreement. A traffic light system was devised to visually describe the articles in terms of each of the CASP criteria; that is, addressed (green), not addressed (red), or unclear (orange).

Assessment of confidence

To assess the level of confidence in the findings, an approach based on the GRADE CERQual (CERQual) framework was followed [19]. CERQual is an approach that is usually applied to synthesize qualitative findings and to assess confidence in the evidence. While studies in the review were a mix of qualitative and quantitative evidence, the narrative nature of the findings warranted the use of CERQual. A conservative evidence synthesis approach was adopted with synthesis performed by AB and a random 10% selection independently reviewed by CS and IU. CERQual has four criteria (methodological limitations, coherence concerns, adequacy concerns and relevance concerns) against which the included articles were assessed leading to an overall assessment of confidence, described below.

- Methodological limitations were assessed by looking at aspects of each contributing study that may reduce the confidence in the finding [20].
- Coherence refers to the extent to which contributing studies fit with the finding in a convincing way. Studies that contain contradictory results to the other contributors would be seen to reduce the confidence in the finding [21].
- Assessing adequacy involves making a judgement on the quantity of data along with the quality or richness of the information gained [22].
- The confidence in the relevance of the papers contributing to the finding was a matter of examining the setting, context, perspective and phenomenon of interest [23].

After these assessments were made, they were considered as a whole to determine confidence in the evidence for the finding. These were then graded on a scale from low to high confidence. All findings were synthesised narratively.

Results

Study selection

The literature search retrieved a total of 1642 citations after removing duplicates. Screening for eligibility based on titles excluded 1463 papers, leaving 179 papers for review of abstracts. A further 69 papers were excluded after reviewing abstracts, with 110 papers carried forward for full text review. Careful screening provided 36 papers fitting the selection criteria. Hand searching found an additional 5 references, resulting in a total of 41 [8–11, 24–60] articles to be included for review (Fig. 1).

Study characteristics

Of the 41 included articles, 26 were conducted in the United States [9, 10, 25, 26, 28–31, 33–36, 38–40, 44–48, 50–52, 56, 59], three in Canada [8, 11, 54], two in Taiwan [42, 43], two in Iran [27], and one each in Thailand [57], Ethiopia [53],Saudi [24], Brazil [37], Australia [49], Sweden [58], Belgium [55] and the United Kingdom [32]. Seventeen were based on preceptorship/education in medicine [10, 31, 32, 35, 44, 46, 50–52, 54–56, 58–60], twelve in pharmacy [9, 11, 24–26, 30, 33, 34, 36, 38, 53, 57], and eleven in nursing [8, 27, 28, 37, 40–43, 47–49] and one in dentistry [45]. There were twelve quantitative studies [25, 26, 30, 33, 35, 39, 46, 47, 49, 53, 57], ten qualitative studies [29, 34, 37, 41, 42, 44, 45, 48, 58, 59], three mixed methods [43, 50, 51], four descriptive papers that did not report results [36, 38, 40, 56], five papers concerned with validity testing [28, 31, 52, 54, 55] and seven papers describing consensus building, three with Delphi approaches [10, 29, 32] and four with expert opinion based on literature review and qualitative synthesis [8, 9, 11, 60]. Data were extracted and are presented in Additional file 2.

Competencies and methods of assessment of preceptors

Seventeen competencies with associated methods of assessment were identified, as outlined in Table 2. The methods used to identify competencies of preceptors included expert opinion based on literature reviews and qualitative synthesis [8, 9, 11, 60, 61], Delphi approaches [10, 29, 32], and qualitative studies examining the

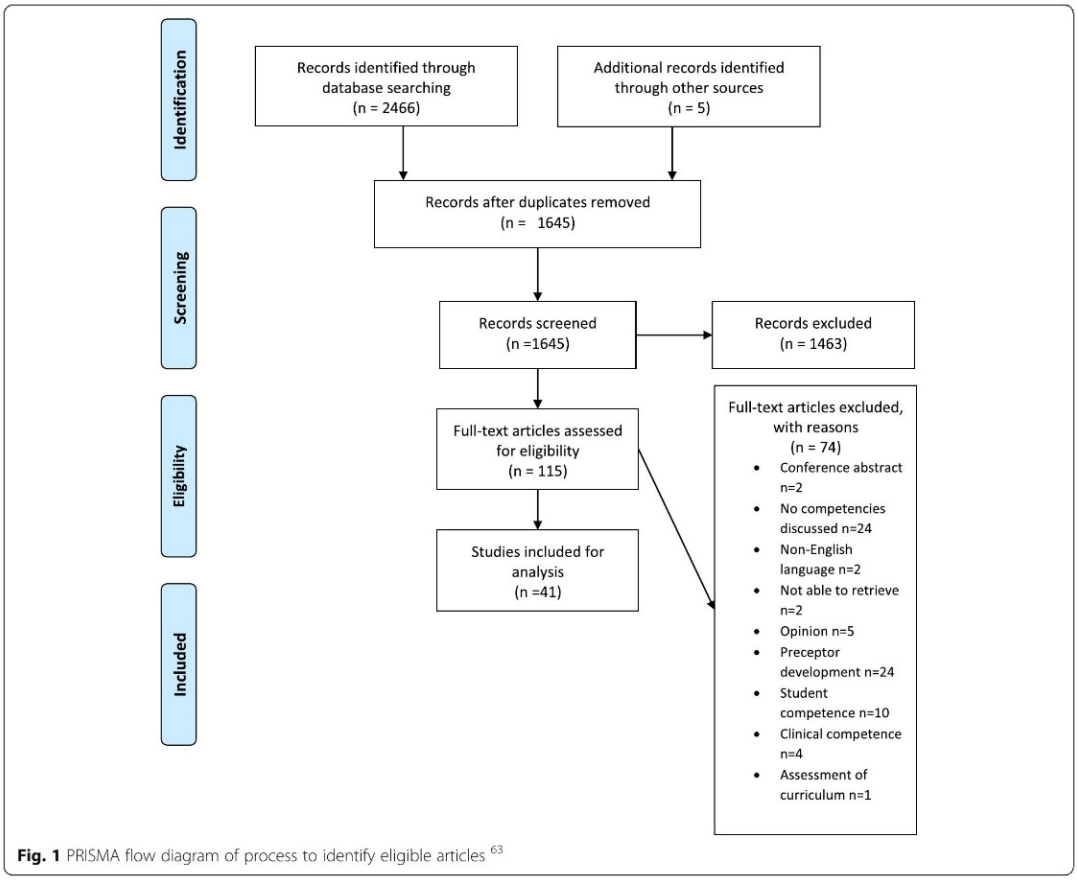

Fig. 1 PRISMA flow diagram of process to identify eligible articles [63]

qualities of preceptors that preceptees value most [27, 37, 42, 44, 45, 51]. Fifteen studies identified competencies, but assessment had not been implemented or reported [8–11, 27, 29, 32, 37, 38, 41, 45, 48, 56, 58, 60], with only four studies detailing performance indicators for the competencies described [8–11].

The competency of preceptors was measured in four ways. Most commonly, and with moderate to high confidence as per CERQual, preceptees used a survey instrument to assess the competency of their preceptor [26, 30, 46, 53, 57]. Preceptee assessment was also combined with a preceptor self-assessment instrument which allowed for comparison between preceptors' and preceptees' perceptions of their experience working together [36, 53, 57]. Preceptors were shown to overestimate their abilities when self-evaluating, compared to preceptee evaluations (CERQual assessment: low confidence). Another method used was an assessment of preceptors by peers or faculty using a survey instrument [30] or by direct observation of interactions with preceptees [31, 33, 59]. While this approach provided greater specificity and detail [50], it was reported as more difficult to implement on a large scale, due to time and cost constraints, as well as lower preceptor acceptance [30]. The fourth approach was associating preceptees' examination performance with the 'quality' of teaching as rated by preceptees via subjective measurement [39]. While the strongest evidence exists for preceptee evaluation of preceptors; there is moderate confidence in evidence for self-assessment and peer evaluation, the confidence is lowered by the limited amount of evidence. Although there was good correlation between preceptee evaluations of preceptors and preceptors' self-assessment; preceptors overestimated their effectiveness as communicators [53] and their ability to provide feedback [53, 57]. Measurement of preceptee outcomes had good but limited evidence (low confidence) [39]. Only one study linked the quality of the preceptor with a preceptee outcome; preceptees with a perceived higher preceptor quality performed better in their exams [39].

Table 2 Preceptor competency and assessment in health professions

Competency with identified measures of performance	GRADE CERQual Confidence in evidence	Assessment measure	Setting
-Effective communication skills [8–11, 24, 25, 29–33, 42, 45, 47–49, 53, 57, 59, 60]	Moderate to high	Peer observed practice [30, 33, 42, 59] Peer observed simulation [31]	Medicine [31, 59] Nursing [42] Pharmacy [30, 33]
		Preceptor self-evaluation survey [26, 43, 53, 57]	Nursing [43] Pharmacy [26, 53, 57]
		Preceptee survey [8, 26, 33, 53, 57]	Nursing [8] Pharmacy [26, 33, 53, 57]
-Role model practitioner [8–10, 24, 25, 29, 30, 32, 33, 41–44, 46, 48, 49, 58, 59]	Moderate to high	Peer observed practice [30, 33, 36, 42, 59]	Medicine [59] Nursing [42] Pharmacy [30, 33, 36]
		Preceptor self-evaluation survey [26, 36, 43]	Nursing [43] Pharmacy [26, 36]
		Preceptee survey [8, 26, 36, 46]	Medicine [46] Nursing [8] Pharmacy [26, 36]
-Adapts to the learning needs of students [10, 11, 30, 37, 44, 47, 58, 59]	Moderate to high	Peer observed practice [30, 31, 42, 59] Peer observed simulation [55]	Medicine [31, 55, 59] Nursing [42] Pharmacy [30]
-Commitment to excellence in teaching [8, 9, 11, 29, 30, 32, 42–44]	Moderate	Peer observed practice [30, 42]	Nursing [42] Pharmacy [30]
		Preceptor self-evaluation survey [43]	Nursing [43]
		Preceptee survey [8]	Nursing [8]
-Demonstrates respect for the learner [42, 46, 47, 59]	Moderate	Peer observed practice [42, 59]	Medicine [59] Nursing [42]
		Preceptee survey [46, 54]	Medicine [46, 54]
Demonstrate reflective practice [8, 10, 11, 32]	Moderate	Preceptee survey [8]	Nursing [8]
Effective provision of feedback [9–11, 26, 32, 36, 42, 52, 55]	Moderate	Peer observed practice [36, 42] Peer observed simulation [55]	Nursing [42] Medicine [55] Pharmacy [36]
		Preceptee survey [26, 36]	Pharmacy [26, 36]
		Preceptor self-evaluation survey [26, 36]	Pharmacy [26, 36]
Demonstrate reflective practice [10, 11, 29, 32]	Moderate	Peer observed practice [42]	Nursing [42]
		Preceptee survey [8]	Nursing [8]
-Facilitate critical thinking, problem solving and decision-making development [8, 11, 30, 32, 41, 53, 55, 57, 59]	Moderate	Peer observed practice [30, 59] Peer observed simulation [55]	Medicine [55, 59] Pharmacy [30]
		Preceptor self-evaluation survey [53]	Pharmacy [53]
		Preceptee survey [8, 53, 57]	Nursing [8] Pharmacy [53, 57]
-Encourage self-directed learning [9, 52, 54, 56]	Moderate	Preceptee survey [52, 54]	Medicine [52, 54]
-Leadership and management skills [9, 25]	Low-moderate		
Skills of effective preceptors without indicators of performance identified.	**GRADE CERQual Confidence in evidence**	**Assessment measure**	**Setting**
-Organised and ability to prioritize [32, 33, 42, 43]	Moderate	Peer observed practice [33, 42]	Nursing [42] Pharmacy [33]
		Preceptor self-evaluation survey [43]	Nursing [43]
-Empathetic [27, 30, 32, 41, 47]	Moderate	Peer observed practice [30]	Pharmacy [30]
-Ethical [31, 32, 42]	Moderate	Peer observed practice [31, 42]	Nursing [42] Medicine [31]

Table 2 Preceptor competency and assessment in health professions *(Continued)*

Competency with identified measures of performance	GRADE CERQual Confidence in evidence	Assessment measure	Setting
-Approachable and flexible [26, 30, 42, 45–47]	Moderate	Peer observed practice [30, 42]	Nursing [42] Pharmacy [30]
		Preceptee survey [26, 46]	Medicine [46] Pharmacy [26]
-Enthusiasm for teaching Preceptees [32, 33, 36, 42, 43]	Moderate	Peer observed practice [33, 36, 42]	Nursing [42] Pharmacy [33, 36]
		Preceptor self-evaluation survey [36, 43]	Nursing [43] Pharmacy [36]
		Preceptee survey [36]	Pharmacy [36]
-Open to receiving feedback [26, 32, 36, 46]	Low	Peer observed practice [36]	Pharmacy [36]
		Preceptor self-evaluation survey [26]	Pharmacy [26]
		Preceptee survey [26, 46]	Medicine [46] Pharmacy [26]

Table 2 describes the methods of assessment, and confidence in evidence. The full CERQual evaluation is presented inpresented in Additional file 3.

Quality appraisal

The CASP Cohort checklist was used for the quantitative and validity testing papers, and the CASP Qualitative checklist was used for qualitative studies, descriptive studies and consensus building based on literature review and qualitative synthesis. The results of the CASP assessments tabled with a traffic light legend can be found in Additional file 4. Very few studies received green ratings across all categories. In the CASP Qualitative assessment, only two papers were green in all catagories [42, 44]. Most commonly, articles did not contain enough information to make an assessment on the relationship between participants and researchers, ethical considerations, and data analysis. For the CASP Cohort assessment, there were no randomised controlled trials, and no studies received green ratings on all categories. Most commonly, articles did not have enough information regarding follow up of participants, or the length of follow-up of participants. Many articles did not have enough information to ascertain whether confounding factors were considered in the study design.

Discussion

This systematic scoping review of the literature and evaluation of the quality of evidence using GRADE CERQual, informed the development of a 17-item evidence-based set of preceptor competencies and corresponding methods of assessment that is applicable to a diverse range of health professions. This review did not find evidence for significant differences for requisite preceptor competencies across health professions. The identification of the minimum level of performance at which a health practitioner may be deemed a 'competent' preceptor requires calibration. These competencies and methods of assessment may form the basis for a competency framework and be applied to recognise preceptors working at an advanced level of practice, thereby enabling a system of quality management and oversight.

In assessing the confidence in evidence for these findings using CERQual, it was apparent that 11 of the identified competencies have defined performance indicators that may allow for effective measurement of competence, while six could be described as attributes. Attributes such as being ethical, enthusiastic, or empathetic, were not associated with performance indicators and would therefore to be less conducive to measurement and standardisation. Without adequate measurement, discerning the effect of any potential intervention, such as training is problematic. Interestingly, the competencies or attributes without performance indicators, such as empathy, could be considered as intrinsic to the individual preceptor. Intrinsic traits have been identified as being difficult to modify through training but may develop with personal reflection and maturity [60]. Sutkin and colleagues conclude that affective or non-cognitive characteristics are of greater importance than the skill based cognitive abilities in making a "truly great" preceptor. A way forward is proposed by Davis (1989) who recommends that preceptors model empathy as an extrinsic behaviour in order to facilitate preceptee development via professional socialisation [62]. By modelling intrinsic affective traits as behaviours, measurement is thereby possible.

A disconnect between the competencies and the mode of measurement of some competencies was identified. For instance, adapting to the learning needs of preceptees had evidence for assessment by peer observation in both simulation and practice environments. This would

seem to be a competency that lends itself to evaluation from the perspective of the preceptee, however, in the literature there was no evidence for this mode of measurement. Likewise, demonstrating reflective practice had evidence for assessment via a preceptee survey, whereas self-reflection as a mode of measurement would seem logical, but again, evidence was not apparent. A recommendation is to consider alignment of the mode of measurement with the competency being assessed in a consistent manner across all competencies in the framework.

There was a lack of evidence to demonstrate a relationship between competencies or attributes of preceptors and preceptee outcomes. According to Bigg's framework of constructive alignment, learning outcomes should be clearly outlined at the beginning, then learning activities and assessment aligned, so that the level to which those outcomes have been achieved can be measured [63]. In the context of preceptorship, this framework could be applied. Preceptor competencies would be the outcome to be measured (and potentially also the preceptees' exam performance) against a defined standard, and preceptor development constitutes the learning activities. The competencies being measured and the mode of measurement also needs to be aligned. Gill (2004) notes that the ultimate goal would be to link preceptor performance and preceptee learning [61]. Whilst Griffith (2000) linked preceptee performance in an exam with perceived preceptor quality, the competencies that led to those preceptors being rated highly were not detailed [39].

An additional consideration in constructive alignment would be to align assessment with assessors who are well placed to provide the assessment. Brookfield describes four lenses through which teachers can view their practice from different perspectives as a tool for critical reflection and ultimately to perform more confidently and at a higher level [64]. A tripartite preceptorship model with preceptor, preceptee and faculty being in partnership with assessment from all perspectives, along with some theoretical training, would fit this model. At a minimum, all preceptors should undertake preceptor development training and evaluation by their preceptees. A portfolio of evidence could then comprise of assessment from all partners. Registration bodies who conduct examinations on behalf of professional boards could provide feedback to preceptors on preceptee performance, preceptees could provide evaluations of the preceptor at various timepoints, and preceptors could include a reflective self-evaluation of their performance. Peer assessment would be more expensive to deploy on a large scale and may be less acceptable and convenient, however, judicious use of peer assessment would provide a high degree of detail and specificity (CERQual assessment: high confidence. Finally, the validity and reliability of the assessment method also needs to be considered. If this framework were to be applied to credential preceptors at an advanced level of practice, peer observation and evaluation should also be included as part of a portfolio of evidence built over time. Finally, the validity and reliability of the assessment method also needs to be considered. If this framework were to be applied to credential preceptors at an advanced level of practice, peer observation and evaluation should also be included as part of a portfolio of evidence built over time.

The strengths of this scoping review are that a rigorous, standardised approach of CERQual was used to assess the confidence in the evidence. This provides credibility to the competencies and methods of assessment identified from the literature search. The nature of the scoping review process allowed for the inclusion of papers of various study design such as validity testing and qualitative studies. A conservative synthesis approach was adopted to facilitate inclusivity of the language used to describe competencies across the literature. Further rationalisation of the identified competencies may be possible. The review followed the PRISMA ScR guidelines and an iterative process was maintained between authors. Limitations of the review are that title and abstract screening, data extraction and evidence assessment were primarily carried out by the primary author, although a random selection of results for all stages were assessed by two additional authors, with points of difference discussed to achieve consensus. An additional limitation was the preponderance of studies from a single country (USA), resulting in a potential risk to generalisability of findings.

Implications for future

This review has synthesised a common set of preceptor competencies across health professions. Additional unique preceptor competencies for individual health professions may need to be considered. The relationship between measuring the performance of preceptors and effective outcomes of preceptees has yet to be determined and requires further investigation. It would be worthwhile to examine which of the competencies identified are most relevant to the outcomes for graduates. Retention in the workforce, professional satisfaction, and career progression are all outcomes that may indicate that the model of preceptorship is successful, but this requires evaluation. In addition, the minimum level of preceptor competence has not been determined. A consensus approach, such as the Delphi method [65], could be used to improve confidence in the identified competencies and determine the minimum standard against which preceptors should be assessed. Future primary studies with the aim to identify variation in preceptor competencies between professions are required.

Conclusion

A standardised, evidence-based set of preceptor competencies and accompanying methods of assessment has been identified across health professions. Most competencies have an associated performance indicator which allow for effective measurement, while others are more intrinsic to the individual resulting in measurement difficulty. Further research is required to identify the minimum standard of performance that is necessary, as well as to identify the factors that have the greatest influence on the outcomes for preceptees.

Supplementary information

Supplementary information accompanies this paper at https://doi.org/10.1186/s12909-020-02082-9.

Additional file 1. Appendix 1 – Example search strategy using Medline.
Additional file 2. Appendix 2 – Data extraction table.
Additional file 3. Appendix 3 – GRADE CERQual evaluation table.
Additional file 4. Appendix 4 Risk of Bias appraisal.

Abbreviations

PRISMA Scr: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.; GRADE: Grading of Recommendations Assessment, Development, and Evaluation.; CERQual: Confidence in the Evidence from Reviews of Qualitative research.; CASP: Critical Appraisal Skills Programme; AB: Andrew Bartlett; IU: Irene Um; CS: Carl Schneider; IK: Ines Krass; EL: Edward Luca

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Authors' contributions

AB, IU and CS jointly conceptualised the work. AB, EL and IU developed the search strategy. AB, IU, IK, CS were responsible for initial analysis. AB was responsible for original draft. AB, IU, IK, EL and CS reviewed and contributed to the final version of the manuscript.

