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Abstract

University-affiliated student-led healthcare services have emerged to address challenges in securing quality clinical placements. As the benefits and challenges of student-led healthcare services emerge in recent literature, it is important to identify key measurement areas that will help stakeholders evaluate placements, allowing for standardisation, comparability, and quality improvement. This study aims to achieve consensus among key stakeholders on important areas of measurement for evaluating clinical placement performance in student-led healthcare services. A three-round modified Delphi study was conducted with 18 experts using purposive sampling to ensure diverse firsthand experience in clinical placements. Each round yielded quantitative (e.g. percentage of agreement) and qualitative (e.g. free text responses) data. Quantitative data were analysed to determine consensus with ≥70% agreement, and qualitative responses thematically analysed. Round one identified 47 areas of measurement for evaluating clinical placement. In rounds two and three, consensus was established on 44 areas of measurement related to four overarching themes: Learning Outcomes, Experience of Placement, Cost of Placement, and Research in Clinical Placement. The findings provide a solid foundation for evaluating clinical placements across various models, including student-led healthcare services, and offer valuable insights to guide future research into evaluating clinical placements.

I INTRODUCTION

Securing high-quality clinical placements is a significant challenge for universities, particularly in areas with limited healthcare services (Barker et al., 2017; Frakes et al., 2011). Paid placements exacerbate this issue by imposing financial burdens on universities, and they often fail to deliver student outcomes that justify the costs, leading institutions to explore alternative models (Copeland, 2020; Patrick et al., 2008). Additionally, placement providers face increased costs due to reduced productivity, recruitment demands, and the need for additional supervision (Forbes, 2022). Compounding the problem, students face financial hardship from travel and limited income, negatively impacting their placement experience (Wray & McCall, 2007).

To address these challenges, university-affiliated student-led healthcare services have emerged, providing essential care in resource-poor regions and addressing professional retention issues (Larkins et al., 2014; Stuhlmiller & Tolchard, 2015). These services have been found to benefit both healthcare delivery and health professional education (Beckman et al., 2022; Bird et al., 2022). However, recent reviews highlight the need for a more rigorous evaluation of student skills and professional readiness (Schutte et al., 2015; Suen et al., 2020), as current assessments lack generalisability and consensus on key educational outcomes (Marsh et al., 2015; Schutte et al., 2015). To evaluate student-led healthcare services, a comprehensive strategy that considers the needs of students, supervisors, coordinators, and their professions is required.

Assessing clinical placement performance across diverse health professions and healthcare services presents significant challenges. Insights from national stakeholder consultations emphasise that differences in discipline-specific practices and contextual factors in supervision can influence the success of universal evaluation strategies (Siggins Miller Consultants, 2012). Consequently, evaluations need to adopt a consultative, collaborative, and comprehensive approach to accurately reflect the diverse nature of clinical placements across healthcare settings. Such frameworks must also be adaptable and inclusive to accommodate various placement models and professional disciplines (Siggins Miller Consultants, 2012). An effective evaluation model would not only enable standardisation and comparability but also focus on measuring the quality of placement experiences, driving continuous improvement, and enhancing educational outcomes (Cooper et al., 2020; Murry & Hammons, 1995).

Previous studies that have identified factors influencing quality of clinical placement predominately exist within the medical, nursing and allied health literature. For example, research has focused on engaging clinical placement key stakeholders to revise clinical placement evaluation tools in physiotherapy (Mori et al., 2019), as well as to generate expert consensus among nurse clinical educators to identify important factors influencing student learning during clinical placement (McTier et al., 2023). Key features within a quality measures framework have also been identified to guide clinical placement in allied health, dentistry, medicine and pharmacy (McAllister et al., 2018). However, these studies support previous notions that current tools and approaches to evaluating clinical placement quality and performance are limited in their generalisability and that critical factors influencing quality in clinical placement need to be considered, i.e. student learning outcomes, experience of placement and cost of placement.