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References

1. Billay D, Myrick F. Preceptorship: an integrative review of the literature. Nurse Educ Pract. 2008;8(4):258–66.
2. Marriott J, Taylor S, Simpson M, Bull R, Galbraith K, Howarth H, et al. Australian national strategy for pharmacy preceptor education and support. Aust J Rural Health. 2005;13(2):83–90.
3. Mills JE, Francis KL, Bonner A. Mentoring, clinical supervision and preceptoring: clarifying the conceptual definitions for Australian rural nurses. A review of the literature. Rural and remote health. 2005;5(3):410.
4. Woods M. Draft report independent review of accreditation systems within the National Registration and accreditation scheme for health professions; 2017.
5. Australian Pharmacy Council. Health Profession Accreditation Practices International Literature Review. 2018.
6. Hill WT. White Paper on Pharmacy Student Professionalism: What we as pharmacists believe our profession to be determines what it is. Journal of the American Pharmaceutical Association (1996). 2000;40(1):96–102.
7. Sito E. Importance of preceptor competency and its role in Orientee satisfaction and retention. Biology of Blood and Marrow Transplantation. 2013;19(2):S368–S9.
8. Gueorguieva V, Chang A, Fleming-Carroll B, Breen-Reid KM, Douglas M, Parekh S. Working toward a competency-based preceptor development program. J Contin Educ Nurs. 2016;47(9):427–32.
9. Harris BJ, Butler M, Cardello E, Corelli R, Dahdal W, Gurney M, et al. Report of the 2011-2012 AACP professional affairs committee: addressing the teaching excellence of volunteer pharmacy preceptors. Am J Pharm Educ. 2012;76(6):S4.
10. Srinivasan M, Li S-TT, Meyers FJ, Pratt DD, Collins JB, Braddock C, et al. "Teaching as a competency": competencies for medical educators. Acad Med. 2011;86(10):1211–20.
11. Walter S, Mulherin K, Cox CD. A preceptor competency framework for pharmacists. Part 2 of a 3-part series. Currents in Pharmacy Teaching and Learning. 2017;10(3):402–10.
12. Collins Dictionary. Definition of Assess: Collins; [updated 14/03/2018. Dictionary definition]. Available from: https://www.collinsdictionary.com/dictionary/english/assess.
13. Collins Dictionary. Definition of measure: Collins; [updated 14/3/2018. Dictionary definition]. Available from: https://www.collinsdictionary.com/dictionary/english/measure.
14. Oxford. definition of rating [Available from: https://en.oxforddictionaries.com/definition/rating.
15. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. Int J Soc Res Methodol. 2005;8(1):19–32.
16. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JPA, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. BMJ. 2009;339.
17. CASP - UK. Critical Appraisal Skills Programme (2018). CASP Cohort Study Checklist. 2018 [Available from: https://casp-uk.net/wp-content/uploads/2018/03/CASP-Cohort-Study-Checklist-2018_fillable_form.pdf.
18. Critical Appraisal Skills Programme. CASP Qualitative Checklist 2018 [Available from: https://casp-uk.net/wp-content/uploads/2018/03/CASP-Qualitative-Checklist-2018_fillable_form.pdf.
19. Lewin S, Booth A, Glenton C, Munthe-Kaas H, Rashidian A, Wainwright M, et al. Applying GRADE-CERQual to qualitative evidence synthesis findings: introduction to the series. BioMed Central; 2018.
20. Munthe-Kaas H, Bohren MA, Glenton C, Lewin S, Noyes J, Tunçalp Ö, et al. Applying GRADE-CERQual to qualitative evidence synthesis findings—paper 3: how to assess methodological limitations. Implement Sci. 2018;13(1):9.
21. Colvin CJ, Garside R, Wainwright M, Munthe-Kaas H, Glenton C, Bohren MA, et al. Applying GRADE-CERQual to qualitative evidence synthesis findings—paper 4: how to assess coherence. Implement Sci. 2018;13(1):13.
22. Glenton C, Carlsen B, Lewin S, Munthe-Kaas H, Colvin CJ, Tunçalp Ö, et al. Applying GRADE-CERQual to qualitative evidence synthesis findings—paper 5: how to assess adequacy of data. Implement Sci. 2018;13(1):14.
23. Noyes J, Booth A, Lewin S, Carlsen B, Glenton C, Colvin CJ, et al. Applying GRADE-CERQual to qualitative evidence synthesis findings–paper 6: how to assess relevance of the data. Implement Sci. 2018;13(1):4.
24. Al-Arifi MN. Evaluating the preceptor-preceptee relationship among Pharm D students at the King Saud University School of pharmacy. Saudi Pharmaceutical Journal. 2018;26(6):865–9.
25. Bochenek SH, Fugit AM, Cook AM, Smith Pharm KM. Pharmacy residents' perception of preceptors as role models. American Journal of Health-System Pharmacy. 2016;73(11 Supplement 3):S88-S93.

26. Boland C, Koval P, Parker M. Determining the utility of a student survey to provide valuable feedback on precepting skills of pharmacy residents. Currents in Pharmacy Teaching and Learning. 2014;6(3):406–11.
27. Borimnejad L, Valizadeh S, Rahmani A, Whitehead B, Shahbazi S. Attributes of Iranian new nurse preceptors: a phenomenological study. Nurse Educ Pract. 2018;28:121–6.
28. Bradley H, Cantrell D, Dollahan K, Hall B, Lewis P, Merritt S, et al. Evaluating preceptors: a methodological study. J Nurses Prof Dev. 2015;31(3):164–9.
29. Brink D, Simpson D, Crouse B, Morzinski J, Bower D, Westra R. Teaching competencies for community preceptors. Fam Med. 2018;50(5):359–63.
30. Childs-Kean LM, Ivy DR, Gonzales C, McIntryre W. Development of a tool to evaluate advanced pharmacy practice experience preceptors in the clinical setting at a United States college of pharmacy: a pilot study. Pharm Educ. 2016;16(1):98–102.
31. Conigliaro RL, Stratton TD. Assessing the quality of clinical teaching: a preliminary study. Med Educ. 2010;44(4):379–86.
32. Cotton P, Sharp D, Howe A, Starkey C, Laue B, Hibble A, et al. Developing a set of quality criteria for community-based medical education in the UK. Education for Primary Care. 2009;20(3):143–51.
33. Cox CD, Peeters MJ, Stanford BL, Seifert CF. Pilot of peer assessment within experiential teaching and learning. Currents in Pharmacy Teaching and Learning. 2013;5(4):311–20.
34. del Bueno DJ, Beay PJ. Evaluation of preceptor competence and cost in an acute care hospital. Journal of nursing staff development : JNSD. 1995;11(2):108–11.
35. Elliot DL, Hickam DH. Medical students' evaluations of their preceptors' teaching in an introductory course. Acad Med. 1991;66(4):243–4.
36. Elmore L, Blair M, Edgerton L. Preceptor development strategies used in a mixed academic-community teaching hospital. Currents in Pharmacy Teaching and Learning. 2014;6(1):167–73.
37. Ferreira FDC, Dantas FC, Valente GSC. Nurses' knowledge and competencies for preceptorship in the basic health unit. Rev Bras Enferm. 2018;71(Supplement 4):1564–71.
38. Fuller PD, Peters LL, Hoel R, Baldwin JN, Olsen KM. Residency preceptor development and evaluation: a new approach. Am J Health Syst Pharm. 2013;70(18):1605–8.
39. Griffith CHI, Georgesen JC, Wilson JF. Six-year documentation of the association between excellent clinical teaching and improved Students' examination performances. Acad Med. 2000;75(10):S62–S4.
40. Hartline C. Preceptor selection and evaluation: a tool for educators and managers. J Nurs Staff Dev. 1993;9(4):188–92.
41. Heshmati-Nabavi F, Vanaki Z. Professional approach: the key feature of effective clinical educator in Iran. Nurse Educ Today.30(2):163–8.
42. Hsu L. An analysis of clinical teacher behaviour in a nursing practicum in Taiwan. J Clin Nurs. 2006;15(5):619–28.
43. Hsu LL, Hsieh SI, Chiu HW, Chen YL. Clinical teaching competence inventory for nursing preceptors: instrument development and testing. Contemp Nurse. 2014;46(2):214–24.
44. Huggett KN, Warrier R, Maio A. Early learner perceptions of the attributes of effective preceptors. Adv Health Sci Educ Theory Pract. 2008;13(5):649–58.
45. Jahangiri L, McAndrew M, Muzaffar A, Mucciolo TW. Characteristics of effective clinical teachers identified by dental students: a qualitative study. Eur J Dent Educ.17(1):10–8.
46. Johnson NR, Chen J. Medical student evaluation of teaching quality between obstetrics and gynecology residents and faculty as clinical preceptors in ambulatory gynecology. Am J Obstet Gynecol. 2006;195(5):1479–83.
47. Knisely MR, Fulton JS, Friesth BM. Perceived importance of teaching characteristics in clinical nurse specialist preceptors. Journal of professional nursing : official journal of the American Association of Colleges of Nursing. 2015;31(3):208–14.
48. L'Ecuyer KM, Hyde MJ, Shatto BJ. Preceptors' perception of role competency. J Contin Educ Nurs. 2018;49(5):233–40.
49. Lee WS, Cholowski K, Williams AK. Nursing students' and clinical educators' perceptions of characteristics of effective clinical educators in an Australian university school of nursing. J Adv Nurs.39(5):412–20.
50. Lewis BS, Pace WD. Qualitative and quantitative methods for the assessment of clinical preceptors. Fam Med. 1990;22(5):356–60.
51. Lie D, Boker J, Dow E, Murata P, Encinas J, Gutierrez D, et al. Attributes of effective community preceptors for pre-clerkship medical students. Med Teach. 2009;31(3):251–9.
52. Litzelman DK, Stratos GA, Marriott DJ, Skeff KM. Factorial validation of a widely disseminated educational framework for evaluating clinical teachers. Acad Med. 1998;73(6):688–95.
53. Melaku T, Srikanth A, Getaye Y, Admasu S, Alkalmi R. Perceptions of pharmacy clerkship students and clinical preceptors regarding preceptors' teaching behaviors at Gondar University in Ethiopia. Journal of educational evaluation for health professions. 2016;13:9.
54. Mintz M, Southern DA, Ghali WA, Ma IW. Validation of the 25-item Stanford faculty development program tool on clinical teaching effectiveness. Teaching & Learning in Medicine. 2015;27(2):174–81.
55. Schol S. A multiple-station test of the teaching skills of general practice preceptors in Flanders. Belgium Academic Medicine. 2001;76(2):176–80.
56. Skeff KM. Enhancing teaching effectiveness and vitality in the ambulatory setting. Journal of General Internal Medicine. 1988;3(1;2;):S26-S33.
57. Sonthisombat P. Pharmacy student and preceptor perceptions of preceptor teaching behaviors. American Journal of Pharmaceutical Education. 2008;72(5) (no pagination)(110).
58. Stenfors-Hayes T, Hult H, Dahlgren LO. What does it mean to be a good teacher and clinical supervisor in medical education? Adv Health Sci Educ Theory Pract.16(2):197–210.
59. Stuart MR, Orzano AJ, Eidus R. Preceptor development in residency training through a faculty facilitator. J Fam Pract. 1980;11(4):591–5.
60. Sutkin G, Wagner E, Harris I, Schiffer R. What makes a good clinical teacher in medicine? A review of the literature. Acad Med. 2008;83(5):452–66.
61. Gill DJ, Frank SA. The neurology resident as teacher: evaluating and improving our role. Neurology. 2004;63(7):1334–8.
62. Davis CM. Patient/practitioner interaction: an experiential manual for developing the art of health care. New Jersey. Slack Inc; 1989.
63. Biggs J. Constructive alignment in university teaching. HERDSA Review of higher education. 2014;1(5):5–22.
64. Brookfield SD. Using the lenses of critically reflective teaching in the community college classroom. New Directions for Community Colleges. 2002;2002(118):31–8.
65. Mitchell VW. The delphi technique: an exposition and application. Tech Anal Strat Manag. 1991;3(4):333–58.
66. Pharmaceutical Society of Australia. National Competency standards Framework for Pharmacists in Australia 2016.

Publisher's Note

Chapter 4. Preceptor Assessment Practices in Australian and New Zealand Pharmacy Education

The systematic scoping review presented in Chapter 3 provided an evidence-based set of preceptor competencies along with associated methods of assessment. This chapter investigates how assessment occurs in practice within our regional context.

The literature reviewed in Chapter 3 showed a number of instruments measuring preceptor competencies internationally, but few studies examining actual implementation of preceptor assessment practices in pharmacy education. Studies from the US have surveyed pharmacy education providers to determine how and why preceptors are assessed, but no comparable data was found from the Australian and New Zealand context. This presents a significant gap in knowledge, considering the emphasis from accreditation bodies on the quality assurance of WIL.

This chapter presents a cross-sectional survey examining the current preceptor assessment practices of Australian and New Zealand Pharmacy education providers, including university degree programs and intern training providers.

Understanding current practice is necessary to proposing change, therefore this chapter contributes to the thesis by providing the essential baseline data on the current state of preceptor assessment practices in Australian and New Zealand along with barriers and enablers to implementation. Together with the competencies identified in Chapter 3, the findings from this chapter inform the subsequent modified Delphi consensus study (Chapter 5).

A copy of the survey questions is included in Appendix B.

This Chapter has been submitted to The American Journal of Pharmaceutical Education for publication.

A Survey of Preceptor Assessment Practices in Australian and New Zealand Pharmacy Education

4.1 Introduction

As the demand for health professionals continues to rise, workplace integrated learning (WIL) has become an increasingly important aspect of training. WIL encompasses both short-term placements and longer-term internships, providing students and interns with practical work experience in real-world settings.

Internationally, accreditation bodies such as the Accreditation Council for Pharmacy Education (ACPE)[1] in the US and the Quality Assurance Agency for Higher Education (QAA) in the UK[2] are responsible for accrediting tertiary education programs and ensuring compliance with defined educational standards. These bodies emphasise the importance of structured, quality assured experiential learning. In Australia, the Tertiary Education Quality and Standards Agency (TEQSA)[3] accredits higher education courses and ensures compliance with the Higher Education Standards Framework (2021)[4]. Specifically, standard 5.4.1 requires that providers "Ensure that WIL experiences and supervisory arrangements for WIL experiences are quality assured". Pharmacy courses in Australia must also be accredited by the Australian Pharmacy Council (APC), which also includes requirements for quality assurance of placement programs.[5] These frameworks collectively highlight the importance of quality assurance processes to ensure the quality of WIL experiences and enhance the overall learning outcomes for students and interns.

In Australia and New Zealand (ANZ), WIL is incorporated into degree programs in a range of formats. In some programs, experiential learning in years 3 or 4,[6] whereas other programs embed experiential learning from year 1.[7] In both Australia and New Zealand, students completing a traditional course (not the new integrated 5 year degree programs) must also

complete 12 months of supervised practice under the supervision of a registered pharmacist preceptor. Pharmacy preceptors serve as mentors and role models who guide students and interns through their practical training.[8]

A key difference between Australia and New Zealand lies in preceptor training requirements. In Australia, preceptor training is recommended rather than mandated in the Pharmacy Board Intern pharmacist and preceptor guide, and there is no formal recognition that a preceptor has undergone preceptor training.[9] This contrasts with the system in New Zealand, where preceptors must undergo a mandatory training program if they wish to be a preceptor and then reaccreditation at various intervals depending on how often a pharmacist takes on the role of preceptor.[10] New Zealand also requires a minimum of three years' experience post registration to take on a preceptor role, compared to Australia's 12 months.

Given the importance of placements in pharmacy education, the quality of these experiences is closely linked to the capabilities and engagement of preceptors who supervise and mentor students in practice settings.[8] Existing literature highlights the importance of preceptor development and the need for robust assessment frameworks. Our systematic scoping review identified the competencies required of preceptorship and outlined the necessity of measuring preceptor competencies to ensure consistent and high-quality preceptorship experiences.[11] Walter et al (2017) also identified preceptor competencies and performance indicators as a basis for a preceptor development program, although this framework was developed for a US and Canadian context and doesn't address assessment and measurement.[12] Similarly, the American College of Clinical Pharmacy (ACCP) has underscored the significance of preceptor development in their white papers,[13] while also acknowledging the challenges of preceptor engagement, workload and motivation.

Preceptor assessment is an important element of ensuring the quality of experiential education and the professional development of future pharmacists.[14] While Brink and colleagues (2020) suggest that self-assessment by preceptors' can enhance their teaching abilities,[15] self-assessment is inherently subjective, with Sonthisombat (2021) finding that preceptors overestimate their competency, particularly in the areas of feedback and communication.[16] Nevertheless, preceptor development has positively impacted the learning experiences of students and interns with one large study showing a significant increase in students rating "good" and a significant reduction in students rating preceptors "fair" or "poor"[17] Studies in the US have surveyed pharmacy education providers to determine how they assess competency of preceptors,[18-20] providing a useful basis for developing a similar survey in the Australian and New Zealand context.

Despite their critical function, there is an evidentiary gap in the systematic assessment and evaluation of preceptors within pharmacy educational institutions in Australia and New Zealand. This study aims to address this gap by exploring the current practices of preceptor assessment, the methods employed, and the utilisation of evaluation results.

4.2 Aims:

The primary aim of this study is to investigate the quality assurance processes within pharmacy educational institutions of pharmacy preceptors in Australia and New Zealand.

4.2.1. Objectives:

- To investigate the assessment practices of pharmacy educational institutions regarding pharmacy preceptors.
- Identify the preceptor competencies assessed and how they are assessed.
- To identify the methods used by these institutions for preceptor assessment.
- To understand how the results of preceptor assessments are utilised by the institutions.

4.3 Methods

4.3.1. Survey Design

A cross-sectional survey was developed and deployed via The University of Sydney instance of the Qualtrics survey platform[21] (Qualtrics, Provo, UT), adapted by AB from two similar surveys conducted in the US.[18,19] The original surveys employed a 51 item instrument examining teaching evaluation practices[18] and a 102 item instrument assessing full time faculty preceptors.[19] The modifications reflect the ANZ pharmacy educational context, replacing US specific terminology with Australian and New Zealand terminology and streamlining the original 51-102 item surveys to a more focused 27 item instrument relevant to the regional context.

We aimed to gather information from pharmacy education providers in Australia and New Zealand regarding their practices in evaluating preceptors. Specifically, the survey sought to determine whether these institutions evaluate preceptors, the methods used for assessment, the competencies assessed, and the utilisation of the evaluation results.

4.3.2. Survey Instrument

The survey consisted of 24 multiple-choice questions and three open-ended free-text responses. The survey used branching logic so that only questions relevant to previous responses were required to be answered. The estimated time to complete the survey was 15-20 minutes. The multiple-choice questions were designed to capture quantitative data on the prevalence and methods of preceptor evaluation, the competencies assessed,[22] and the application of evaluation results. The free-text responses aimed to explore participants' perceptions of the value of preceptor evaluation and the barriers to implementing such programs. The survey was reviewed by an expert in pharmacy accreditation, revised and then piloted by the placement coordinator from the University of Sydney. Minor amendments to

improve clarity of questions and flow of the survey were made prior to dissemination to the target audience.

4.3.3. Participants

The target population for this study included pharmacy education providers across Australia and New Zealand, specifically the individuals in these organisations in charge of clinical placement programs or intern training. Participants were recruited through professional networks, educational institutions, and relevant professional organisations. The email addresses of placement coordinators, program leads and heads of schools were obtained through publicly accessible websites. Recipients of the email were asked to complete the survey or to pass the survey onto the relevant person in their organisation. Participation was voluntary, and informed consent was obtained from all respondents. Responses were anonymous and not linked to an identifier. In total, 28 institutions were identified, including seven intern training providers and 21 accredited pharmacy degree program providers. This was the total of accredited program providers in Australia and New Zealand.

4.3.4. Data Collection

Data collection was conducted over a period of eight weeks from 17th December 2024 to 14th February 2025. Participants accessed the survey through a secure link provided via email. Reminders were sent four weeks after the initial invitation to encourage participation and ensure a high response rate.

4.3.5. Data Analysis

Quantitative data from the multiple-choice questions were analysed using descriptive statistics provided by Qualtrics Stats iQ function to summarise the prevalence and methods of preceptor evaluation, the competencies assessed, and the use of evaluation results. Where a survey response was incomplete, pairwise deletion was employed to handle missing data and allow all available responses to be included in the analysis.[23] Data from the free-text

responses were analysed by AB using qualitative content analysis.[24] This involved coding the responses in NVivo version 14 (Lumivero 2023)[25] to identify common themes related to the perceived value of preceptor evaluation and the barriers to implementation.