While universal frameworks for clinical placement evaluation are available, they too often fall short in comprehensively assessing specific aspects of clinical placement performance. The Best Practice Clinical Learning Environment (BPCLE) framework is supported as providing structured guidance on effective learning within authentic clinical environments, but it inadequately addresses specific requirements for effective clinical supervision (Siggins Miller Consultants, 2012; McAllister et al., 2018), patient care outcomes or cost considerations critical for models like student-led healthcare services (Suen, 2020). Similarly, competency-based approaches emphasise skill acquisition but often overlook broader experiential factors such as learning environment diversity and equity in clinical placements (Ross et al., 2018; Zhang et al., 2022).

This study aims to achieve consensus among key stakeholders on the critical areas for measuring clinical placement performance. Specifically, it seeks to identify and prioritise the key areas of measurement that should be considered when evaluating clinical placements, including within the context of student-led healthcare services.

II METHODS

A three-round modified Delphi study was conducted to gather information and achieve consensus on the important factors to measure when evaluating clinical placements. The expert panel (hereafter referred to as 'experts') comprised of individuals with diverse expertise and perspectives (i.e. students, placement supervisors, and placement coordinators), which served as the primary source of insights and opinions in the study. Ensuring equal representation from each stakeholder group allowed for a comprehensive understanding of clinical placement performance, integrating the unique perspectives of those coordinating, supervising, and directly participating in clinical placements. Please refer to the published protocol for detailed information on expert recruitment and survey design for this study (Simmons et al., 2023).

A *Modified Delphi Rounds*

In Round 1 of this modified Delphi, the primary goal was to gather a broad range of ideas and perspectives from the expert panel regarding the overarching themes of learning outcomes, experience of placement, and cost of placement. One survey questionnaire was distributed to the panel, involving open-ended questions, to generate initial input on areas that should be considered when evaluating clinical placements. To ensure clarity of each question, a pilot questionnaire was tested with a small sample of people including one allied health placement supervisor, one recent graduate and one allied health academic to ensure clarity of each question (Müllersdorf & Ivarsson, 2011). Responses were analysed thematically and presented in Round 2 (Che Daud et al., 2015).

Round 2 involved three survey questionnaires, each pertaining to one or more overarching themes. Survey 1 focused on presenting themes and areas of measurement associated with learning outcomes, Survey 2 explored experience of placement, and Survey 3 focused on presenting areas of measurement associated with placement cost and research within clinical placement. Experts were asked to rank the level of importance for each area of measurement using a four-point Likert scale ranging from (1) not very important to (4) very important (Müllersdorf & Ivarsson, 2011). Experts were also given the opportunity to provide free text responses, which were analysed thematically and presented in subsequent rounds (Che Daud et al., 2015).

In Round 3, two survey questionaries were sent to the experts. Survey 1 focused on presenting areas of measurement associated with experience of placement and Survey 2 focused on cost of placement and research within clinical placement. In Survey 1, consensus data for the two areas of measurement that did not reach consensus in Round 2 were presented. Experts were then asked to indicate whether they agreed or disagreed with the area of measurement as not being important to measure. Additionally, statements that were collated from Round 2 were presented. Experts were asked to rank their level of agreement for each statement presented, using either agree or disagree. Furthermore, experts were invited to provide free text comments to explain their position further.

B *Data Collection*

All responses were captured using the Qualtrics online survey platform (Qualtrics software, Version 2009, https://www.qualtrics.com). For each round, each expert was sent a unique web link to access the surveys questionnaires. Experts were provided at least four weeks to complete all surveys within each round, with only those who participated in prior rounds invited to participate in subsequent rounds. Weekly reminder emails were sent to each expert until the round was completed. Once the final deadline was reached, surveys were closed and responses were analysed before commencing the next round. Each survey was designed to take no more than 40 minutes to complete, and all responses were de-identified and coded to maintain anonymity between experts.