4.3.6. Reporting

This study adhered to the Consensus-Based Checklist for Reporting of Survey Studies (CROSS) to ensure comprehensive and transparent reporting of our survey methodology.[26] The CROSS protocol provides a structured framework for reporting survey studies.

4.3.7. Ethics approval

Ethics approval was granted by the University of Sydney HREC ethics committee [2024/HE001289]. All participants provided informed consent, and their responses were anonymised to ensure confidentiality. Data were stored securely and accessed only by the research team.

4.4 Results

In total, 28 invitations were distributed to the coordinators in charge of clinical placements at pharmacy degree programs, or intern training managers at accredited intern training providers as shown in table 1, with 24 participants attempting the survey.

Of the 24 responses received, 23 surveys were completed, and one partially completed. Using pairwise deletion,[23] the responses received from the partially completed survey were still able to be included with sample sizes ranging from 23 to 24 responses depending on the survey question. Eleven institutions indicated that they undertook some form of evaluation of preceptors. Nine of those institutions carried out formal assessment or evaluation of preceptors with all utilising student surveys as a way for students to give feedback or evaluate their preceptors. This was mandatory for students to complete in only three institutions. Other methods commonly used for students or interns to provide feedback on preceptors were

interviews or debriefs (7) and emails to coordinators (5). Seven respondents ensured that feedback protected the anonymity of the student/intern completing the evaluation (Table 1).

Table 1. Results summary: Student evaluation of preceptors

Student assessment/evaluation of PRECEPTORS (9/24)		
Mandatory for students to evaluate preceptor	Yes	3 (24)
	No	6 (24)
Method for student feedback on preceptors	Survey	9 (24)
	Interview/debrief	7 (24)
	Email to coordinator	5 (24)
	Face-to-face on-site	1 (24)
	Via student support services	1 (24)
Student evaluation protects anonymity	Yes	7 (24)
	No	2 (24)

Only two institutions utilised peer evaluation which consisted of direct observation, 360-degree feedback or peer group meetings. These peer evaluations were either conducted intermittently (2) or at the conclusion of the placement (1). None of the respondents required submission of these peer evaluations to the institution (Table 2).

Table 2. Results summary: Peer evaluation of preceptors

Peer evaluation of preceptors (2/24)		
Peer evaluation mandatory	No	2 (24)
Required frequency of peer evaluation	Intermittently	2 (24)
	Conclusion of placement	1 (24)
Method of peer evaluation used	Direct observation	1 (24)
	360-degree feedback	1 (24)

	Peer group meeting	1 (24)
If carried out, is submission of peer evaluation required	No	2 (24)

Self-assessment was used by three institutions on an infrequent basis, with this form of assessment being mandatory in one instance. No institution required the preceptor to submit their peer assessment to the institution (Table 3).

Table 3. Results summary: Self-evaluation of preceptors

Institution utilises Self-assessment of preceptors (3/24)		
Self-assessment mandatory	Yes	1 (24)
	No	2 (24)
Required frequency of self-assessment	Intermittently	1 (24)
If carried out, is submission of self-assessment required	No	3 (24)

The results of evaluation were received mostly by the placement team (eight) and the course coordinator (seven) with three institutions providing results to an accreditation body.

The competencies assessed by the nine institutions who carried out formal evaluations are shown in Table 4, along with the method of assessment.

Table 4. Preceptor competencies assessed and method of assessment

Competencies assessed formally	**Not assessed**	**Student survey**	**Self-assessment**	**Peer-evaluation**
Demonstrates effective communication skills	2	7	2	1

Provides an accessible learning environment	0	8	2	2
Demonstrates respect for the preceptee*	1*	6*	1*	1*
Provides effective feedback	0	9	1	3
Demonstrates ethical behaviour	1	7	2	3
Facilitates critical thinking, problem solving and decision making	3	6	2	3
Demonstrates reflective practice	5	4	2	0
Acts as a role model practitioner	2	6	1	2
Displays an openness to receiving feedback	4	1	1	4
Is organised and has the ability to prioritise	4	5	1	2
Displays empathy	5	3	1	1
Committed to excellence in teaching	4	3	1	3

* *Note One respondent did not complete this section*

4.4.1. The value of preceptor evaluation

Respondents noted that implementation of preceptor evaluation was of value, particularly as WIL and workplace-based assessment is gaining an ever-increasing role in pharmacy education. Respondents also referred to being able to ensure that a minimum standard was met, which could give educators more confidence that assessments could be relied upon to be comparable between placement sites.

Assessing preceptors is valuable as it ensures the quality of mentorship/supervision provided to students during experiential learning. (Survey respondent 20)

It would, however, allow us to incorporate more assessable tasks/outcomes into the placement programs, as they could be more readily and reliably compared/standardised between placement sites. (Survey respondent 17)

Critical for quality assurance and to ensure it is a valuable learning experience for both the student and preceptor. (Survey respondent 24)

Foster culture of accountability; quality assurance in teaching. (Survey respondent 10)

Would enable a minimum standard to be met. (Survey respondent 6)

Respondents noted that evaluation provided valuable feedback for preceptors to identify opportunities to improve not only how they support students and interns to improve but also foster more reflective practice that had benefits beyond clinical supervision.

...an evaluation process would provide them with valuable feedback on how to improve mentoring. (Survey respondent 14)

It also provides an opportunity to identify areas where preceptors may need additional supports for supervising students. (Survey respondent 20)

...promote reflective practice where preceptors critically analyse their teaching methods, interactions with students, and clinical decisions to improve their practices. (Survey respondent 10)

4.4.2. Barriers to implementing preceptor evaluation

Barriers generally related to resourcing and acceptability from preceptors, both of which often related to workload. From the educator's perspective, workload issues were raised regarding administration of an evaluation system with placement sites as well as how to give meaningful feedback to preceptors on how to improve in an environment where cost constraints in the university sector are a significant issue.

> *...the number of placement sites and preceptors make this formalised assessment almost impossible due to resource limitations. (Survey respondent 5)*

> *...the ability to formally and meaningfully assess these preceptors and provide targeted and relevant feedback is incredibly difficult in line with our other required work. (Survey respondent 5)*

> *...Universities have no money to pay preceptors, preceptors already overworked. (Survey respondent 7)*

Several respondents commented on the challenges of finding suitable sites for students and were concerned this would deter sites from taking students. Cost and workload were also discussed in relation to the preceptors along with lack of acceptability. Recognising that preceptors were volunteers; respondents were concerned that placement sites may reduce if an evaluation system were implemented. A comment was made that preceptors who are experienced clinicians may find evaluation "insulting and invasive."

> *Time constraints - preceptors may have limited time to participate in assessments due to their clinical responsibilities. (Survey respondent 20)*

> *Imposing assessments or evaluations of preceptors might lead to a reduction in the number of places available for placement opportunities. (Survey respondent 17)*

...resistance to change, where preceptors might resist the assessment process, especially if it is perceived as a challenge to their professional autonomy or an extra burden. (Survey respondent 10)

Although it is beneficial, it is difficult to recruit preceptors to support the interns each year and feedback may not always [be] valued by the preceptor. (Survey respondent 18)

4.5 Discussion

This study addresses a gap in the systematic assessment and evaluation of preceptors within pharmacy educational institutions in ANZ and appears to be the first study of this type done in ANZ. The findings provide valuable insights into current practices, assessment methods, and the utilisation of results, which can inform strategies to enhance preceptorship experiences and develop standardised preceptor evaluation approaches.

4.5.1. Evaluation practices in ANZ

Participants underscored the substantial value of preceptor evaluation in enhancing the quality of WIL. Despite this acknowledged value, the study showed that only 46% (11 of 24) of the surveyed institutions reported they undertake evaluation of preceptors. Among the institutions that do evaluate preceptors, the majority (82%) use formal evaluations. In comparison, a study conducted in the US during 2018 found that 98.8% (N=81) of respondents indicated some form of assessment of volunteer preceptors with 100% using formal evaluations.[20] This indicates a significant gap in the systematic assessment of preceptors in our study population.

4.5.2. Student evaluation and use of results

The assessment methods employed by institutions vary, with student evaluations being the most common. Specifically, most institutions that assess preceptors involve students in the

evaluation process, either as formal student surveys of preceptors, or other methods such as student interviews or debriefs. However, with only three of these institutions indicating that student evaluations of preceptors were mandatory, this appears to be a missed opportunity to gain important insight into the quality of preceptors and placement sites. Eight of the ten respondents who undertook student evaluation of preceptors indicated that the placement team received the results of the evaluations. The responses indicated that quality assurance may be the primary reason for the placement team having an interest in a student's preceptor evaluation, which aligns with TEQSA and APC course accreditation requirements[3,5] i.e. APC accreditation standard 1.7a specifies that programs have processes in place for ensuring the quality and suitability of sites, including appropriate supervision. Student evaluation of preceptors and sites along with other Quality care (QSPP)[27] documentation that pharmacy placement sites regularly update, such as work health and safety policies and procedures, would seem to be practical mechanisms to aid in compliance with this accreditation standard.

Studies in Australia and internationally suggest that training increases both preceptor confidence and ability, and importantly students and interns rated preceptors more highly.[17,28] This suggests that Australia could benefit from adopting a more structures and credentialed approach to preceptor development.

4.5.3. Preceptor competencies and assessment

Currently there is limited standardisation in the competencies expected of preceptors and how these are assessed. Results from this study show a large variation in the competencies which are assessed or evaluated. Our previous study developed a set of competencies that were considered by a consensus group as mandatory to assess and provided guidance on how best to assess these.[29] Introduction of preceptor standards along with adoption of evidence frameworks would provide a consistent basis for evaluation and professional development.

From a quality assurance perspective, this would also ensure that preceptors meet minimum standards of supervision and educational support.

4.5.4. Resourcing needs

To address the identified barriers and support a sustainable preceptor evaluation system, a multi-faceted approach is required combining funding and resourcing strategies along with support from the professions governing bodies.

Of primary importance is the implementation at the national Pharmacy Board level of a set of preceptor standards. With this in place it would become feasible to standardise preceptor evaluation tools for use across universities and intern training providers, enabling consistent quality benchmarks across the sector. Standardised tools or reporting platforms may assist placement teams to document and monitor preceptor evaluations, however, universities and intern training providers must also ensure adequate resources are allocated to allow for this important activity. Research in the US has identified several strategies that faculty can implement, such as changes to onboarding systems, introduction of additional specialised roles to handle workload which also allowed for building relationships with new and existing placement sites and demonstrated improvements in preceptor numbers and opportunities for professional development.[30]

Whilst New Zealand is a much smaller jurisdiction than Australia, they have demonstrated that it is possible to introduce mandatory preceptor training. Research clearly shows the benefits to both students and interns as well as preceptors of well-designed preceptor training.[17,28] Making this training accessible is a major consideration given Australia's large geographic limitations and the limited time available for preceptors.[31] Even with an accessible online option, researchers still found low uptake of preceptor training due to the lack of mandates from the profession.[31]

In addition, it must be emphasised that evaluation of preceptors is primarily a partnership between the practicing professional and the education providers and evaluation is a tool for continuing improvement and professional development, not judgement.[13]

As a profession, the role of preceptor deserves elevation and recognition. Establishing formal recognition schemes such as awards or certificates or honorary academic appointments with access to university resources such as libraries, professional development or research opportunities would encourage participation of preceptors.[32] Positioning preceptor evaluation as part of a portfolio of evidence for career advancement or specialised practice would also raise the profile of this role.

4.5.5. Limitations

The strength of this study was its high initial response rate. The results thus provide a representative overview of preceptor assessment practices of Australian and New Zealand pharmacy educational institutions. The mixed method approach combining survey data with descriptive text allowed the research team to gain contextual understanding of the barriers and facilitators to a comprehensive preceptor evaluation program.

Limitations include the possibility that the most appropriate person was not selected to complete the survey which may have had an impact on the quality of the response. There is a possibility of ambiguity around terms used in the survey which may have led to inaccuracy in the responses. Also, an online survey does not allow for participants to clarify any misunderstanding of questions asked in the survey which may also impact the quality of the response.

4.6 Conclusion

This study represents the first comprehensive examination of preceptor evaluation practices in Australian and New Zealand pharmacy education, revealing significant opportunities for

improvement in systematic assessment approaches. The findings demonstrate a substantial gap between current practices in ANZ (46% of institutions conducting evaluations), international standards, as well as the standards set out by TEQSA. While institutions that do evaluate preceptors recognise the value of such assessments for quality assurance and educational enhancement, the predominant reliance on student surveys and limited implementation of multi-source feedback approaches suggest that current practices may not fully capture the complexity of preceptor competencies or provide the comprehensive feedback necessary for meaningful professional development.

The contrast between Australia's voluntary preceptor training model and New Zealand's mandatory credentialling system highlights the need for more standardised approaches to preceptor development and evaluation across the region. The implementation of national preceptor standards, supported by evidence-based evaluation frameworks and adequate resourcing, would provide the foundation for consistent quality assurance while elevating the professional recognition of the preceptor role. Success in this endeavour will require collaborative efforts between educational institutions, professional bodies, and practising preceptors, with evaluation systems designed as partnerships for continuous improvement rather than punitive assessments.

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Conflict of Interest:

There are no actual or perceived conflicts of interest to declare.

4.7 References

1. Accreditation council for Pharmacy Education. ACPE Standards 2016. 11/06/2025, https://www.acpe-accredit.org/pharmd-program-accreditation/
2. Quality Assurance Agency For Higher Education. UK Qualtity code for higher education. 11/6/2025, https://www.qaa.ac.uk//en/the-quality-code/2024

3. Tertiary Education Quality and Standards Agency T. Guidance note: Work Integrated Learning. 11/6/2025, Accessed 10/04/2025, https://www.teqsa.gov.au/guides-resources/resources/guidance-notes/guidance-note-work-integrated-learning
4. Australian Government. The Higher Education Standards Framework. In: Government A, editor. 2021.
5. Australian Pharmacy Council. Accreditation standard for pharmacy programs. 11/6/2025, https://www.pharmacycouncil.org.au/resources/pharmacy-program-standards/
6. Monash University. Course progression Bachelor of Pharmacy (hons). 11/11/2025, 2025. https://www.monash.edu/students/handbooks/maps/2026/map-p3001.pdf
7. The University of Sydney. Unit of study PHAR1911 Course structure. Accessed 11/11/2025, 2025. https://www.sydney.edu.au/units/PHAR1911/2025-S1C-ND-CC
8. Bartlett AD, Um IS, Krass I, Schneider CR. Ensuring the quality of clinical supervision: Stakeholder perceptions of pharmacy preceptor competence. *Currents in Pharmacy Teaching and Learning*. 2023/08/01/ 2023;15(8):722-729. doi:https://doi.org/10.1016/j.cptl.2023.07.003
9. Pharmacy Board of Australia. Intern Pharmacist and preceptor guide. 2021. Accessed 22/08/2025, 2025. https://www.ahpra.gov.au/documents/default.aspx?record=WD10%2f4166%5Bv5%5D&dbid=AP&chksum=tYDwKFzipNvv3aqgsm7NsQ%3d%3d
10. Pharmaceutical Society of New Zealand Incorporated. PSNZ Evolve - Intern training program. Accessed 22/08/2025, 2025. https://www.psnz.org.nz/itp/preceptors/training
11. Bartlett AD, Um IS, Luca EJ, Krass I, Schneider CR. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. *BMC Medical Education*. 24/05/2020 2020;20(1):165. doi:10.1186/s12909-020-02082-9
12. Walter S, Mulherin K, Cox CD. A Preceptor competency framework for pharmacists. Part 2 of a 3-part series. *Currents in Pharmacy Teaching and Learning*. Mar 2017;10(3):402-410. doi:10.1016/j.cptl.2017.11.018
13. Haase KK, Crannage EF, Orlando PL, et al. Pharmacy practice faculty and preceptor development. *JACCP: JOURNAL OF THE AMERICAN COLLEGE OF CLINICAL PHARMACY*. 2020;3(3):696-712. doi:https://doi.org/10.1002/jac5.1233
14. Assemi M, DiVall MV, Lee K, Sy E, O'Sullivan T. Quality Assurance and Improvement Practices of Experiential Education Programs in Schools of Pharmacy. *Am J Pharm Educ*. Apr 2019;83(3):6582. doi:10.5688/ajpe6582
15. Brink D, Power D, Leppink E. Results of a Preceptor Improvement Project. *Fam Med*. Oct 2020;52(9):647-652. doi:10.22454/FamMed.2020.675133
16. Sonthisombat P. Pharmacy student and preceptor perceptions of preceptor teaching behaviors. *Am J Pharm Educ*. Oct 15 2008;72(5):110. doi:10.5688/aj7205110
17. Vos SS, Trewet CB. A comprehensive approach to preceptor development. *American journal of pharmaceutical education*. 10 Apr 2012;76(3):47. doi:http://dx.doi.org/10.5688/ajpe76347
18. Barnett CW, Matthews HW. Teaching Evaluation Practices in Colleges and Schools of Pharmacy. *American Journal of Pharmaceutical Education*. 2009

2024-03-10 2009;73(6):1-103.
19. Kirschenbaum HL, Zerilli T. Assessment of Full-time Faculty Preceptors By Colleges and Schools of Pharmacy in the United States and Puerto Rico. *American Journal of Pharmaceutical Education*. 2012/10/12/ 2012;76(8):148. doi:https://doi.org/10.5688/ajpe768148
20. Shtaynberg J, Zerilli T, Kirschenbaum HL. Assessment of Volunteer Preceptors at Colleges and Schools of Pharmacy in the United States. *American Journal of Pharmaceutical Education*. 2021/03/01/ 2021;85(3):8343. doi:https://doi.org/10.5688/ajpe8343
21. Qualtrics Provo Utah. Qualtrics [Software]. Accessed December 2024, 2024. www.qualtrics.com
22. Bartlett A, Um I, Luca E, Krass I, Schneider C. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. *BMC medical education*. 2020;doi:https://doi.org/10.1186/s12909-020-02082-9

23. Mirzaei A, Carter SR, Patanwala AE, Schneider CR. Missing data in surveys: Key concepts, approaches, and applications. *Research in Social and Administrative Pharmacy*. 2022/02/01/ 2022;18(2):2308-2316. doi:https://doi.org/10.1016/j.sapharm.2021.03.009
24. Bryman A. *Social research methods*. Fifth edition. ed. Oxford University Press; 2016.
25. *NVivo*. Version 14. 2023. www.lumivero.com
26. Sharma A, Minh Duc NT, Luu Lam Thang T, et al. A Consensus-Based Checklist for Reporting of Survey Studies (CROSS). *J Gen Intern Med*. Oct 2021;36(10):3179-3187. doi:10.1007/s11606-021-06737-1
27. Quality Care Pharmacy Program. A quality assurance program for pharmacies. Accessed 22/08/2025, 2025. https://www.qcpp.com/
28. Knott GJ, Mylrea MF, Glass BD. Pharmacist and student evaluation of a preceptor training program in a regional Australian University: a multi-method study. *BMC Medical Education*. 2024/01/10 2024;24(1):49. doi:10.1186/s12909-023-04979-7
29. Bartlett AD, Um IS, Krass I, Schneider CR. Developing consensus on the competency and assessment of pharmacist preceptors. *BMC Medical Education*. 2025/08/08 2025;25(1):1153. doi:10.1186/s12909-025-07738-y
30. Tofade T, Samimi-Gharai M, de Bittner MR. Strategies to grow an experiential learning program—The role of administrators. *Currents in Pharmacy Teaching and Learning*. 2016;8(3):429-436. doi:doi.org/10.1016/j.cptl.2016.02.016
31. Knott GJ, Mylrea MF, Glass BD. How Should We Prepare Our Pharmacist Preceptors? Design, Development and Implementation of a Training Program in a Regional Australian University. *Pharmacy (Basel)*. Sep 17 2023;11(5)doi:10.3390/pharmacy11050148
32. Boyle CJ, Morgan JA, Layson-Wolf C, Rodriguez de Bittner M. Developing and implementing an Academy of Preceptors. *American Journal of Pharmacy Education*. Apr 7 2009;73(2):34. doi:10.5688/aj730234

Chapter 5. Developing Consensus on the Competency and Assessment of Pharmacist Preceptors

The preceding chapters have established a comprehensive foundation for understanding preceptor competency assessment in pharmacy education. Chapter 1 provided the conceptual framework highlighting the importance of quality assurance in work-integrated learning, while Chapter 2 revealed stakeholder perspectives indicating support for preceptor assessment coupled with concerns about feasibility and acceptability. Chapter 3 synthesised evidence from across health professions, identifying 17 evidence-based preceptor competencies and a range of methods of assessment such as student/intern surveys, peer-assessment and self-assessment.

The perspectives shown in Chapter 2 highlighted that any preceptor assessment framework must be practically implementable within the realities of contemporary pharmacy practice. Participants highlighted the need for clear standards while expressing concerns about additional burden, acceptability across different practice settings, and the potential impact on preceptor recruitment and retention. These insights show the importance of developing consensus among pharmacy education experts before implementing assessment systems.

While the systematic scoping review in Chapter 3 provided valuable evidence about what preceptor competencies exist and how they are assessed in practice, it also revealed significant gaps. The review found that while many competencies had been identified across health professions, identified gaps included consensus on which competencies are most critical for effective preceptorship, whether all identified competencies are feasible to assess in practice, and which assessment methods are most appropriate for specific competencies.

The survey of assessment practices presented in Chapter 4 highlighted the gap between what evidence suggests is best practice for preceptor assessment and actual practice as well as barriers to implementation of systematic preceptor assessment.

This chapter presents a Delphi consensus study designed to bridge the gap between available evidence and practical implementation in pharmacy education. The study engaged experts in pharmacy education, accreditation, and pharmacy practice to develop agreement on:

- which preceptor competencies should be assessed in pharmacy practice,
- whether assessment of each competency is feasible within current practice contexts, a
- who should conduct assessments and through what methods.

The consensus process built directly upon the evidence synthesised in Chapter 3, using the identified competencies as the starting point for expert evaluation. However, the study also allowed for the identification of additional competencies specific to pharmacy practice and the refinement of competency descriptions to better reflect contemporary pharmacy education needs.

The outcomes of this consensus study provide the evidence-base necessary for developing practical preceptor assessment frameworks in pharmacy education.

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5.1 Developing Consensus on the Competency and Assessment of Pharmacist Preceptors

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RESEARCH Open Access

Developing consensus on the competency and assessment of pharmacist preceptors

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Abstract

Background Pharmacist preceptors facilitate the professional development of students and interns during preregistration training. Evaluating preceptor competency is essential for ensuring the quality and consistency of the training process. For effective evaluation to occur, consensus is needed to establish which preceptor competencies require assessment as well as the method of assessment and who should perform the assessment.

Methods The Delphi method was used to develop a consensus among experts in pharmacy education, accreditation, and practice settings. The study involved three rounds of anonymous surveys in REDCap, focusing on the necessity, feasibility, and methods of assessing preceptor competencies. A previous literature review identified 16 evidence-based competencies that formed the basis of the survey. An agreement level of 70% was set as the threshold for consensus.

Results Among the 59 invited experts, 22 completed the first round, 13 completed the second round, and eight completed the last round. Consensus was achieved on 17 competencies, with 16 deemed feasible to assess. Eight were considered mandatory for assessment, and four were preferable. Consensus on assessment methods and suitable assessors was achieved for these patients. Four competencies were feasible to assess but lacked consensus on the method or assessor. A multimodal assessment approach, including preceptee surveys, self-assessments, and peer observations, was identified as suitable.

Conclusions Using a Delphi consensus method, by expert opinion, our study supports the perceived feasibility of assessing pharmacy preceptor competencies via a multimodal approach and clarifies who should assess each competency and how. Implementing these assessments can enhance preceptorship quality, facilitating consistent experiential placements for preceptees. The incorporation of preceptor assessment into accreditation standards should be considered essential to promote high-quality preceptorship and support the ongoing professional development of preceptors.

Keywords Preceptorship, Preceptor, Assessment, Competency

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comments or opinions, which are used to refine the questionnaire after each round, with the ultimate aim of reaching a consensus by a predetermined percentage of agreement. This technique has been used in various modified forms to arrive at consensus positions on therapeutic treatment protocols, definitions, policy positions and curriculum development, among others [26]. As panellists do not interact with each other, any bias produced by a dominant personality or opinion is minimised [27], and panel composition rather than panel size is a significant factor [28]. Overall, the objective of this process is to provide an evidence base for decision making and the implementation of guidelines or policies.

Aim

To develop an expert consensus on the assessment of pharmacy preceptor competencies.

Objectives

For each competency:

1. Determine whether an assessment of preceptor is needed.
2. Determine if the assessment of the preceptor is feasible.
3. Determine who should perform the assessment of preceptors and the preferred method of assessment.

Methods

Ethics approval for this study was obtained through the University of Sydney (project number: 2020/643).

To develop a consensus, the Delphi method was utilised, comprising an anonymous questionnaire developed in REDCap (Research Electronic Data Capture) [29, 30], version 9, hosted by the University of Sydney. REDCap is an online tool designed to capture data in a secure environment and facilitate easy export to other platforms for analysis.

Survey development

A previous literature review that generated 16 evidence-based preceptor competencies along with how they were being assessed in practice formed the basis for discussion [3]. A summary of the findings from that review is included in Supplementary file. The questionnaire was developed for this study and consisted of questions asking about the wording of the competency, the necessity of assessing each competency (mandatory, preferable, or unnecessary), the feasibility of assessment, the appropriate assessors (preceptee, peer, or self), the method of assessment (student survey, self-assessment, peer assessment, or other), and the identification of any additional competencies not previously identified. In the context of this study, "Mandatory" competencies were defined as those essential for ensuring effective preceptorship. "Preferable" competencies, while not strictly essential, would be beneficial for enhancing preceptorship. "Unnecessary" competencies would be those having minimal or no impact on the preceptorship experience. The questionnaire, consisting of multiple-choice selections and options for free-text input, was developed in REDCap and was initially piloted with two experienced pharmacy researchers. Minor modifications were made, including refinement of the wording of the questions to improve clarity and corrections to the branching logic to improve the flow of the survey. The survey instrument is available as a supplementary file.

Panel selection

A panel comprising experts from stakeholder organisations such as The Pharmacy Guild of Australia and The Pharmaceutical Society of Australia, professional and academic roles, and individuals involved in policy settings related to professional development and intern or preceptor/preceptee training programs was assembled. A purposive recruitment strategy was employed, whereby key opinion leaders were invited to be on the panel on the basis of expertise and extensive experience in the field, ensuring a diverse and knowledgeable representation that provided insights into various aspects pertaining to pharmacy preceptor competencies. All participants were involved in preceptorship as either an active preceptor, a previous preceptor, or an administrator or regulator of preceptorship programs. Consideration was given to the number of years served as a preceptor in either hospital or community pharmacy settings, roles within professional organisations relating to pharmacy preceptors or intern training, roles in educational institutions (e.g., placement coordinators), and pharmacy regulators with experience and interest in accreditation and training. The invitation included a participant information statement that informed participants that completion of the questionnaire was considered consent to participate in the research study.

Survey rounds

All the responses were anonymous, and the email addresses collected were used only to invite participants for further rounds and were not linked to survey responses. The survey was held over three rounds, with a consensus threshold determined at 70% agreement, as suggested by the literature [31]. However, in cases where consensus narrowly missed this threshold, such as a level of agreement of 69% without meaningful support for other options, we adopted a flexible approach. After the initial round, the data were analysed in Microsoft Excel via descriptive statistics, including the proportion of agreement, and to refine and discuss any amendments to

Fig. 1 Summary of the Delphi process

Table 1 Demographics of the participants during the three rounds of the Delphi process

Demographics	Round 1	Round 2	Round 3
Gender	Male (*n*=4)	Male (*n*=3)	Male (*n*=2)
	Female (*n*=18)	Female (*n*=10)	Female (*n*=6)
Median years in practice (Q1-Q3)	17 (10-29.5)	30 (20.5-32.5)	30 (29-39)
Median years' experience with preceptorship (Q1-Q3)	4.5 (3-9.75)	7 (3-12)	7.5 (4-16.25)
Practice setting	Community (*n*=3)	Community (*n*=3)	Community (*n*=2)
	Hospital (*n*=11)	Hospital (*n*=4)	Hospital (*n*=2)
	Academia (*n*=3)	Academia (*n*=2)	Academia (*n*=2)
	Statutory authority* (*n*=3)	Statutory authority* (*n*=3)	Statutory authority* (*n*=1)
	Professional organisation (*n*=2)	Professional organisation (*n*=1)	Professional organisation (*n*=1)

*Pharmacy education regulatory body

any participant-suggested wording where agreement was not met, these could be integrated into the second-round survey. The second and subsequent rounds of surveys highlighted areas where consensus had been reached and highlighted those where consensus had not been achieved, allowing participants to rerate these options. This process was repeated to produce a third round. At the conclusion of the third round, the results were analysed and summarised to identify areas of consensus. The Delphi process is outlined in Fig. 1.

Results

A total of 59 invitations were initially distributed to various experts, and 22 participants completed the first round. These 22 participants were subsequently invited to complete the second round, with 13 completing the questionnaire. Among the 13 participants who were invited, eight completed the third round. The characteristics of the participants are presented in Table 1.

In the initial round, 16 competencies were proposed. Two additional competencies, "assessment skills" and "conflict resolution," were suggested by the participants during the round. The participants noted that "is approachable and flexible" and "adapting to the learning needs of preceptees" essentially describe the same content. Therefore, these were combined into one single competency, "Provides an accessible learning environment". At the conclusion of the Delphi process, a final list of 17 competencies was proposed. These competencies are described in Table 2, and the full results are available in Supplementary file.

Of the 17 identified competencies, eight reached a consensus on being mandatory for assessment, and an additional eight competencies reached a consensus on being preferable for assessment. One competency reached a consensus that assessment was not necessary. Sixteen of the 17 competencies reached a consensus on being feasible to assess (Table 2).

Of the 16 competencies judged feasible to assess, 12 competencies reached a consensus on at least one method of assessment and on at least one person (i.e., either preceptee, peer, or self) suitable for assessing competency (Table 3). Four competencies that reached a consensus on being preferable to assess did not reach a consensus on either who should assess the competency or the method of assessment.

Discussion

Through this Delphi process, we determined by a consensus of expert opinion that assessing preceptor competencies is feasible. This research provides guidance on aligning the competency that is being assessed with the

Table 2 Summary of the need for assessment and feasibility

Competency	Need for assessment	Feasibility
Demonstrates effective communication skills	Mandatory	Feasible
Demonstrates ethical behaviour	Mandatory	Feasible
Demonstrates reflective practice	Mandatory	Feasible
Acts as a role model practitioner	Mandatory	Feasible
Provides effective feedback	Mandatory	Feasible
Facilitates critical thinking, problem solving and decision making	Mandatory	Feasible
Provides an accessible learning environment	Mandatory	Feasible
Demonstrates respect for the preceptee	Mandatory	Feasible
Is committed to excellence in teaching	Preferable	Feasible
Assessment skills	Preferable	Feasible
Displays enthusiasm for teaching preceptees	Preferable	No Consensus reached
Displays empathy	Preferable	Feasible
Is organised and has the ability to prioritise	Preferable	Feasible
Displays an openness to receiving feedback	Preferable	Feasible
Demonstrates leadership and management skills	Preferable	Feasible
Conflict resolution	Preferable	Feasible
Encourages lifelong learning	Not Necessary	Feasible

individual who may be best placed to assess it, along with the method of assessment. While a consensus was reached on the best person to assess and at least one method of assessment for 12 competencies, five did not reach a consensus. Among these 12 competencies, eight could be considered mandatory to assess and four could be preferable. The eight competencies that should be mandatory for assessment may be considered the critical skills and knowledge areas that all preceptors must develop, whereas the four competencies identified as preferable to assess are areas that may enhance the quality of preceptorship. Two of these competencies were proposed during the Delphi process and failed to reach a consensus position; therefore, further refinement may be needed. Feasibility, along with consensus for how preceptor competencies should be assessed, helps to form a foundation for the development of a preceptor assessment framework. Feasibility ensures that a preceptor assessment framework is not only conceptually robust but also implementable from a practical perspective within clinical and educational settings and therefore sustainable. A sustainable and implementable tool could address the need for consistent preceptorship experiences along with the quality assurance recommended previously [15].

The identification and assessment of preceptor competencies play a vital role in professional development and have been a focus of research in pharmacy practice and other health professions. Walter et al. (2017) discussed developing preceptor competency frameworks as the basis for preceptor development programs [4]. Their study did not delve into specific assessment methods but instead focused on competencies and their performance indicators, whereas our study, while using a similar consensus approach, concentrated on how competencies should be assessed and by whom. Another study across 12 health professions, including psychology, social work and nursing, developed a free validated assessment tool for both supervisors and supervisees to measure the competency of supervision. The authors recognised the importance of assessment to the development of both the supervisor and the supervisee and that the lack of accessibility of assessment tools was a

Table 3 Summary of preceptor competencies that achieved consensus on being mandatory or preferable to assess and their proposed methods of assessment

Consensus achieved	Preceptor competencies	Method of assessment		
		Preceptee survey	Preceptor Self-assessment/Portfolio	Peer assessment-observation
Mandatory to assess	Demonstrates effective communication skills	✓		✓
	Provides an accessible learning environment	✓	✓	
	Demonstrates respect for the preceptee			✓
	Provides effective feedback	✓	✓	✓
	Demonstrates ethical behaviour	✓	✓	✓
	Facilitates critical thinking, problem solving and decision making		✓	
	Demonstrates reflective practice		✓	
	Acts as a role model practitioner		✓	✓
Preferable to assess	Displays an openness to receiving feedback	✓	✓	
	Is organised and has the ability to prioritise			✓
	Displays empathy			✓
	Committed to excellence in teaching		✓	

barrier to good assessment practices [32]. Factor analysis was used to refine and validate an assessment tool, the Generic Supervision Assessment Tool (GSAT), across a broad range of practice settings. The tool development followed a robust method with competencies identified from the literature review and resulted in 21 items developed with a diverse expert panel. The competencies identified were similar to the 17 items proposed in this study, with the added inclusion of some competencies relevant to the supervision context. Notably, while this study of 12 health professions demonstrated the validity of the tool from two perspectives, supervisors and supervisees, it did not examine which competencies are best assessed from different perspectives. Our study fills a gap in the literature by addressing how identified competencies should be assessed.

What is apparent from the results of our study is that a single method of assessment does not adequately capture all competencies of preceptorship, and a multimodal approach is needed. There were competencies that were associated with only one preferred method of assessment. For example, a survey completed by the preceptee would not capture a demonstration of reflective practice, in which self-assessment would be preferred. A flexible and pragmatic approach to preceptor assessment is needed to account for the variation in the practice setting in which preceptorship is occurring. Previous research has shown that peer assessment is not acceptable across all practice settings [33]. Those in community pharmacies may find it more intrusive and inconvenient, whereas in a hospital setting, peer observation is accepted and often part of performance review processes. Taking into consideration the acceptability of how competencies are assessed, one solution to ensure a multimodal approach is, at a minimum, that preceptor competencies should be measured by a survey completed by the preceptee, in conjunction with preceptor self-assessment, and where practical, supplemented by peer observation.

Moving forward, our research sets the stage for further investigations. Future work should focus on developing more granular descriptions of these competencies and creating aligned and validated assessment tools. To provide the appropriate oversight as recommended in the 2017 independent review into accreditation practices in health professions [34] and the Health Profession Accreditation Practices International Literature Review (2018), we propose the adoption of minimum accreditation requirements to become a preceptor and to maintain accreditation as a preceptor. Preceptor development training should be mandated as part of the accreditation process to become a preceptor. Furthermore, ongoing assessment of competency should be used to identify training and development opportunities that could form a set number of Continuing Professional Development (CPD) hours in line with education being part of the preceptor's scope of practice. The assessment should consist of, at a minimum, a survey tool completed by the preceptee, along with the completion of a self-assessment survey or reflection, all of which would be mapped to the competencies identified as suitable for assessment by these methods. In addition, a peer assessment included as part of a portfolio of evidence should be included if practical or if the preceptor was seeking recognition in a role as an educator.

Additionally, it is crucial to examine the impact of more stringent requirements on the pool of preceptors willing to fulfil this role. It may also be worth investigating other aspects of preceptor assessment programs, such as the ideal timing and frequency of competency assessment. Understanding the current preceptor assessment practices of pharmacy education providers could provide invaluable practical insights, offering a comprehensive view of how these enhancements might affect both educational outcomes, preceptor acceptance and availability.

Strengths and limitations

The strengths of this study were that a broad range of participants with expertise in experiential education, industry experience and accreditation participated. The Delphi process reduces bias by facilitating individual voices without influence from dominant participants. The iterative nature of the Delphi process allowed for refinement of the items being discussed over the rounds.

Limitations included the decrease in the number of participants as rounds progressed due to the length of time that the Delphi process took, which may have changed the balance of opinions expressed. Hospital preceptors were overrepresented in the initial round; however, this evened out over the course of the study. Additionally, the geographical location of the participants was not collected as part of the survey, which, owing to differences in educational and regulatory approaches to preceptorship, may influence the interpretation of the study results. These limitations may affect the acceptability of the final pharmacist-preceptor competency assessment framework. This study was undertaken via rounds of an online survey, which may reduce the amount of active discussion between participants. The agreement level was set at 70%, which is arbitrary even though based on the literature, choosing a different agreement level may have changed the outcomes.

Conclusions

Using a Delphi consensus method has provided a basis for a preceptor competency assessment framework that not only provides clarity on the competencies as well as their relevance but also incorporates modes of assessment and feasibility. The results suggest that a

multimodal approach to assessment utilising, at a minimum, a preceptee survey of preceptor competency along with self-assessment of preceptor competency is ideal, with the addition of peer assessment where possible. Importantly, the competencies identified could inform future recommendations from accrediting bodies on preceptor standards. Integrating preceptor assessment into accreditation standards for pharmacy preceptors should be considered to promote high-quality preceptorship and professional development of preceptors.

Abbreviations

CPD	Continuing Professional Development
GSAT	Generic Supervision Assessment Tool
REDCap	Research Electronic Data Capture
AB	Andrew Bartlett
IU	Irene Um
CS	Carl Schneider
IK	Ines Krass

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions
CRediT author statementA.B was responsible for Conceptualization, Data curation, Formal analysis, Investigation, Writing– original draft. I.U was responsible for Conceptualization, SupervisionI.K was responsible for supervisionC.S was responsible for Conceptualization, SupervisionAll authors were responsible for review and editing of manuscript.

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Data is provided within the manuscript.

Declarations

Ethics approval and consent to participate
The authors declare that the study adhered to the World Medical Association Declaration of Helsinki. Ethics approval for this study was obtained through the University of Sydney (project number: 2020/643). All participants provided informed consent to participate after the participant information statement was reviewed.

Consent for publication
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The authors declare no competing interests.