C *Data Analysis*

Round 1 responses were analysed using deductive thematic analysis to generate themes related to 'Learning Outcomes', 'Experience of Placement' and 'Cost of Placement', as well as inductively to identify any additional themes within the data. Thematic analysis followed Braun & Clarke's (2021) six-phase framework to qualitatively analysing data. The initial coding and theme generation was carried out by the first author, who systematically coded the data and identified preliminary themes. All authors collaboratively reviewed the coding and themes, working together to refine, define, and name each

theme as part of the collective analysis process. Themes were then finalised and presented to experts in subsequent rounds. Qualitative data analysis software, NVivo, was used to code and group data (Nvivo software, Version 12, https://www.qsrinternational.com). Additionally, triangulation occurred between the leading research team and an independent researcher with experience in thematic analysis to ensure the validity of our assumptions through the convergence of themes from different sources (Carter et al., 2014).

Round 2 and 3 quantitative data were analysed using percentages of agreement to confirm whether consensus had been achieved. The level for consensus was set in a manner similar to Maguire and Delahunt (2017), whereby combined scores of importance and agreement must equal ≥75% to achieve consensus. In accordance with Round 1, qualitative data from Rounds 2 and 3 were analysed inductively, where common themes were identified and triangulated between three researchers and presented as statements in subsequent rounds.

To address attrition within the study, participation rates were tracked and characteristics of participants in each round were compared to identify any potential shifts in representation. Furthermore, the consensus threshold of 75% agreement was applied to ensure that only areas with broad support across the panel were included. This threshold aligns with recommendations for achieving rigor in Delphi studies (Hsu & Sandford, 2007; Maguire & Delahunt, 2017).

D *Ethical Considerations*

Informed consent was obtained from all experts before participating in the research project via a unique electronic link, which formed the first page of the questionnaire in round one. Expert anonymity was maintained by assigning unique identifiers to each expert. This identifier was used to track survey completion and summarise expert responses for subsequent rounds. Additionally, selected experts were not compensated for participating in this study. Ethical approval was obtained through the institutional Human Research Ethics Committee (approval number H7541).

III RESULTS

E *Expert Characteristics*

A total of 36 potential expert panelists responded to the recruitment survey; from which 18 experts were selected (i.e. six Placement Coordinators, six Placement Supervisors and six Recent Graduates). Characteristics of experts are outlined in Table 1. Participation by experts in Round 1 was 94% (17 experts), 83% in Round 2 (15 experts) and 64% in Round 3 (11 experts). Figure 1 provides an overview of recruitment, the participation of experts in each round, and the outcomes of consensus after each round.