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References

1. Nordi ABA, Kishi RGB, Carvalho BB, Evangelista DN, Gaion JPBF, Saggin J et al. World experiences in preceptorship in medical undergraduate education: an integrative review. Revista brasileira de educação médica. 2022;46(1). https://doi.org/10.1590/1981-5271v46.1-20210228.ing.
2. Alshareef MH, Flemban AF. How preceptor behaviour shapes the future of medical professionals how preceptor behaviour shapes the future of medical professionals. Adv Med Educ Pract. 2025;16:135–44.
3. Bartlett AD, Um IS, Luca EJ, Krass I, Schneider CR. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. BMC Med Educ. 2020;20(1): 165. https://doi.org/10.1186/s12909-020-02082-9.
4. Walter S, Mulherin K, Cox CD. A Preceptor competency framework for pharmacists. Part 2 of a 3-part series. Currents in Pharmacy Teaching and Learning. 2017;10(3):402. https://doi.org/10.1186/s12909-020-02082-9.
5. Gueorguieva V, Chang A, Fleming-Carroll B, Breen-Reid KM, Douglas M, Parekh S. Working toward a Competency-Based preceptor development program. J Contin Educ Nurs. 2016;47(9):427–32. https://doi.org/10.3928/00220124-20160817-10.
6. Duteau JRNBM. Making a difference: the value of preceptorship programs in nursing education. J Continuing Educ Nurs. 2012;43(1):37–43. https://doi.org/10.3928/00220124-20110615-01.
7. Sito E. Importance of preceptor competency and its role in orientee satisfaction and retention. Biol Blood Marrow Transplant. 2013;19(2):S368–9.
8. Kim KH, Lee AY, Eudey L, Dea MW. Improving clinical competence and confidence of senior nursing students through clinical preceptorship. International Journal of Nursing. 2014;1(2):183–209.
9. Jee SD, Schafheutle EI, Noyce PR. Exploring the process of professional socialisation and development during pharmacy pre-registration training in England. Int J Pharm Pract. 2016;24(4):283–93. https://doi.org/10.1111/ijpp.12250.
10. Kennie-Kaulbach N, Cooley J, Williams C, Riley B, Anksorus H, O'Sullivan TA. How Preceptors Support Pharmacy Learner Professional Identity Formation. American journal of pharmaceutical education. 2024;88(9):100740. https://doi.org/10.1016/j.ajpe.2024.100740.
11. Woods M. Draft Report Independent Review of Accreditation Systems within the National Registration and Accreditation Scheme for health professions. 2017.
12. Rudland J, Ash J, Barclay L, Bloomfield J, Bogossian F, Byrne K, et al. Rethinking clinical placements: A response to changing healthcare demands. Focus on Health Professional Education: A Multi-Professional Journal. 2025;26(1):60–77.
13. Parmenter J, Wright J, Supervision. Self-Assessment in supervision: the use of the rubric as a means of Self-Assessment. Perspect Adm Superv. 2011;21(2):68–75. https://doi.org/10.1044/aas21.2.68.
14. The Royal Australasian College of Physicians. The supervisors handbook: The Royal Australasian College of Physicians. Available from: https://www.racp.edu.au/fellows/supervision/supervisor-support-and-resources/the-supervisor-handbook. Cited 2024 23/08/2024.
15. Australian Pharmacy Council. Health Profession Accreditation Practices International Literature Review. 2018. Available from: https://www.pharmacycouncil.org.au/media-hub/health-profession-accreditation-literature-review/.
16. General Pharmacy Council UK. Guidance on tutoring for pre-registration pharmacist tutors UK: General Pharmacy Council; 2018. Available from: https://assets.pharmacyregulation.org/files/document/guidance_on_tutoring_for_pharmacist_pre-registration_tutors_august_2018.pdf. Cited 2024.
17. The Pharmacy Board of Australia. Intern pharmacist and preceptor guide Australia. 2021. Available from: https://www.pharmacyboard.gov.au/documents/default.aspx?record=WD10%2F4166%5Bv5%5D&dbid=AP&chksum=tYDwKFzipNvv3aqgsm7NsQ%3D%3D.
18. Falender CA. Clinical Supervision-The missing ingredient. Am Psychol. 2018;73(9):1240–50. https://doi.org/10.1037/amp0000385.
19. Mills JE, Francis KL, Bonner A. Mentoring, clinical supervision and preceptoring: clarifying the conceptual definitions for Australian rural nurses. A review of the literature. Rural Remote Health. 2005;5(3):410.
20. Srinivasan M, Li S-TT, Meyers FJ, Pratt DD, Collins JB, Braddock C, et al. Teaching as a competency: competencies for medical educators. Acad Med. 2011;86(10):1211–20. https://doi.org/10.1097/ACM.0b013e31822c5b9a.
21. Edward Watkins C. J, Ph.D. Educating Psychotherapy Supervisors. American Journal of Psychotherapy. 2012;66(3):279-307. https://doi.org/10.1176/appi.psychotherapy.2012.66.3.279.
22. !!! INVALID CITATION!!! (22).

*Citation 22 L'Ecuyer KM, Hyde MJ, Shatto BJ. Preceptors' Perception of Role Competency. The Journal of Continuing Education in Nursing. 2018;49(5):233-240. doi:10.3928/00220124-20180417-09

23. Gillian JK, Martina FM, Beverley DG. A Scoping Review of Pharmacy Preceptor Training Programs. Am J Pharm Educ. 2020;84(10):ajpe8039. https://doi.org/10.5688/ajpe8039.
24. Billay D, Myrick F. Preceptorship: an integrative review of the literature. Nurse Educ Pract. 2008;8(4):258–66.
25. Marriott J, Taylor S, Simpson M, Bull R, Galbraith K, Howarth H, et al. Australian national strategy for pharmacy preceptor education and support. Aust J Rural Health. 2005;13(2):83–90. https://doi.org/10.1111/j.1440-1854.2005.00659.x.
26. Spranger J, Homberg A, Sonnberger M, Niederberger M. Reporting guidelines for Delphi techniques in health sciences: A methodological review. Zeitschrift Für Evidenz Fortbildung Und Qualität Im Gesundheitswesen. 2022;172:1–11. https://doi.org/10.1016/j.zefq.2022.04.025.
27. McMillan SS, King M, Tully MP. How to use the nominal group and Delphi techniques. Int J Clin Pharm. 2016;38(3):655–62.
28. Drumm S, Bradley C, Moriarty F. An overview of the Delphi technique in social pharmacy and health services research. Contemp Res Methods Pharm Health Serv. 2022:455–66.
29. Harris PA, Taylor R, Minor BL, Elliott V, Fernandez M, O'Neal L, et al. The REDCap consortium: Building an international community of software platform partners. J Biomed Inform. 2019;95:103208. https://doi.org/10.1016/j.jbi.2019.103208.
30. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform. 2009;42(2):377–81. https://doi.org/10.1016/j.jbi.2008.08.010.
31. Humphrey-Murto S, Varpio L, Wood TJ, Gonsalves C, Ufholz L-A, Mascioli K et al. The Use of the Delphi and Other Consensus Group Methods in Medical Education Research: A Review. Academic Medicine. 2017;92(10):1491–8. https://doi.org/10.1097/acm.0000000000001812.
32. Hamilton SJ, Briggs L, Peterson EE, Slattery M, O'Donovan A. Supporting conscious competency: validation of the generic supervision assessment tool (GSAT). Psychol Psychother Theory Res Pract. 2022;95(1):113–36. https://doi.org/10.1111/papt.12369.
33. Bartlett AD, Um IS, Krass I, Schneider CR. Ensuring the quality of clinical supervision: stakeholder perceptions of pharmacy preceptor competence. Currents Pharm Teach Learn. 2023;15(8):722–9. https://doi.org/10.1016/j.cptl.2023.07.003.
34. Woods M. Independent Review of Accreditation Systems within the National Registration and Accreditation Scheme for health professions. 2017.

Publisher's Note

Chapter 6. Discussion

This thesis began with the overarching aim of exploring how preceptor competencies can be identified, validated, and feasibly assessed to ensure quality preceptorship in Australian pharmacy education. The exploration was conducted using different research methods to address distinct objectives:

1. Explore preceptors and students/interns' views on preceptorship, preceptor competency and assessment as well as how preceptorship could be improved. Presented in Chapter 2, this qualitative study involved focus group interviews with pharmacists, students and current interns to understand how people experience the topic.
2. Explore the literature on preceptorship and identify the competencies of preceptors and how they are assessed. Presented in Chapter 3, this systematic scoping review delves into what the literature tells us on the topic.
3. Explore the preceptor assessment practices of Australian and New Zealand pharmacy education providers. Presented in Chapter 4, this cross-sectional survey of education providers highlights the gap between the theory and what happens in practice.
4. Develop consensus on the competencies of a preceptor, how they should be assessed and by whom. Presented in Chapter 5, this modified Delphi technique built by expert opinion, a consensus position on the topic.

This chapter presents a summary of findings from the body of work, methodological considerations for each project presented, implications for practice and future directions for research.

6.1 Discussion of research findings

6.1.1. Objective 1

Explore preceptors' and students'/interns' views on preceptorship, preceptor competency and assessment as well as how preceptorship could be improved.

The qualitative exploration of stakeholder perspectives presented in Chapter 2 addressed Objective 1 of the thesis and provided insights that shaped the overall narrative of this thesis. Focus groups with 56 participants representing pharmacy students, interns and practicing pharmacists from both community and hospital settings presented six themes characterising the preceptorship landscape in Australian pharmacy education.

A central theme was the recognition that preceptees have strong theoretical knowledge of medicines and diseases states but demonstrate varying levels of practical experience and ability to apply knowledge in clinical contexts. Participants described preceptorship as essential for bridging the transition from theoretical knowledge to practice. As outlined in Chapter 1, this aligned with sociocultural learning theory and the concept of scaffolded learning within the Zone of Proximal Development (ZPD) and the role of the "More Knowledgeable Other" (MKO) described by Vygotsky.[1] In this study, these theoretical principles were reflected in participants' accounts of preceptors acting as guided supports who progressively release responsibility as competence developed.

This theoretical alignment extends beyond preceptee learning to preceptor development itself. Warford's (2011) Zone of Proximal Teacher Development (ZPTD) suggests that preceptors themselves pass through developmental stages requiring scaffolded support from MKOs. Unlike Vygotsky's ZPD, where guidance precedes internalisation, Warford argues that for adult learners, self-reflection comes before teacher assistance, suggesting that preceptors

must critically examine their existing teaching assumptions before they can effectively integrate new teaching approaches.[2] In the context of pharmacy preceptor development, this reflective phase can be facilitated through assessment against defined preceptor competencies. By evaluating their performance and comparing it to established standards, preceptors can identify these existing assumptions, identify development needs and seek support through preceptor training (the MKO). This ZPTD has relevance for both preceptor training programs and assessment in terms of sequencing to facilitate reflective practice early in the learning process and inclusion of self-reflection in assessment frameworks.

Participants also expressed a strong desire for standardisation of the preceptorship experience, with preceptees expressing the expectation that their learning opportunities should be equivalent to their peers, regardless of preceptor or site. This finding has implications for quality assurance, suggesting that current variability in preceptorship experience may introduce variation in graduate preparedness.[3,4] Assessment of preceptor competence was seen by participants as a mechanism through which some standardisation might be achieved.

Additionally, participants said they would be more accepting of an assessment process if the assessment was focused on preceptor development rather than being punitive. The acceptability was also influenced by factors such as the method of assessment (peer assessment being seen as intrusive and impractical), practice setting, acceptability and feasibility. These are key “future research” considerations to come from this research.

Identification of “competing demands” as a theme foreshadowed implementation challenges that would become more apparent as this research program progressed. Preceptors described tensions between clinical responsibilities, commercial pressures (particularly in community

pharmacy settings) and the education role. This theme recognised the uniquely complex position occupied by preceptors where they may be in potentially competing roles. Turner (2002) describes the principle of tenability, which suggests that role incumbents continuously negotiate a balance of benefits to costs while constrained by power and resources.[5] In the context of pharmacy preceptors, this fits with the described tensions identified in Chapter 2; the clinician providing patient care, the employee or business owner meeting various performance expectations, the colleague maintaining professional relationships and the educator developing the next generation of practitioners. Guirguis et al identified that role conflict, role ambiguity and role overload significantly impact pharmacists and these role stressors are amplified for preceptors also balancing educational responsibilities, often without workload adjustment or recognition.[6] Yong et al were able to identify 41 factors that contributed to role stress in community pharmacy.[7] When these are looked at in the context of Turner's principle of functionality,[5] where roles are modified for the greatest effectiveness, it becomes apparent that under resourced preceptors may adaptively prioritise clinical and commercial responsibilities over education ones, resulting in the variability of the preceptorship experience described in Chapter 2. This theoretical perspective suggests improving preceptorship requires not only assessment mechanisms, but also role clarification, resource allocation and professional recognition.

The stakeholder perspectives presented in Chapter 2 thus established both the foundational rationale and key parameters for the subsequent stages of this research: the need for systematic assessment to address variability (addressed through evidence synthesis in Chapter 3), the imperative to understand current assessment practice realities before proposing change (addressed through the survey of assessment practices in Chapter 4) and the importance of feasibility and acceptability in assessment design (addressed through expert consensus in Chapter 5).

6.1.2. Objective 2

Explore the literature on preceptorship and identify the competencies of preceptors and how they are assessed.

The systematic scoping review presented in Chapter 3 synthesised evidence from 41 studies across multiple health professions to identify 16 evidence-based preceptor competencies, 11 of which had associated performance indicators, creating a distinction between competencies that may be taught and more intrinsic characteristics. This distinction has implications for practice, with competencies with associated performance indicators being more amendable to development through training programs, whilst the more intrinsic may be developed through role modelling, reflection and experience.[8] This has further implications for preceptor assessment frameworks, in that different competency types may require different approaches to assessment, a principle noted in workplace-based assessment literature, where different sources of information (direct observation, self-reflection, longitudinal monitoring) are recognised as capturing different dimensions of competence.[9] Chapter 3 showed there was not a consistent approach to assessing identified competencies, with three main methods of assessment, student/intern/preceptee competed surveys, self-assessment and peer evaluation, used in a range of situations without clear consistency. The review found no single assessment method adequately captured all dimensions of preceptor competence, supporting the conclusion that multimodal assessment approaches are required.

The review and the 16 evidence-based competencies provided a point of comparison for the survey of assessment practices of pharmacy education providers in Chapter 4, as well as the foundation for the modified Delphi consensus study presented in Chapter 5, which aimed to strengthen the confidence in the identified competencies and translate them into feasible assessment recommendations. While the scoping review established *what* competencies

characterise effective preceptorship and *how* they have been assessed across health professions, the modified Delphi study addressed the critical question of *which* competencies should be prioritised for assessment and *by whom*, linking to practical implementation. This progression from identification through validation toward feasible assessment reflects the sequential logic of the overarching thesis aim, with each phase building upon preceding findings to develop a comprehensive, evidence-based approach to ensuring quality preceptorship in Australian pharmacy education.

6.1.3. Objective 3

Explore the preceptor assessment practices of Australian and New Zealand pharmacy education providers

The cross-sectional survey of Australian and New Zealand pharmacy education providers presented in Chapter 4 addressed Objective 3 of this thesis. The survey provided essential data on the current state of preceptor assessment practices and showed a substantial gap between evidence-based recommendations, accreditation standards and actual practice. It is clear from the findings of this research that there are significant inconsistencies amongst pharmacy education providers with regards to the quality assurance of work integrated learning (WIL) experiences. Despite clear quality assurance expectations articulated by TEQSA and the APC (Chapter 1),[10,11] the findings of this thesis demonstrate inconsistent interpretation and enactment of these requirements at the level of preceptor evaluation. The gap between regulatory intent and operational practice was most evident in the low proportion of education providers conducting systematic preceptor assessment. The survey findings showed that only 46% (11 of 24) Australian and New Zealand education providers conducted preceptor evaluation, compared to similar studies in the United States (US) where preceptor evaluation rates amongst responding institutions are approximately 99%.[12,13]

The contrast between different jurisdictions' approaches to preceptor credentialling provides a natural comparison highlighting the influence of regulatory requirements on practice. In Australia, the current model relies on a basic application for approval as preceptor with voluntary training.[14] There is no formal recognition of preceptor credentials and no requirement for ongoing preceptor assessment. The Woods draft report on accreditation systems in health professions in Australia noted the lack of appointment and oversight processes for preceptors as a significant gap.[15] This approach creates conditions where assessment implementation may be viewed as discretionary and consequently variable, a finding supported by the results presented in Chapter 4.

New Zealand presents a contrasting model with a much more structured approach to quality assurance. Preceptors are required to undergo mandatory training, pass an assessment, and complete periodic recertification to maintain their preceptor status.[16] This systematic credentialling process contributes towards consistent standards across the profession and provides clear oversight mechanism not present in the Australian context.

As outlined in Chapter 1, pharmacy education systems internationally vary in the degree of regulatory oversight applied to preceptors. The survey findings presented in Chapter 4 demonstrate that Australia's largely voluntary model more closely resembles the UK approach than the credentialled models seen in New Zealand and the United States. This regulatory context provides an important explanatory lens for the uptake of systematic preceptor assessment observed in Australian education providers.

The barriers identified by education providers including time constraints, potential loss of placement sites, resources and resistance to introduction of preceptor assessment, all resonate with the points raised in Chapter 2 by students, interns and pharmacist preceptors. The

concern that imposing preceptor assessment might reduce placement availability highlights the tension between quality assurance imperatives and practical workforce considerations.

The research presented in Chapter 4 provides the essential "reality check" that bridges the evidence synthesis of Chapter 3 with the consensus-building of Chapter 5, ensuring that the final assessment framework addresses not only what should be assessed based on evidence, but what can feasibly be assessed given the systemic barriers, resource limitations, and quality-sustainability tensions that characterise the current preceptorship landscape in Australian pharmacy education.

6.1.4. Objective 4

Develop consensus on the competencies of preceptors, how they should be assessed and by whom.

The modified Delphi consensus study presented in Chapter 5 addressed Objective 4, building directly upon the scoping review (Chapter 3) and stakeholder perspectives (Chapter 2). Using a panel of experts selected from academia, community pharmacy, hospital pharmacy, pharmacy professional bodies, and pharmacy regulators, consensus was achieved on 17 competencies, with 16 deemed feasible to assess. Eight were categorised as mandatory for assessment: effective communication, ethical behaviour, reflective practice, role modelling, effective feedback, facilitating critical thinking, accessible learning environment, and respect for preceptees, representing the essential foundation all preceptors should demonstrate. Four additional competencies achieved consensus as preferable to assess, being open to receiving feedback, being organised, displaying empathy and being committed to teaching. The reasons for experts judging these eight competencies as mandatory to assess was not explored in this research, but it could be suggested that these competencies are viewed as not only more

observable, but critical for the professional development of students and interns. Further research is needed to understand this in more depth. This hierarchy allows for tiered implementation where resource-constrained programmes can prioritise mandatory competencies. (see Figure 1 in proposals)

A key contribution of this study was the proposal of a multimodal assessment framework that mapped specific assessors and methods of assessment to individual competencies, an approach not previously documented in pharmacy literature. While some competencies reached consensus across all three methods (preceptee evaluation, self-assessment/portfolio, peer observation), the results made it clear that a single method of assessment did not cover all competencies, giving further support to the necessity for multimodal assessment. (see Figure 2 in proposals)

This multimodal assessment approach is an advance on current international practice. Although almost 99% of US pharmacy schools evaluate volunteer preceptors,[13] compared to the 46% in Australia and New Zealand shown in Chapter 4, most US institutions use a single method of assessment, predominately student evaluation.[12,13] This reliance on single method of assessment was also seen in Chapter 4. In both Australia, New Zealand and the US, the number of institutions that use other methods of assessment such as formal peer evaluation or self-assessment is between 8-13% suggesting significance variation between institutions regarding assessment processes.[13] The literature also provided no guidance on which competencies each method validly assesses, a gap which this research sought to fill.

While the modified Delphi process provided the foundation for an evidence-informed framework for preceptor assessment, through expert validation, important questions remain regarding validation from end users that requires consideration for successful implementation and will be discussed later in this chapter.

6.2 Limitations and Methodological considerations

This thesis presents a sequential mixed-methods design within a pragmatic research paradigm, with each study informing subsequent investigations. While this approach enabled progressive knowledge building and cross validation through diverse approaches, several limitations warrant consideration both within individual projects and across the research as a whole.

6.2.1. Geographic and sampling constraints

A recurring limitation across the studies was geographic scope. The focus group study (Chapter 2) recruited participants exclusively from New South Wales, Australia, despite invitations being extended interstate, potentially missing perspectives from other jurisdictions where universities may have different placement models such as New Zealand with its mandatory preceptor training. The scoping review (Chapter 3) identified a majority of US-based literature (26 of 41 studies), which may introduce bias toward North American educational contexts and limit direct applicability to Australian and New Zealand settings. The predominance of literature from the US is relevant for this research as the ACPE standards (standards 3.3, 3.4 and 3.5 updated in 2025) [19] gives specific guidance on preceptor selection, quality assurance and development. The cross-sectional survey (Chapter 4) may also have experienced sampling limitations in that the contact details of pharmacy education providers were taken from publicly available records, and the invitations were directed to the Head of school or placement coordinator. The study relied on the person receiving the survey either being the ideal person to complete the survey or forwarding it onto the ideal person which may not always have been the case. The result may have been influenced by either the understanding or lack of understanding of the questions being asked. In Chapter 5, the modified Delphi study panel selection started with invitations to 59 identified experts from Australia, the United Kingdom and the US. These experts were chosen from the fields of

community pharmacy, hospital pharmacy, academia, pharmacy professional bodies and pharmacy accreditation bodies. Of these, 22 completed the first round and participation rate gradually reduced over the rounds to a final panel of eight. Initially there was an over representation within the panel of hospital pharmacists which may have influenced the level of agreement on feasibility and peer evaluation as Chapter 2 showed more willingness of pharmacists in the hospital environment to undergo peer evaluation. The attrition over the rounds however resulted in a more even distribution of participants across the sectors, so although the level of attrition is a notable limitation,[21] there was an even spread of experts in the final round when agreement was decided. In addition, despite invitations also being sent to the United Kingdom and the US, IP addresses in the Qualtrics survey indicated that only Australian panellists participated which may limit the perspectives given. Lastly, this expert group did not include the perspective of the "end-user" which in this case is the students and interns. Inclusion of participants from this group may have provided additional insights as shown by Brink et al (2018) who included medical students amongst their expert panel selection.[22]

6.2.2. Methodological trade-offs

The choice of focus groups over semi-structured individual interviews in Chapter 2 offered efficiency in reaching saturation across multiple stakeholder groups and enabled synergistic group discussion.[23] Semi-structured interviews are a qualitative research method where an interviewer, using an interview guide, asks individual participants questions, and records the responses. Whilst focus groups may be more efficient, they may miss the deeper individual perspectives generated during individual interviews.[24] The interactivity of the focus groups discussion was particularly valuable for exploring controversial issues like the acceptability of preceptor assessment. Surveys can also be an efficient data collection method. Surveys can be conducted online or face to face, but will generally use pre-determined questions.[25]

Quantitative or mixed methods surveys at this initial exploratory stage would have imposed predetermined categories on the participants experiences and may have limited the discovery of unexpected themes or perspectives. On the other hand, the cross-sectional survey in Chapter 4 was an ideal point in the research to try to understand what is actually happening in pharmacy education, so using pre-determined questions was entirely appropriate at this stage. The downside of this type of survey, however, is that there is no opportunity for clarifying any misunderstanding of the question being asked, which may influence the results.