Table 1

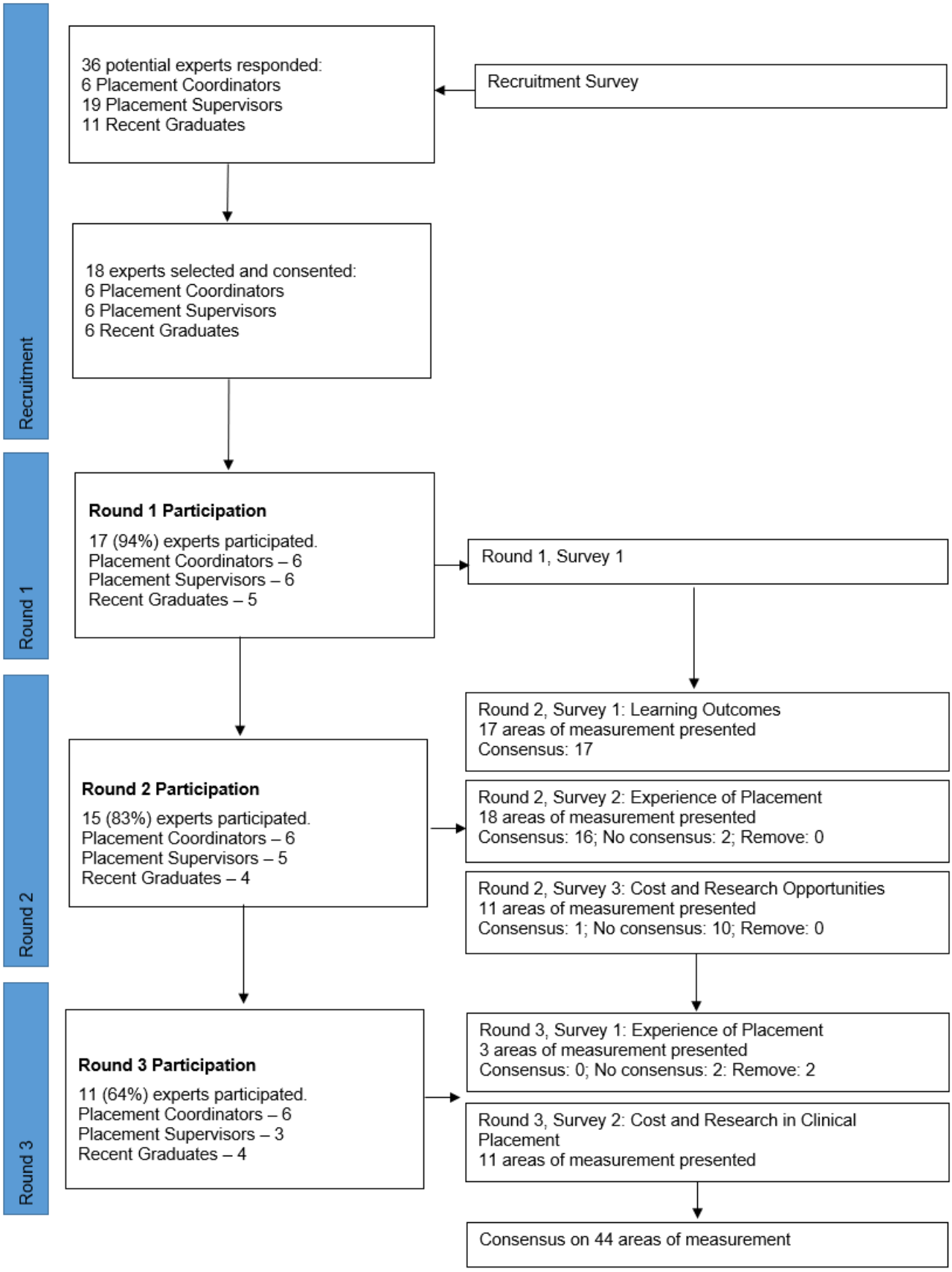
Characteristics of expert members

Total expert panellists (n=17)

Placement Coordinators (n=6)	
Level of experience in coordination role	
Less than 2 years	2 (33.3%)
More than 2 years	4 (66.6%)
Geographical location/s placements have been coordinated in	
Rural	4 (66.6%)
Regional	5 (83.3%)
Metropolitan	6 (100%)
Types of clinic placement coordinated	
Student-led	3 (50%)
Role emerging	3 (50%)
Traditional	5 (83.3%)
Inter-disciplinary	3 (50%)
Allied health professions represented	
Audiology	1 (16.6%)
Social Work	1 (16.6%)
Occupational Therapy	1 (16.6%)
Exercise Physiology	1 (16.6%)
Physiotherapy	1 (16.6%)
Speech Pathology	1 (16.6%)
Placement Supervisors (n=6)	
Areas of Practice with experience in	
1 areas of practice	2 (33.3%)
2 areas of practice	1 (16.6%)
3 or more areas of practice	3 (50%)
Geographical location/s worked in	
Rural	1 (16.6%)
Regional	4 (66.6%)
Metropolitan	1 (16.6%)
Type of clinical placement supervised	
Student-led	4 (66.6%)
Traditional	5 (83.3%)
Allied health professions represented	
Occupational Therapy	2 (33.3%)
Speech pathology	1 (16.6%)
Physiotherapy	1 (16.6%)
Exercise Physiology	1 (16.6%)
Psychology	1 (16.6%)
Recent Graduates (n=5)	
Geographical location/s placement took place in	
Rural	4 (80%)
Regional	5 (100%)
Metropolitan	5 (100%)
Areas of Practice exposed to	
2-3	2 (40%)
4-5	3 (60%)
6+	1 (20%)
Type of clinical placement experienced	
Student-led	4 (80%)
Role emerging	1 (20%)
Traditional	5 (100%)
Allied health professions represented	
Occupational Therapy	1 (20%)
Physiotherapy	3 (60%)
Exercise Physiology	1 (20%)

Figure 1

Flow of participants and surveys through the study



F *Round 1*

The three predetermined themes of Learning Outcomes, Experience of Placement, and Cost of Placement were supported, with the majority of participant responses coded under these three overarching themes. An additional fourth theme was identified as 'Research in Clinical Placement'. Table 2 outlines the specific areas of measurement and the number of responses received from experts.

Table 2

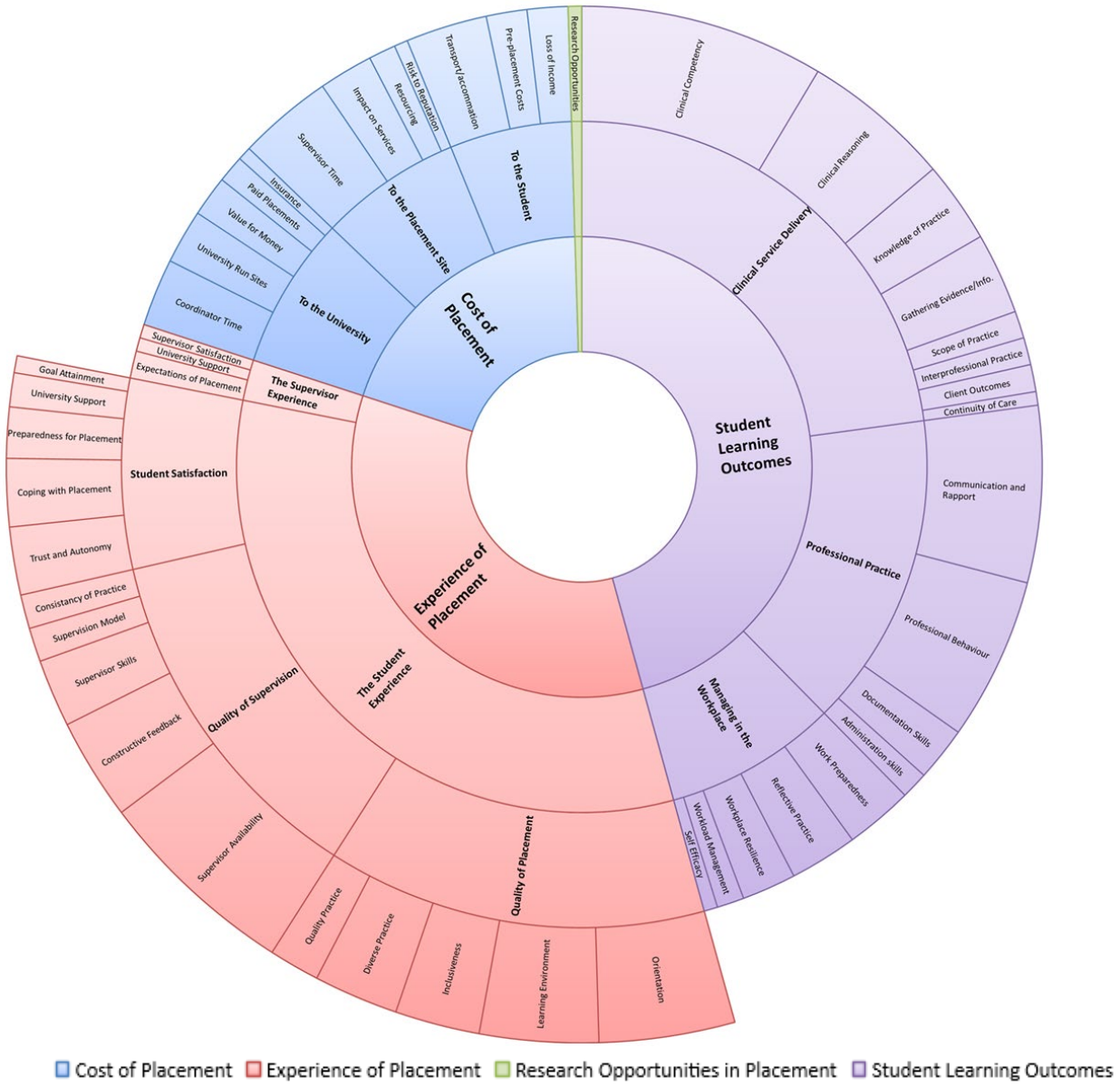
Frequency of areas of measurement referenced in expert's responses