In the scoping review (Chapter 3), while a rigorous systematic approach was employed with PRISMA-ScR guidelines and a novel application of GRADE-CERQual methodology, primary screening and data extraction were conducted by a single author with co-author verification of a 10% sample at each stage. This pragmatic approach, while common in scoping reviews, leaves potential for interpretation bias in papers not reviewed by multiple researchers. A traditional systematic review with meta-analysis was considered but rejected as it would have excluded important conceptual and qualitative work, and the heterogeneity of included studies precluded meaningful aggregation of effect sizes.[26]

6.2.3. Validity

The scoping review and GRADE CERQual evaluation of the strength of evidence presented in Chapter 2 resulted in 16 competencies of preceptors that confidently established the basis for the modified Delphi study in Chapter 5. The refinement of these competencies through the modified Delphi consensus study, provides confidence that the proposed assessment framework captures what matters for quality preceptorship. The modified Delphi consensus study also established content validity for the proposed assessment framework, suggesting that, by expert opinion, these competencies can be feasibly assessed using the identified methods. However, content validity alone is not sufficient for successful implementation. Face validity, being the extent to which the end-user, practicing preceptors in various settings,

perceive the assessment framework as workable, meaningful and relevant. This is something that is still unknown and provides an opportunity for further research. The distinction between content and face validity is crucial, because although experts may agree that this assessment framework is comprehensive and robust, it may ultimately fail on implementation if the end-users find it a burden or impractical. The barriers identified in both Chapter 2 (competing demands, time constraints, concerns about punitive assessment) and the implementation challenges identified in Chapter 4 (resource limitations, potential loss of placement sites) highlight why face validity testing is essential prior to widespread roll out of systematic preceptor assessment, so as not to exacerbate the role tensions that already challenge preceptor engagement.

6.2.4. Recommendations resulting from this research

This thesis puts forwards the following proposals for adoption into pharmacy education and training, each addressing different elements of preceptor quality assurance:

- Implementation of standardised preceptor assessment framework.
- Mandated quality assurance processes for approving placement sites.
- Requirement for pharmacy educational institutions to provide access to comprehensive preceptor training.
- A national specialist preceptor advanced practice credential.

6.2.4.1. Implementation of standardised preceptor assessment framework.

Standardised preceptor competencies

Currently there are no standard competencies against which preceptors are being assessed. Based on the results of the systematic scoping review in Chapter 3 and further refined by expert consensus through the modified Delphi study in Chapter 5, this thesis proposes for

validation and adoption of a standardised set of 12 preceptor competencies that were deemed feasible to assess.[27,28] These competencies are divided into two levels of assessment priority. The first level deemed mandatory to assess includes eight competencies that encompass foundational skills for effective precepting, including communication proficiency, creating accessible learning environments, respect for the preceptee, and provision of constructive feedback. It also brings to the forefront, ethical conduct, facilitation of critical thinking and decision making, reflective practice, and role modelling professional standards. The second level, considered preferable to assess, include aspirational qualities that enhance preceptorship, such as receptiveness to feedback, being organised, empathy, and commitment to teaching excellence. In conjunction with a nationally adopted set of preceptor standards, these competencies would form the foundation of an evaluation framework that supports preceptor performance and is learner centred.

Mandatory to assess	Preferable to assess
• Demonstrates effective communication skills • Provides an accessible learning environment • demonstrates respect for the preceptee • Provides effective feedback • Demonstrates ethical behaviour • Facilitates critical thinking, problem solving and decision making • demonstrates reflective practice • Acts as a role model practitioner	• Displays and openness to receiving feedback • Is organised and has the ability to prioritise • Displays empathy • Committed to excellence in teaching

Figure 1 Consensus agreement on competencies to be assessed

Multimodal assessment

This thesis presents a starting point for considering the method of assessment based on consensus opinion from pharmacy experts (see Figure 2). Australia accreditation standards for pharmacy programs currently do not contain any requirement for provision of preceptor education or opportunity for feedback.[11] This represents a significant gap compared to other international jurisdictions that specify that education providers must provide continuing education as well as the opportunity for feedback including both student surveys and self-assessment.[19,29] The findings in Chapter 4 highlighted that pharmacy education providers are primarily relying on surveys or evaluations completed by students or interns when assessing preceptors, which was shown in Chapter 2 as being the most acceptable form of assessment.[30] Based on the research shown in Chapter 5, it is suggested that not all competencies lend themselves to effective evaluation in this format alone.[27] The consensus study results highlight that while some of the foundational skills like effective communication, ethical behaviour, and creating accessible learning environments were consistent across the three perspectives, there are some interesting variations on emphasis. Student evaluation had an emphasis on the relational qualities like openness to feedback, while self-assessment captures some higher order competencies like reflective practice and commitment to teaching excellence. Peer assessment introduces elements like respect for the preceptee and organisational skills, but as shown in Chapter 3, may be more intrusive and impractical in some situations.[30] Research has shown that practitioners can overestimate their own performance regarding communication skills and provision of feedback,[31] and it has been common practice in industry settings to obtain multisource feedback from peers, subordinates or clients to get a clearer sense of performance.[32,33] This suggests a triangulated approach may provide a more comprehensive evaluation framework, but as a minimum, assessment

should consist of student/preceptee assessment of preceptors and preceptor self-assessment, augmented where possible with peer evaluation.[27]

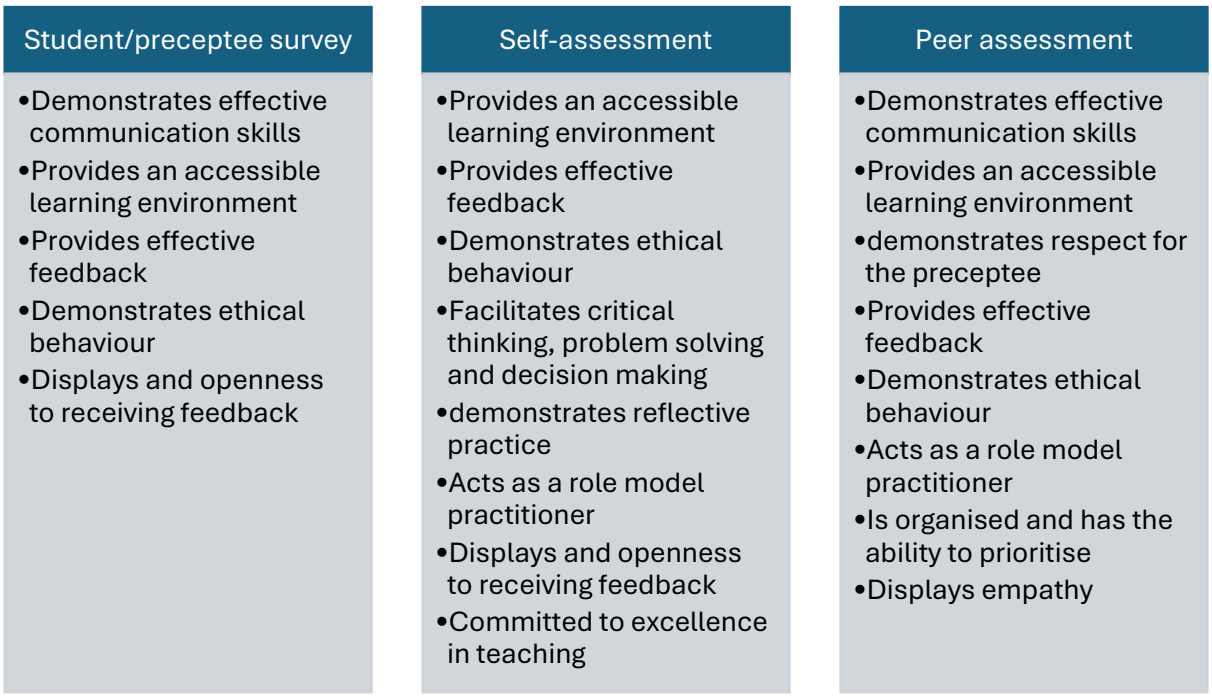

Figure 2 Consensus agreement on methods of assessment

Mandated quality assurance processes for approving placement sites

This thesis proposes mandated quality assurance processes and suggests adoption of a preceptorship site suitability assessment as part of Quality Care Pharmacy program (QCPP),[34] which would be a requirement for taking students on placement or interns. QCPP is community pharmacy quality assurance program that accredits pharmacies against the Australian Standard AS 85000:2017.[35] A similar system could be adopted for hospital pharmacy units.

As mentioned in Chapter 1, under TEQSA requirements, education providers must "have in place policies and procedures for quality assuring WIL including quality assuring the student experience and external supervision".[10] Similarly, the APC Accreditation standards criteria 1.7a requires documenting standards relating to quality and suitability.[11] However, clearer guidance on what constitutes quality and suitability is needed by the profession. Introducing documented compliance with a site checklist (see Table 1) alongside systematic preceptor evaluation, which includes assessment against set standards, would provide a practical and measurable approach to meeting these regulatory obligations.

Table 1: An example site checklist (Modified from Community Pharmacy foundation)[36]

		Meets expectation	Partially meets	Does not meet expectations
Preceptor qualification and support	Documentation of current registration			
	Minimum practice experience (12 months)			
	Preceptor training completed			
	Evidence of appropriate staffing to support preceptor role			
	Scheduled precepting time			
	Evidence of membership and engagement with professional organisations			
	Evidence of ongoing professional development relating to education			
Learning environment	Sufficient volume and diversity of pharmacy services			
	Documented orientation plan including clear roles and responsibilities			
	Induction to site specific policies			
	Positive team culture			

	Creates supportive environment encouraging preceptee's participation in the workplace			
	Workplace activities incorporate increasing level of entrustment			
Quality improvement processes	Documented process for collection of feedback			
	Evidence of putting feedback into action			
	Regular self-assessment of preceptor competency			
	Identification of professional development opportunities			

This represents a significant change to current practice and would require stakeholder agreement, particularly from the Pharmacy Guild of Australia as custodian of the QCCP, along with resourcing and transition arrangements.

Requirement for pharmacy educational institutions to provide comprehensive preceptor training

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Evidence from both Australia and internationally supports the notion that the competence and confidence of preceptors is improved through training support.[37,38] At present there is no mandated requirement for preceptors to undertake training, and no requirement for education providers to provide such training in Australia. This is a missed opportunity that is part of normal practice in a number of jurisdictions including New Zealand, Canada and the US.[16,19,29] All Australian pharmacists are required to plan and undertake 40 points of continuing professional development (CPD) each year.[39] The evidence supports the proposal that alongside national preceptor standards, training be offered by all pharmacy education providers to pharmacy preceptors, that is eligible to be counted towards their CPD requirements. This may be from a national training provider such as the Pharmaceutical

Society of Australia (PSA), or in-house training developed by the provider. Whilst added training may contribute to the "competing demands" mentioned in Chapter 2, training modules have shown to be acceptable, effective and successful when barriers to taking part are addressed, such as offering short online courses with appropriate CPD rewards.[40] Being a preceptor should be considered to be part of a pharmacist's practice and as such, a pharmacist that has taken on the role of preceptor should be including CPD that is concerned with education in their annual CPD plan.

A national specialist preceptor advanced practice credential

The findings from this thesis support the development of a national specialist preceptor advanced practice credential as both a formal recognition of excellence and a practical mechanism for implementing the competency assessment framework. This credential would serve an enabling function by providing a structured pathway through which the evidence-based competencies identified in this research can be systematically developed and assessed.

Following similar models adopted internationally in pharmacy and nursing,[41-43] where in response to challenges in attracting and retaining preceptors, formal recognition programs have been implemented, a nationally recognised credential should incorporate the multimodal assessment approach recommended by expert consensus in Chapter 5. This should consist of completion of a recognised preceptor training program, completion of education focused CPD incorporated into a pharmacist annual CPD plan, and submission of a portfolio of evidence, including student evaluations of preceptor competencies, self-assessment and a peer assessment of their preceptor competency and would strengthen the existing awards based on intern nominations.[44] This aligns with similar credentialling in other professions and areas such as the Association for Nursing Professional Development's Preceptor Certificate

of Mastery (US), which includes training requirements, practice hours and a triangulated assessment from an intern, a peer and self-assessment,[41] aligning with the previous recommendation of a multimodal assessment approach.

Importantly, this type of credential would address barriers identified in Chapter 2 such as self-perceived competence by providing benchmarking to gauge ability and defined pathways for professional development.

6.3 Implications for practice

The findings of this thesis have established that preceptor competency assessment is a crucial element of the required quality assurance of WIL in pharmacy education. The results in Chapter 2 have also highlighted that key stakeholders, being pharmacist preceptors, education providers, students and interns, all place a high value on the consistency and quality assurance that evaluating preceptor competency would bring.[30] Chapters 4 and 5 have also shown that it would be feasible to assess preceptor competencies, but acknowledge there are barriers to implementation that need to be addressed. There is also support for formal recognition or accreditation of preceptors with students saying that having an accredited preceptor would influence where they chose to do a work placement or internship. Pharmacists, particularly in rural areas with workforce challenges also see accreditation as advantageous as it would attract interns who may then continue as registered pharmacists in their business. Recent research has shown that the role modelling and mentoring that occurs in the preceptor/preceptee relationship has a significant role in workplace satisfaction which flows onto retention of pharmacists in the profession.[45]

As the role that pharmacists play in healthcare delivery in Australia increases, ensuring a competent workforce that can meet the demands of modern healthcare is crucial. Pharmacists are consistently rated at the top of the most trusted health professionals and play a significant

role in preventing medication harm.[46,47] Maintaining this trust requires transparency and accountability in professional training and regulation. Gregory (2021) identified a number of trust enhancers and trust diminishers for the pharmacy profession, finding that a lack of transparency around pharmacy training and regulation was a trust diminisher.[48] While Gregory's findings related to pharmacy training broadly, the principle extends logically to preceptorship as part of pharmacy training. Having clear standards for preceptor training and accreditation could therefore enhance public confidence by demonstrating the professions commitment to rigorous quality assurance at all levels of workforce development. Beyond trust in the profession, improved quality of preceptorship has an important impact on the confidence and competence of pharmacists at this critical time of transition from student to professional.[49]

6.3.1. Implications for preceptors

The acceptability of competency assessment to preceptors emerged as a critical theme in Chapter 2. Participants indicated they would be more likely to engage with assessment processes that are developmental rather than punitive. Preceptors should therefore view competency assessment not as surveillance or judgement, but as an opportunity to identify strengths, recognise areas for growth, and access support. The focus groups in Chapter 2 and the modified Delphi consensus study on assessment methods in Chapter 4 together touch on acceptability and feasibility, acknowledging that peer observation, while valuable, may be less acceptable in community pharmacy settings where it is perceived as intrusive and impractical. The resulting multimodal assessment framework accommodates these acceptability concerns by recommending peer observation only "where practical," allowing flexibility based on practice context.

The feasibility of engaging with assessment processes is also shaped by preceptors' existing workload demands. The recognition of competing demands as a significant barrier to effective preceptorship has implications for how preceptors negotiate their role within their workplace. Armed with evidence that role conflict undermines educational quality, preceptors may be better positioned to advocate for dedicated precepting time, reduced clinical loads during intensive supervision periods, or other workplace accommodations that enable them to fulfil their educational responsibilities effectively. Without such accommodations and support from employers, even well-designed assessment processes may not be feasible for time-poor preceptors juggling clinical, commercial, and educational responsibilities.

For assessment to be sustainable from the preceptor perspective, it must not be seen as an additional burden added onto already demanding roles. Integration of preceptor development into existing continuing professional development requirements, as proposed in this thesis, offers one pathway to sustainability. Rather than treating preceptor competency as separate from professional practice, this approach positions educational skill development as a legitimate component of a pharmacist's CPD portfolio, potentially reducing the perceived burden of engagement.

6.3.2. Implications for pharmacy education providers

For universities and intern training providers, the finding that only 46% of Australian and New Zealand education providers systematically evaluate preceptors, compared to the almost universal evaluation in the US,[12,13] should prompt review of quality assurance processes for WIL.

The adoption of national preceptor standards by accreditation bodies would contribute significantly to the approach taken by education providers towards preceptor quality assurance. There was no apparent evidence of a standard assessment tool used by Australian

education providers, and the literature from pharmacy internationally as well as from other professions indicates a large variety of assessment tools being used with variable alignment to evidence-based competencies.[28,50,51] National standards would provide a consistent benchmark against which all education providers assess preceptor performance. The competencies validated through this thesis, particularly the eight mandatory competencies achieving expert consensus in Chapter 5, offer a foundation upon which accreditation bodies could develop national standards, The clarity provided by national standards of preceptor competence would free up education providers from independently determining what quality preceptorship looks like, and direct resources towards preceptor support.

Although expert opinion has said that individual competencies are feasible to assess, the feasibility of the overall systematic assessment framework implementation is not yet known. The barriers identified in Chapter 4 such as time constraints and resourcing represent genuine feasibility challenges that need to be explored in more detail. Several strategies may enhance feasibility. Provision of validated assessment instruments, as was the case with the introduction of Workplace based assessment tools by the APC,[52] would reduce the burden on institutions to develop and validate tools independently. In addition, integrating preceptor assessment within existing quality assurance processes such as QCCP would use established infrastructure rather than creating parallel systems. The multimodal assessment approach recommended in Chapter 5 supports feasibility by distributing assessment load. Preceptee surveys are already collected by many institutions, minimising additional burden. Self-assessment places responsibility on preceptors themselves and aligns with existing CPD expectations. The additional burden would be collecting evidence from preceptors, but this could be included in annual AHPRA renewal declarations. Peer observation, acknowledged in Chapter 2 as more resource intensive could be reserved for inclusion where practical or when recognising preceptor excellence.

The tension between quality assurance imperatives and placement availability reflects a genuine dilemma crucial to acceptability by education providers. It is the goodwill of preceptors that supports placement capacity and requirements perceived as a burden may cause preceptors to reconsider their role. Adoption of nationally recognised preceptor standards may go some way to addressing these acceptability concerns by not only creating a level playing field but setting the expectations of the profession as to what is expected of a pharmacist mentoring students and interns and contributing to the development of the profession. Currently the national competency standard 4.1.4 says "serve as a role model, coach and mentor for others".[53] Fleshing this out to a preceptor specific standard would provide the clarity needed by both preceptors and education providers for quality assurance purposes.

The sustainability of preceptor assessment depends on education providers commitment to supporting preceptors, not merely evaluating them. Research has shown effective preceptorship to be strengthened when seen as a collaborative partnership between the education provider, the practitioner and the preceptee.[54] This partnership may be in the form of support for professional development opportunities, peer mentoring networks or communities of practice that enable preceptors to share challenges and effective strategies. However, support alone is insufficient. Sustainability requires demonstrating value.[55] Assessment processes that take up resources without demonstrated benefits will not survive amongst other competing priorities in a busy pharmacy workplace. To justify the resources used to support effective preceptorship, education providers must also close the feedback loop by using assessment data to inform preceptor development, improve placement quality and ultimately improve preceptee outcomes.[27,56] Kirkpatrick's four-level model of training evaluation has *results* as the final level.[55] This emphasises that demonstration of the results provides essential feedback to stakeholders and justifies continued allocation of scarce

resources. Where stakeholders can see that assessment leads to meaningful improvement rather than just as a compliance exercise, sustainable implementation is strengthened.

6.3.3. Implications for students and interns

For pharmacy students and interns, the primary implication of this research is the potential for more consistent, higher quality preceptorship experiences. The perspectives captured in Chapter 2 revealed that preceptees expect equivalence in their learning opportunities regardless of the site or preceptor. Implementation of systematic preceptor assessment and the establishment of minimum competency standards would reduce the variability experienced and ensuring access to preceptors who can effectively support their transition to practice.