Theme 1: Learning Outcomes		Theme 2: Experience of Placement		Theme 3: Cost of Placement		Theme 4: Research in Clinical Placement	
Area of Measurement	*(n)*	Area of Measurement	*(n)*	Area of Measurement	*(n)*	*Area of Measurement*	*(n)*
Clinical Reasoning	6	Exposure to quality practice	2	Transport and accommodation costs	4	Research Opportunities	1
Clinical Competency	9	Exposure to diverse practice	5	Loss to income	3		
Client Outcomes	1	Inclusiveness of placement site	4	Pre-placement costs	2		
Scope of Practice	1	Supportiveness of learning environment	4	Supervisor time	2		
Continuity of Care	1	Orientation to placement	5	Resourcing for student	2		
Interprofessional Practice	1	Supervision model	1	Risk to reputation	1		
Gathering Evidence and Information	4	Consistency of practice	1	Impact on services	4		
Knowledge of Practice	5	Supervisor skills	4	Paid placements	2		
Work preparedness	2	Constructive feedback	6	Operating university run sites	2		
Self-efficacy	1	Supervisor availability	9	Placement coordinator time	4		
Workplace Resilience	2	Goal Attainment	1	Insurance	1		
Reflective practice	4	Trust and autonomy	2				
Workload management	2	Coping with Placement	2				
Administration Skills	2	University support of the student	2				
Professional Behaviour	8	Preparedness for placement	2				
Communication and Rapport Building	7	Supervisor satisfaction	1				
Documentation and report writing skills	3	University support of the supervisor	1				
		Expectations of placement	2				

Areas of measurement were then categorised under sub themes, which were classified into the overarching themes. The sunburst diagram (Figure 2) represents the overarching themes (inner ring), the sub themes (middle ring/s) and the specific areas of measurement that were identified in Round 1 (outer ring). The size of each section is related to the frequency of the area of measurement mentioned in Round 1.

Figure 2

Sub themes and areas of measurement identified in Round 1



G *Round 2*

Fifteen experts completed Survey 1, 14 completed Survey 2, and 13 experts completed Survey 3. In Survey 1, all areas of measurement relating to ‘Learning Outcomes’ achieved higher than 90% agreement on their importance, with eight areas (47.1%) achieving 100% agreement (Table 3). As the required level of consensus was achieved, all areas of measurement were included, and no items needed further consideration in subsequent rounds. Figure 3A provides an overview of the decision-making process undertaken to support the inclusion or exclusion of the identified areas of measurement. No new areas of measurement within free text responses were identified.