Chapter 4 showed that student or intern evaluation of preceptors is already a widely adopted assessment method both in Australia and internationally,[12,13] and consensus in Chapter 5 supported its use for multiple competencies. This widespread adoption suggests that the feasibility and sustainability of these methods of assessment are not as much of a concern as they use existing infrastructure and familiar processes.

There are two considerations for acceptability worth discussion. Firstly, it is important to consider the length of the survey and how often it is being conducted. Research has shown acceptability can increase while maintaining validity when using a well-designed evaluation tool with fewer items.[57,58] Combined with the concept of survey fatigue, where students feel they are "over-surveyed",[59] lengthy surveys and feeling compelled to complete a survey can influence the credibility of results through introduction of bias from missing data or false data.[60] Secondly, as highlighted in Chapter 2, there can be a power imbalance, where preceptors are often also an employer or an assessor. Chapter 4 showed that existing preceptor evaluation processes do not universally consider the anonymity of the preceptee. This has a direct impact on the acceptability of preceptor assessment by students or interns as there is no assurance that their evaluation will not adversely affect their own evaluation or

placement grade. This also represents a potential barrier to honest feedback. Education providers should prepare students for the responsibility of providing evaluation, helping them understand how to offer specific actionable feedback that supports preceptor development. Where preceptees perceive the relationship with the preceptor as trustworthy, and evaluation as safe and meaningful, they are more likely to engage constructively.[49,61]

6.3.4. Implications for regulatory and accrediting bodies

The findings of this thesis support the case for development of national recognised preceptor standards. Current accreditation standards require quality assurance of experiential education but provide limited specificity regarding preceptor competency or assessment. This regulatory ambiguity contributes to the variability in practice documented in Chapter 4.

Feasibility of national standards implementation depends on regulatory commitment and adequate resourcing. Standard development should include representation from education providers, practicing preceptors, professional organisations and preceptees. The competencies and assessment methods identified in this thesis provide a starting point, but national standards should undergo further consultation and pilot testing. Coordination between the Australian Pharmacy Council (program accreditation) and Pharmacy Board of Australia (practitioner registration) would be required to create a coherent framework, similar to the New Zealand model,[16] with accreditation standards requiring education providers to ensure preceptors meet defined competencies, and registration requirements specifying preceptor training as condition of supervising interns.

Acceptability of the national standards across the profession could be enhanced through formal recognition of preceptor expertise. A national specialist preceptor credential analogous to advance practice credentials in clinical domains, would elevate the status of education contributions within the profession. Similar models such as the Association of Nursing Professional Development's preceptor certificate of Mastery provide an exemplar that also

uses multimodal assessment. This recognition helps to reframe assessment as a pathway to professional distinction.[41]

The persistence of the mandatory preceptor credentialing in New Zealand, although a much smaller population base, provides some evidence that a well-designed and supported training and credentialing system can be sustainable.[16] However, phased implementation should be considered to gradually build workforce capacity and ongoing governance mechanisms for periodic review of standards, requirements and preceptor workforce capacity should be implemented to ensure regulation is not disconnected from practice reality.[62]

6.4 Future considerations

This research has highlighted gaps in quality assurance of WIL and preceptorship, provided evidence for a set of assessable preceptor competencies, and established expert consensus on feasible assessment methods. While the findings demonstrate that preceptor competency assessment should occur and could be designed, determining how it should be implemented in practice requires further investigation.

While this thesis is grounded in pragmatist research paradigm, the recommendations proposed are framed as directional rather than prescriptive. Pragmatism emphasises solutions that are workable in real world constraints. The findings in Chapters 2 and 4 illustrate that preceptors already operate under significant role strain and additional requirements risk unintended consequences, including reduced placement capacity or disengagement from the preceptor role. The experience of New Zealand provides a useful, cautionary comparator for considering practical implementation in Australia. New Zealand's mandatory preceptor training and credentialling model demonstrates that systematic quality assurance is achievable at a national level, however, published commentary and stakeholder feedback

have also highlighted challenges, including administrative burden, the need for sustained resourcing, and reliance on professional goodwill to maintain workforce participation.[63] These challenges underscore that regulatory mandates alone do not guarantee sustainability and must be supported by adequate infrastructure, incentives, and professional recognition.

6.4.1. Validation and instrument development

Future research should focus on developing and validating standardised tools for preceptee surveys, preceptor self-assessment instruments and peer observation tools. Validation studies are needed to establish that these instruments measure preceptor competency accurately and consistently across different practice settings. Furthermore, face validity testing with end-users (preceptors, students, interns/preceptees and academics) is needed to confirm the assessment framework measures what matters for effective preceptorship in real practice settings.

6.4.2. Implementation research

Before system wide adoption, small scale pilot testing is needed to investigate the level of assessment acceptable to preceptors, balancing the benefits of quality assurance against the risk that additional burden may reduce preceptor availability, a concern identified in Chapter 2 and Chapter 4. Additionally, research is needed to determine the actual time and financial costs for educational institutions and preceptors, associated with evaluation processes, instrument administration, assessor training and feedback provision. Understanding resource implications is essential for sustainable implementation. Finally, research into what motivates preceptors to engage with assessment processes would inform the approach to formal recognition for preceptors. Determining the form of recognition that is most valued by preceptors of different demographics and practice settings, such as formal credentials, academic appointment, career advancement, or CPD credits, would support sustainable engagement with assessment systems.

6.4.3. Outcomes research

Research is needed to determine whether systematic preceptor assessment and associated preceptor development activities lead to improved graduate outcomes and practice readiness. Longitudinal studies tracking preceptee experiences, competency development and workforce readiness following implementation of preceptor assessment would provide evidence of impact. Research should also investigate how stakeholders prioritise preceptor quality assurance relative to other competing demands and establish links between preceptor quality and broader workforce development outcomes such as graduate retention and career progression in the Australian context. This evidence would strengthen the case for resource allocation towards preceptor assessment activities.

6.5 Concluding remarks

Through a series of linked research projects, this thesis has addressed the overarching aims presented in Chapter 1, namely, to explore how preceptor competencies can be identified, validated, and feasibly assessed to ensure quality preceptorship in Australian pharmacy education.

This research has produced an evidence-based competency framework comprising 16 expert validated competencies accompanied by a multi-modal assessment approach consisting of three consensus endorsed assessment methods. These together provide the foundation through which systematic preceptor evaluation could be instituted in Australia.

The recommendations presented in this discussion included establishing national preceptor standards, implementing mandatory preceptor training and the introduction of systematic evaluation processes. These are designed to set clear expectations for the profession on what constitutes good preceptorship practices, build a culture of mentorship in the profession and

provide a mechanism for education providers to fulfil their obligations to accrediting bodies on the quality assurance of WIL.

The benefits to the profession ultimately are that we build and retain a more confident and competent workforce that are adaptable to the changing nature of pharmacy practice and improve the health outcomes of the communities they serve.

6.6 References

1. Vygotsky LS, Michael C, Vera J-S, Sylvia S, Ellen S. *Mind in Society : Development of Higher Psychological Processes*. Harvard University Press; 1978.
2. Warford MK. The zone of proximal teacher development. *Teaching and Teacher Education*. 2011/02/01/ 2011;27(2):252-258. doi:https://doi.org/10.1016/j.tate.2010.08.008
3. Jee SD, Schafheutle EI, Noyce PR. Is pharmacist pre-registration training equitable and robust? *Higher education, skills and work-based learning*. 2019;9(3):347-358.
4. Smith C, Ferns S, Leoni R. Placement quality has a greater impact on employability than placement structure or duration. *International Journal of Work - Integrated Learning*. 2019 2025-07-16 2019;20(1):15-29.
5. Turner RH. Role Theory. In: Turner JH, ed. *Handbook of Sociological Theory*. Springer US; 2001:233-254.
6. Guirguis LM, Chewning BA. Role theory: Literature review and implications for patient-pharmacist interactions. *Research in Social and Administrative Pharmacy*. 2005/12/01/ 2005;1(4):483-507. doi:https://doi.org/10.1016/j.sapharm.2005.09.006
7. Yong FR, Garcia-Cardenas V, Williams KA, Benrimoj SI. Factors affecting community pharmacist work: A scoping review and thematic synthesis using role theory. *Research in Social and Administrative Pharmacy*. 2020/02/01/ 2020;16(2):123-141. doi:https://doi.org/10.1016/j.sapharm.2019.05.001
8. Sutkin G, Wagner E, Harris I, Schiffer R. What makes a good clinical teacher in medicine? A review of the literature. Review. *Academic Medicine*. 2008;83(5):452-66.
9. ten Cate O, Jonker G, Park Y, Holmboe E, Burch V. Workplace-based assessment to support entrustment decision-making: four sources of information. Ubiquity Press; 2024.
10. Tertiary Education Quality and Standards Agency T. Guidance note: Work Integrated Learning. 11/6/2025, Accessed 10/04/2025, https://www.teqsa.gov.au/guides-resources/resources/guidance-notes/guidance-note-work-integrated-learning
11. Australian Pharmacy Council. Accreditation standards for pharmacy programs in Australia and New Zealand. 2020. p. 32.
12. Assemi M, DiVall MV, Lee K, Sy E, O'Sullivan T. Quality Assurance and Improvement Practices of Experiential Education Programs in Schools of Pharmacy. *American journal of pharmaceutical education*. 2019;83(3):356-369. doi:10.5688/ajpe6582
13. Shtaynberg J, Zerilli T, Kirschenbaum HL. Assessment of Volunteer Preceptors at Colleges and Schools of Pharmacy in the United States. *American Journal of Pharmaceutical Education*. 2021/03/01/ 2021;85(3):8343. doi:https://doi.org/10.5688/ajpe8343
14. Pharmacy Board of Australia. Intern-pharmacist-and-preceptor-guide. Updated June 2021. Accessed 18/05/2022, https://www.pharmacyboard.gov.au/documents/default.aspx?record=WD10%2f4166%5Bv5%5D&dbid=AP&chksum=tYDwKFzipNvv3aqgsm7NsQ%3d%3d
15. Woods M. Draft Report Independent Review of Accreditation Systems within the National Registration and Accreditation Scheme for health professions. 2017;
16. Pharmaceutical Society of New Zealand Incorporated. Preceptor Training. Pharmaceutical Society of New Zealand Incorporated,. Accessed 23/08/2024, 2024. https://www.psnz.org.nz/itp/preceptors/training
17. General Pharmacy Council UK. Designated supervisor suitability. 2025. https://assets.pharmacyregulation.org/files/document/designated-supervisor-suitability-policy-2021-22.pdf

18. General Pharmacy Council UK. Becoming a designated supervisor. Accessed 13/10/2025, 2025. https://www.pharmacyregulation.org/pharmacists/changes-registration/becoming-designated-supervisor
19. Accreditation Council for Pharmacy Education. Accreditation Standards And Key Elements For The Professional Program In Pharmacy Leading To The Doctor Of Pharmacy Degree Accessed 25/10/2025, 2025. https://www.acpe-accredit.org/pdf/ACPEStandards2025.pdf
20. Northeast Ohio Medical University. College of Pharmacy Preceptor Training. Accessed 12/10/2025, 2025. https://www.neomed.edu/pharmacy/academics/preceptor/training/
21. Donohoe H, Stellefson M, Tennant B. Advantages and Limitations of the e-Delphi Technique. *American Journal of Health Education*. 2012/01/01 2012;43(1):38-46. doi:10.1080/19325037.2012.10599216
22. Brink D, Simpson D, Crouse B, Morzinski J, Bower D, Westra R. Teaching Competencies for Community Preceptors. *Fam Med*. 01 May 2018;50(5):359-363. doi:http://dx.doi.org/10.22454/FamMed.2018.578747
23. Willis K, Green J, Daly J, Williamson L, Bandyopadhyay M. Perils and possibilities: achieving best evidence from focus groups in public health research. *Australian and New Zealand journal of public health*. 2009;33(2):131-136.
24. Adeoye-Olatunde OA, Olenik NL. Research and scholarly methods: Semi-structured interviews. *JACCP: Journal Of The American College Of Clinical Pharmacy*. 2021;4(10):1358-1367. doi:https://doi.org/10.1002/jac5.1441
25. Tanner K. Chapter 6 - Survey designs. In: Williamson K, Johanson G, eds. *Research Methods (Second Edition)*. Chandos Publishing; 2018:159-192.
26. Prill R, Karlsson J, Ayeni OR, Becker R. Author guidelines for conducting systematic reviews and meta-analyses. *Knee Surgery, Sports Traumatology, Arthroscopy*. 2021/09/01 2021;29(9):2739-2744. doi:10.1007/s00167-021-06631-7
27. Bartlett AD, Um IS, Krass I, Schneider CR. Developing consensus on the competency and assessment of pharmacist preceptors. *BMC Medical Education*. 2025/08/08 2025;25(1):1153. doi:10.1186/s12909-025-07738-y
28. Bartlett A, Um I, Luca E, Krass I, Schneider C. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. *BMC medical education*. 2020;doi:https://doi.org/10.1186/s12909-020-02082-9
29. The Canadian Pharmacy Residency Board. CPRB 2025 Accreditation Standards for Year 1 Pharmacy Residencies. https://cshp-scph.ca/sites/default/files/CPRB%202025%20Accreditation%20Standards%20for%20Year%201%20Pharmacy%20Residencies.pdf
30. Bartlett AD, Um IS, Krass I, Schneider CR. Ensuring the quality of clinical supervision: Stakeholder perceptions of pharmacy preceptor competence. *Currents in Pharmacy Teaching and Learning*. 2023/08/01/ 2023;15(8):722-729. doi:https://doi.org/10.1016/j.cptl.2023.07.003
31. Sonthisombat P. Pharmacy student and preceptor perceptions of preceptor teaching behaviors. *Am J Pharm Educ*. Oct 15 2008;72(5):110. doi:10.5688/aj7205110
32. Atkins PWB, Wood RE. Self-versus others' ratings as predictors of assessment center ratings: Validation evidence for 360-degree feedback programs. *Personnel Psychology*. Winter 2002: 2024-12-05 2002;55(4):871-904.
33. Lockyer J. Multisource feedback in the assessment of physician competencies. *Journal of Continuing education in the Health Professions*. 2003;23(1):4-12.

34. The Pharmacy Guild of Australia. What is QCPP. Accessed 22/11/2025, 2025. https://www.qcpp.com/about-qcpp/what-is-qcpp
35. The Pharmacy Guild of Australia. Quality Care Community Pharmacy Standard. AS85000:2017: The Pharmacy Guild of Australia; 2017.
36. Community Pharmacy Foundation. Assessment and Guidance for Experiential Education Community Pharmacy Site of Excellence. Community Pharmacy Foundation. Accessed 21/01/2026, 2026. https://communitypharmacyfoundation.org/resources/grant_docs/CPFGrantDoc_12694.pdf
37. Haggerty C, Holloway K, Wilson D. Entry to nursing practice preceptor education and support: could we do it better? *Nursing Praxis in New Zealand*. Mar 2012;28(1):30-9.
38. Knott GJ, Mylrea MF, Glass BD. How Should We Prepare Our Pharmacist Preceptors? Design, Development and Implementation of a Training Program in a Regional Australian University. *Pharmacy*. 2023;11(5):148.
39. Australian Health Practioner Regulation Agency. Continuing Professional Development. Accessed 07/12/2025, 2025. https://www.pharmacyboard.gov.au/documents/default.aspx?record=WD15%2f18507&dbid=AP&chksum=D%2bMNSAe%2fNf9lUN8tv6dT%2fw%3d%3d
40. Knott GJ, Mylrea MF, Glass BD. Pharmacist and student evaluation of a preceptor training program in a regional Australian University: a multi-method study. *BMC Medical Education*. 2024/01/10 2024;24(1):49. doi:10.1186/s12909-023-04979-7
41. Association for Nursing Professional Development. Preceptor Certificate of Mastery. ANPD. https://www.anpd.org/preceptorproud
42. Kinlaw T. Preceptor Certificate of Mastery: An Avenue to Foster Continuing Professional Development Along With Reward and Recognition. *Journal for nurses in professional development*. 2022;38(2):104-106. doi:10.1097/NND.0000000000000853
43. American Association of Colleges of Pharmacy. Distinguished Preceptor Recognition Program. AACP. Accessed 22/11/2025, 2025. https://www.aacp.org/resource/distinguished-preceptor-recognition-program
44. Australian pharmacy Council. Dr Erica Sainsbury awards. Accessed 14/12/2025, https://www.pharmacycouncil.org.au/media-hub/apc-announces-2025-dr-erica-sainsbury-awards/
45. Bussing J, Smith L, Saini B. Factors affecting career-related decisions within the contemporary pharmacy workforce in Australia. *Exploratory Research in Clinical and Social Pharmacy*. 2025/12/01/ 2025;20:100648. doi:https://doi.org/10.1016/j.rcsop.2025.100648
46. Australian Healthcare Index. *Sharing people's perspectives and experiences with healthcare in Australia*. 2025. Accessed 31/12/2025. https://australianhealthcareindex.com.au/australian-healthcare-index-august-report/
47. Gallup. *Honesty and Ethics report 2025*. 2025. Accessed 30/12/2025. https://news.gallup.com/file/poll/655199/20250113HonestyEthics.pdf
48. Gregory PAM, Austin Z. Understanding the psychology of trust between patients and their community pharmacists. *Canadian Pharmacists Journal / Revue des Pharmaciens du Canada*. 2021;154(2):120-128. doi:10.1177/1715163521989760
49. Lima MS, Alzyood M. The impact of preceptorship on the newly qualified nurse and preceptors working in a critical care environment: An integrative literature review. *Nursing in critical care*. 2024;29(5):1178-1189. doi:10.1111/nicc.13061
50. Harper MG, Keeler H, Ulrich B, Maloney P, MacDonald R, Brown J. Setting the Standard for Competency-Based Preceptor Evaluation: The Association for Nursing Professional Development Preceptor Assessment Tool. *Journal for Nurses in Professional Development*. 2025;41(6):314-318. doi:10.1097/nnd.0000000000001172

51. L'Ecuyer KM, Hyde MJ, Shatto BJ. Preceptors' Perception of Role Competency. *Journal of Continuing Educucation in Nursing*. 01 May 2018;49(5):233-240. doi:http://dx.doi.org/10.3928/00220124-20180417-09
52. Maundu J, Galbraith K, Croft H, et al. Development of workplace-based assessment tools to support postgraduate training of provisionally registered pharmacists in Australia. *JACCP: Journal Of The American College Of Clinical Pharmacy*. 2023;6(4):370-376. doi:https://doi.org/10.1002/jac5.1714
53. The Pharmaceutical society of Australia. National competency standards framework for pharmacists in Australia. Accessed 10/12/2020, 2020. https://www.psa.org.au/practice-support-industry/national-competency-standards/
54. Richardson M, Iurcu T, Stevenson J, Atherfold C, Andersen P. Exploring Models of Preceptorship to Enhance Clinical Learning in Nursing: An Integrative Review. *Nursing Praxis in Aotearoa New Zealand*. 2025;doi:10.36951/001c.140644
55. Praslova L. Adaptation of Kirkpatrick's four level model of training criteria to assessment of learning outcomes and program evaluation in Higher Education. *Educational Assessment, Evaluation and Accountability*. 2010/08/01 2010;22(3):215-225. doi:10.1007/s11092-010-9098-7
56. Vos SS, Trewet CB. A comprehensive approach to preceptor development. *American journal of pharmaceutical education*. 10 Apr 2012;76(3):47. doi:http://dx.doi.org/10.5688/ajpe76347
57. Litzelman DK, Stratos GA, Marriott DJ, Skeff KM. Factorial validation of a widely disseminated educational framework for evaluating clinical teachers. *Academic Medicine*. 1998;73(6):688-695. doi:10.1097/00001888-199806000-00016
58. Mintz M, Southern DA, Ghali WA, Ma IW. Validation of the 25-Item Stanford Faculty Development Program Tool on Clinical Teaching Effectiveness. Validation Studies. *Teaching & Learning in Medicine*. 2015;27(2):174-81. doi:https://dx.doi.org/10.1080/10401334.2015.1011645
59. Fass-Holmes B. Survey Fatigue-What Is Its Role in Undergraduates' Survey Participation and Response Rates? Article. *Journal of Interdisciplinary Studies in Education*. 2022/05

60. Mirzaei A, Carter SR, Patanwala AE, Schneider CR. Missing data in surveys: Key concepts, approaches, and applications. *Research in Social and Administrative Pharmacy*. 2022/02/01/ 2022;18(2):2308-2316. doi:https://doi.org/10.1016/j.sapharm.2021.03.009
61. Matua GA, Seshan V, Savithri R, Fronda DC. Challenges and Strategies for Building and Maintaining Effective Preceptor-Preceptee Relationships among Nurses. *Sultan Qaboos University Medical Journal*. Nov 2014;14(4):e530-6.
62. Leslie K, Bourgeault IL, Carlton A-L, et al. Design, delivery and effectiveness of health practitioner regulation systems: an integrative review. *Human Resources for Health*. 2023/09/04 2023;21(1):72. doi:10.1186/s12960-023-00848-y

63. Kairuz, T., Noble, C., & Shaw, J. (2010). Preceptors, interns, and newly registered pharmacists' perceptions of New Zealand pharmacy graduates' preparedness to practice. *American journal of pharmaceutical education,* 74(6), 108.

Appendices
Appendix A Ethics Approval letters

Research Integrity & Ethics Administration
Human Research Ethics Committee

Monday, 2 July 2018

Dr Carl Schneider
Pharmacy; Faculty of Medicine and Health
Email: carl.schneider@sydney.edu.au

Dear Carl

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

After consideration of your response to the comments raised your project has been approved.

Approval is granted for a period of four years from **2 July 2018** to **2 July 2022.**

Project title: **Preceptorship in pharmacy**

Project no.: **2018/476**

First Annual Report due: **2 July 2019**

Authorised Personnel: **Schneider Carl; Bartlett Andrew; Krass Ines; Naicker Shaleen; Um Irene;**

Documents Approved:

Date Uploaded	Version number	Document Name
28/06/2018	Version 2	Participant Info Statement
14/05/2018	Version 1	Focus group Schedule
14/05/2018	Version 1	Newsletter Invitation
14/05/2018	Version 1	Participant Consent Form
14/05/2018	Version 1	Safety Protocol

Condition/s of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted to the Ethics Office on or before the anniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:
  - Serious or unexpected adverse events (which should be reported within 72 hours).
  - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate *immediate* risk to participants).

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ABN 15 211 513 464
CRICOS 00026A

- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reported and approved.
- Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.
- Data and primary materials must be retained and stored in accordance with the relevant legislation and University guidelines.
- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures and governance requirements.
- The Ethics Office may conduct audits on approved projects.
- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.

Sincerely

Professor Glen Davis
Chair, Human Research Ethics Committee (HREC 2)

The University of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007) and the NHMRC's Australian Code for the Responsible Conduct of Research (2007).

THE UNIVERSITY OF SYDNEY

RESEARCH INTEGRITY
& ETHICS ADMINISTRATION

HUMAN RESEARCH ETHICS APPROVAL

The University of Sydney confirms that this project meets the requirements of the National Statement on Ethical Conduct in Human Research.

Project identifier:	2024/HE001289
Project title:	Preceptor assessment practices in Australia and NZ
Application version:	0.01
Chief Investigator:	Dr Irene Um
Project team:	Mr Andrew Bartlett Associate Professor Carl Schneider Professor Ines Krass
Project start date:	26 Nov 2024
Project end date:	25 Nov 2028
Date of issue:	Tuesday, 26 November, 2024

Provisos

- Please submit an amended project description (4.2) which includes the proposed sample size for this research project.

Project summary

The researchers would like to understand the assessment practices of preceptors within pharmacy degree program providers and intern training providers in Australia and New Zealand. The study will utilise an online survey to describe current preceptor assessment practices that are conducted by these education providers. A survey has been designed and is intended to be deployed via Qualtrics, inviting the Heads of Schools, or placement coordinators and intern training program managers of these organisations to complete the survey. The survey will be asking if they assess preceptor competency, if so how, what they do with the data (for example, quality assurance, training and development), and if not, what they see as barriers to implementation of a preceptor assessment program. The results will inform recommendations to accreditation bodies on a quality assurance system, given the pharmacy education provider's greater reliance on preceptors and workplace-based assessments.

Documents approved

Document type	File name	Document version	Application version
Recruitment or advertising material	Invitation v1_clean.docx	1	0.01
Participant Information Statement (PIS)	participant-information-statement-V1_clean.docx	1	0.01
Application Attachment	Preceptor assessment practices - Ethics application template_clean.docx	1	0.01

Survey or questionnaire	Andrew Bartlett_Preceptor evaluation-for ethics submission-survey.docx	1	0.01

Conditions of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted on or before the anniversary of approval and a final report on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:
  - Serious or unexpected adverse events (which should be reported within 72 hours).
  - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate *immediate* risk to participants).
- Researchers working on this project must be sufficiently qualified by education, training, and experience for their role, or adequately supervised. Changes to the project team must be reported and approved.
- Researchers must disclose any actual, potential of perceived conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.
- Research data and primary materials must be retained and stored in accordance with relevant legislation and University guidelines.
- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures, and governance requirements.
- If your research project is a clinical trial and is being sponsored by the University or is to be conducted on a University of Sydney site, you must comply with additional University governance requirements prior to commencing your Clinical Trial.
- The University may conduct audits on approved projects.
- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

Ethics Committee Representative

Chair
On behalf of the University of Sydney

The University of Sydney HRECs are constituted and operate in accordance with the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research (NHMRC). All personnel named on the project should be acquainted with these documents.

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THE UNIVERSITY OF SYDNEY

Research Integrity & Ethics Administration
HUMAN RESEARCH ETHICS COMMITTEE

Tuesday, 27 October 2020

Ms Irene Um
Pharmacy; Faculty of Medicine and Health
Email: irene.um@sydney.edu.au

Dear Irene,

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

I am pleased to inform you that after consideration of your response, your project has been approved.

Details of the approval are as follows:

Project No.:	**2020/643**
Project Title:	**Developing consensus on competency and assessment of pharmacist preceptors**
Authorised Personnel:	**Um Irene; Bartlett Andrew; Schneider Carl;**
Approval Period:	**27 October 2020** to **27 October 2024**
First Annual Report Due:	**27 October 2021**

Documents Approved:

Date Uploaded	Version Number	Document Name
21/10/2020	Version 2	Consensus Questionnaire Clean
21/10/2020	Version 2	Email invitation Clean
21/10/2020	Version 2	Participant information statement clean
09/09/2020	Version 1	Participant consent form

Special Condition/s of Approval

- It is a condition of approval to remove all reference to the storage of hard copy data which have now been removed (only electronic consent via return of survey is included). You do not need to submit a copy to the Ethics Office. This should be amended prior to distribution to participants.

Condition/s of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted to the Ethics Office on or before the anniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:
  - Serious or unexpected adverse events (which should be reported within 72 hours).
  - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate *immediate* risk to participants).
- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reported and approved.
- Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.

- Data and primary materials must be retained and stored in accordance with the relevant legislation and University guidelines.
- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures and governance requirements.
- The Ethics Office may conduct audits on approved projects.
- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.

Sincerely,

Dr Catherina Gelissen
Acting Chair,
Health Review Committee (Low Risk)

The University of Sydney of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2018) and the NHMRC's Australian Code for the Responsible Conduct of Research (2018)

Appendix B Data collection forms and interview guides

Focus group semi-structured interview guide

Preceptorship Focus Groups

1) Views on preceptorship.

    - What was your experience like of preceptorship? What was the setting? (Hospital, community pharmacy, small, large, multi-pharmacist etc)

    - What do you see as the purpose of preceptorship?

    - How would you describe the relationship between preceptor and preceptee? (finite, ongoing, social etc)

2) How could the preceptorship experience be improved? Are we catering to the different practice settings or the expanding scope of practice of pharmacists?

3) What are factors that might impede or facilitate adoption of a new model of preceptorship?

4) What are the competencies that we would expect of a preceptor?

a. What preceptor development opportunities exist?

b. Source?

c. Should the preceptor be able to demonstrate a minimum level performance?

d. How would you feel about credentialing or accreditation as a preceptor?

5) If we were to evaluate the preceptorship experience, what are the things that should be measured? (Site, preceptor, preceptee outcomes)

    - What minimum standards should apply?

6) What role should stakeholders place in the preceptorship experience? (Governing bodies, professional organisations, training providers, universities)

7) How would we know that the preceptorship model has improved on what we have currently have?

Preceptor Assessment practices survey

Chapter 1. Start of Block: Default Question Block

Pharmacy Preceptor Assessment Practices This research involves a short survey with participants involved in work integrated learning or placements at an organisation providing pharmacy education in Australia and New Zealand. The survey will be asking whether preceptors undergo assessment of any type, along with any method of assessment, frequency and evaluation of these results. Submission of the survey will be taken as consent to participate in this research. **Please indicate if your organisation conducts assessment or evaluation of preceptors who facilitate experiential learning for pharmacy students or interns?**

- ○ Yes (1)
- ○ No (2)

Is assessment/evaluation formal, informal or both?

- ○ Formal (1)
- ○ Informal (2)
- ○ Both (3)

The following is a list of competencies identified from previous research (Bartlett, A.D., Um, I.S., Luca, E.J. et al. Measuring and assessing the competencies of preceptors in health professions: a systematic scoping review. BMC Med Educ 20, 165 (2020).

https://doi.org/10.1186/s129002002082-9) Indicate **if any of these preceptor competencies are assessed (assessment may be formal or informal) and if so, how:**

	Not assessed/Unsure (1)	Student evaluation (2)	Peer evaluation (3)	Self-assessment (4)
Demonstrates effective communication skills (1)	☐	☐	☐	☐
Provides an accessible learning environment (2)	☐	☐	☐	☐
Demonstrates respect for the preceptee (3)	☐	☐	☐	☐
Provides effective feedback (4)	☐	☐	☐	☐

Demonstrates ethical behaviour (5)	☐	☐	☐	☐
Facilitates critical thinking, problem solving and decision making (6)	☐	☐	☐	☐
Demonstrates reflective practice (7)	☐	☐	☐	☐
Acts as a role model practitioner (8)	☐	☐	☐	☐
Displays an openness to receiving feedback (9)	☐	☐	☐	☐
Is organised and has the ability to prioritise (10)	☐	☐	☐	☐
Displays empathy (11)	☐	☐	☐	☐
Demonstrates committment to excellence in teaching (12)	☐	☐	☐	☐

Are there other competencies not listed that you assess? If so please list.

_____

End of Block: Default Question Block

Chapter 2. Start of Block: Block 6

Can you share your opinion on the value of undertaking assessment or evaluation of preceptors?

_____

Can you describe any perceived barriers to the effective implementation of an assessment process for preceptors?

_____

Do you have any additional comments you would like to make?

_____

End of Block: Block 6

Chapter 3. Start of Block: Block 1

Evaluation by Students of Experiential Teaching

Does your organisation utilise student/intern assessment of preceptors?

- ○ Yes (1)
- ○ No (2)

Is the evaluation by students of their preceptors' teaching and/or supervision mandatory?

- ○ Yes (1)
- ○ No (2)

End of Block: Block 1

Chapter 4. Start of Block: Block 2

Methods Used for Student Evaluations of Preceptors

Indicate how students can provide feedback on their preceptors: (Tick all that apply)

- ☐ Via email communication to program coordinator or training provider. (1)
- ☐ Through organised students interveiws or debrief sessions. (2)
- ☐ Through surveys, either online or on paper. (3)
- ☐ Other methods (please specify) (4) _____

How regularly are interviews/debriefs with students conducted?

- ○ A set number of times annually (1)

- ○ Each time a new preceptee is taken on by a preceptor (2)
- ○ At the conclusion of each placement (3)
- ○ Not pre-determined, at discretion of school/faculty/organisation (4)

Indicate how often students are required to evaluate their preceptors: (Tick all that apply)

- ☐ A pre-determined number of times throughout the academic year (1)
- ☐ After each conclusion of a clinical placement (2)
- ☐ Intermittently at the discretion of the school/faculty/organisation (3)

Are evaluations by students designed to protect students' anonymity?

- ○ Yes (1)
- ○ No (2)

End of Block: Block 2

Chapter 5. Start of Block: Block 3

Peer evaluation

Does your organisation utilise peer assessment of preceptors?

- ○ Yes (1)
- ○ No (2)

Is it a mandatory requirement for preceptors to be evaluated by their peers?

- ○ Yes (1)
- ○ No (2)

Indicate how often preceptors are required to undergo peer assessment: (Tick all that apply)

- ☐ A pre-determined number of times throughout the academic year (1)
- ☐ After each conclusion of a clinical placement (2)
- ☐ Intermittently at the discretion of the school/faculty/organisation (3)

Indicate the method available for peers to evaluate each other: (Tick all that apply)

- ☐ Direct observation with feedback discusssion (1)
- ☐ Peer assessment questionnaire (2)
- ☐ 360 degree feedback (3)
- ☐ Other (Please specify) (4) _____

Does your organisation require preceptors to submit their peer evaluations?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

End of Block: Block 3

Chapter 6. Start of Block: Block 4

Self-assessment of preceptor competency

Does your organisation utilise self-assessment of preceptor competency?

- ○ Yes (1)
- ○ No (2)

Is it mandatory for preceptors to conduct self-assessment of their own teaching/supervision?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

Indicate how often self-assessments expected to be completed: (Tick all that apply)

- ○ A set number of times annually (1)
- ○ Each time a new preceptee is taken on by a preceptor (2)
- ○ At the conclusion of each placement (3)
- ○ Not pre-determined, at discretion of school/faculty/organisation (4)

Does your organisation require submission of self-assessments?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

End of Block: Block 4

Chapter 7. Start of Block: Block 5

Distribution of results

Which individuals or bodies receive the results of the evaluations? (Tick all that apply)

- ☐ Preceptor (1)
- ☐ Preceptee i.e. student or intern (2)
- ☐ Course coordinator (3)
- ☐ Organisation's placement team (4)

☐ Accreditation bodies (5)

☐ Publically available (6)

When and how often are results of evaluations distributed? (Tick all that apply)

☐ A set number of times annually (1)

☐ After each preceptor asessment is recevied (2)

☐ Not pre-determined, at the discretion of school/faculty/organisation (3)

Describe how the findings from evaluations are utilised. For example, quality assurance purposes, identifying training opportunities, or other purposes.

_____

- **Preceptor Competency Assessment Survey**

Background

For each competency there is the opportunity for you to propose alternative wording, indicate if you believe assessment of this competency should be mandatory and indicate who should perform the assessment as well as the mode of assessment. Finally, there is the opportunity to propose a competency not already listed.

Preceptor competencies (1) have been grouped into three categories:

Communication and preceptor qualities

1. Demonstrates effective communication skills
2. Displays an openness to receiving feedback
3. Is organised and has the ability to prioritise
4. Displays empathy
5. Is approachable and flexible
6. Demonstrates respect for the preceptee

Teaching

7. Is committed to excellence in teaching
8. Adapts to the learning needs of the preceptee
9. Encourages self-directed learning of the preceptee
10. Facilitates critical thinking, problem solving and decision making
11. Displays enthusiasm for teaching preceptees
12. Provides effective feedback

Preceptor’s professional practice

13. Acts as a role model practitioner
14. Demonstrates reflective practice
15. Demonstrates ethical behaviour
16. Demonstrates leadership and management skills

Demographics

To which gender do you most identify?

- □ Male
- □ Female
- □ Other: _____
- □ Prefer not to say

Years in practice? _____

Which of the following best describes your practice setting?

- □ Community
- □ Hospital
- □ Academia
- □ Professional organisation
- □ Delegated statutory authority
- □ Other: _____

Preceptor Competency Assessment survey

Describe your current role? _____

List your past roles? _____

Years of experience as a preceptor? _____

Complete the following questions regarding the listed preceptor competency.

Preceptor competency	Any comments or suggestions on wording of the competency?	Need for competency to be assessed? • Mandatory - must be assessed as competent to be a preceptor • Preferable but not mandatory - should be assessed as competent but not essential • Not necessary - does not require assessment to be a preceptor	Is assessment feasible?	Who should perform the assessment of the preceptor? (select your top 3 options) • Preceptee (student/Intern) • Peer (another preceptor) • Self • Academic institution/ accredited training provider (e.g. University/Intern training program provider) • Registration/Statutory authority or delegate (e.g. AHPRA/APC) • Professional organisation (e.g. PSA, SHPA, PGA, AACP) • Other _____	How should assessment of the preceptor be performed? (select all that apply) • Feedback survey - questionnaire of preceptor performance • Observation - observation of practice or simulation • Reflection/portfolio - submission of reflective journal and/or CPD record • Examination - formal oral or written examination of preceptor • Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance • Other _____	Notes

1. Demonstrates effective communication skills		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
2. Displays an openness to receiving feedback		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation**	**Notes**

		Not necessary - does not require assessment to be a preceptor		• **Academic institution/ accredited training provider (e.g. University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	• **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	
3. Is organised and has the ability to prioritise		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
4. Displays empathy		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	

Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential** • **Not necessary - does not require assessment to be a preceptor**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g. University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation** • **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	**Notes**
5. Is approachable and flexible		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	

6. Demonstrates respect for the preceptee		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential** • **Not necessary - does not require assessment to be a preceptor**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g. University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation** • **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	**Notes**
7. Is committed to excellence in teaching		☐ Mandatory	☐ Yes	☐ Preceptee	☐ Survey	

		☐ Preferable but not mandatory ☐ Not necessary	☐ No	☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
8. Adapts to the learning needs of the preceptee		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g.**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation**	**Notes**

		• **Not necessary - does not require assessment to be a preceptor**		**University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	• **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	
9. Encourages self-directed learning of the preceptee		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
10. Facilitates critical thinking, problem solving and decision making		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	

Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential** • **Not necessary - does not require assessment to be a preceptor**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g. University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation** • **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	**Notes**
11. Displays enthusiasm for teaching preceptees		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	

12. Provides effective feedback		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential** • **Not necessary - does not require assessment to be a preceptor**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g. University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation** • **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	**Notes**
13. Acts as a role model practitioner		☐ Mandatory	☐ Yes	☐ Preceptee	☐ Survey	

		☐ Preferable but not mandatory ☐ Not necessary	☐ No	☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
14. Demonstrates reflective practice		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
Preceptor competency	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g.**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation**	**Notes**

		• **Not necessary - does not require assessment to be a preceptor**		**University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	• **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	
15. Demonstrates ethical behaviour		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
16. Demonstrates leadership and management skills		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	

Do you have any other competency suggestions?

- ☐ Yes
- ☐ No

Additional competency not already listed **(provide suggestions here)**	**Any comments or suggestions on wording of the competency?**	**Need for competency to be assessed?** • **Mandatory - must be assessed as competent to be a preceptor** • **Preferable but not mandatory - should be assessed as competent but not essential** • **Not necessary - does not require assessment to be a preceptor**	**Is assessment feasible?**	**Who should perform the assessment of the preceptor?** **(select your top 3 options)** • **Preceptee (student/Intern)** • **Peer (another preceptor)** • **Self** • **Academic institution/ accredited training provider (e.g. University/Intern training program provider)** • **Registration/Statutory authority or delegate (e.g. AHPRA/APC)** • **Professional organisation (e.g. PSA, SHPA, PGA, AACP)** • **Other _____**	**How should assessment of the preceptor be performed?** **(select all that apply)** • **Feedback survey - questionnaire of preceptor performance** • **Observation - observation of practice or simulation** • **Reflection/portfolio - submission of reflective journal and/or CPD record** • **Examination - formal oral or written examination of preceptor** • **Preceptee performance - OSCE, registration exam, employment as indicator of preceptor performance** • **Other _____**	**Notes**
17.		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination	

				☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Written examination ☐ Preceptee performance ☐ Other _____	
18.		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
19.		☐ Mandatory ☐ Preferable but not mandatory ☐ Not necessary	☐ Yes ☐ No	☐ Preceptee ☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Survey ☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	
20.		☐ Mandatory	☐ Yes	☐ Preceptee	☐ Survey	

		☐ Preferable but not mandatory ☐ Not necessary	☐ No	☐ Peer ☐ Self ☐ Academic institution/ accredited training provider ☐ Registration/Statutory authority or delegate ☐ Professional organisation ☐ Other _____	☐ Observation ☐ Reflection/portfolio ☐ Oral examination ☐ Written examination ☐ Preceptee performance ☐ Other _____	

How comfortable would you be to have your competency as a preceptor assessed by?

	Willing	Unwilling	Unsure
Preceptee	☐	☐	☐
Peer	☐	☐	☐
Self	☐	☐	☐
Academic institution/accredited training provider	☐	☐	☐
Registration/Statutory authority or delegate	☐	☐	☐
Professional organisation	☐	☐	☐
Other	☐	☐	☐

How much would you expect training and assessment to cost? (please specify "per year" or "once off") _____

How much would you expect an accreditation process to cost? (please specify "per year" or "once off") _____

Preceptor Competency Assessment survey