In Survey 2, areas of measurement relating to ‘Experience of Placement’ achieved consensus for 16 of the 18 areas and were not included in the subsequent round. Consensus was not reached (<75% agreement) for ‘Quality of Supervision’ and the ‘Consistency of Practice’ (Table 3) and were presented for further consideration in Round 3 (Figure 3B). In Survey 3, areas of measurement relating to ‘Cost of Placement’ achieved consensus in one area only – ‘Insurance costs’ (Table 3). All remaining areas of measurement were presented for further consideration in Round 3 (Figure 3C). Areas of measurement relating to ‘Research in Clinical Placement’ did not reach consensus and was presented for further consideration in Round 3 (Figure 3C).

New areas of measurement were identified within free text responses related to 'Cost of Placement' and 'Research in Clinical Placement'. These statements reflected the experts' justifications around why specific areas of measurement were ranked as either important or not important, which were then presented to all experts in Round 3 for further consideration. Textbox 1 details each of these statements devised from expert responses.

Table 3

Round two level of agreement on importance

Area of Measurement	Level of Consensus (%)	Mean	Std. Deviation
Learning Outcomes - Clinical Service Delivery			
Scope of practice	80.0	3.20	0.75
Continuity of care	93.3	3.40	0.61
Interprofessional practice	100	3.33	0.47
Gathering evidence and information	100	3.73	0.44
Knowledge of practice	86.6	0.96	0.92
Clinical reasoning	100	4.00	0.00
Clinical competency	93.3	3.60	0.61
Client Outcomes	93.3	3.67	0.60
Learning Outcomes - Managing in the Workplace			
Work preparedness	86.6	3.33	0.70
Workplace resilience	93.3	3.40	0.61
Workload management	100	3.47	0.50
Reflective practice	100	3.80	0.40
Self-efficacy	86.6	3.40	0.71
Learning Outcomes - Professional Practice			
Administration skills	80.0	3.00	0.73
Professional behaviour	100	4.00	0.00
Communication and rapport building	100	4.00	0.00
Documentation and report writing skills	100	3.40	0.49
Experience of Placement - The Student Experience: Quality of Placement Opportunities			
Exposure to quality practice	100	3.36	0.48
Exposure to diverse practice	100	3.29	0.59
Inclusiveness of placement site	92.8	3.36	0.61
Supportiveness of learning environment	92.8	3.57	0.62
Orientation to placement	92.8	3.29	0.59
Experience of Placement - The Student Experience: Quality of Supervision			
Supervision model	71.4	2.79	0.77
Consistency of practice	71.4	2.93	0.70
Supervisor skills	92.8	3.21	0.56
Constructive feedback	92.8	3.43	0.62
Supervisor availability	85.7	3.07	0.80
Experience of Placement - The Student Experience: Student Satisfaction			
Goal attainment	85.7	3.21	0.67
Trust and autonomy	92.8	3.14	0.52
Coping with placement	92.8	3.29	0.59
University support of the student	92.8	3.21	0.56
Preparedness for placement	92.8	3.43	0.62
Experience of Placement - The Supervisor Experience			
Supervisor satisfaction	100	3.21	0.41

University support of the supervisor	100	3.43	0.49
Expectations of placement	92.8	3.29	0.59
Cost of Placement – Cost to the Student			
Transport and accommodation costs	69.2	2.69	0.91
Loss to income	53.8	2.62	1.00
Pre-placement costs	46.1	2.38	1.00
Cost of Placement – Cost to the Placement Site			
Supervisor time	69.2	2.77	0.80
Resourcing for student	46.1	2.69	0.72
Risk to reputation	46.1	2.54	0.84
Impact on services	61.5	2.54	0.63
Cost of Placement – Cost to the University			
Paid placements	46.1	2.38	0.84
Operating university run sites	53.8	2.54	0.93
Placement coordinator time	69.2	2.77	0.97
Insurance	76.9	2.85	0.95
Research in Clinical Placement			
Research Opportunities	61.5	2.62	0.74

Figure 3A.

Decision making process supporting inclusion/exclusion of areas of measurement: Learning Outcomes.

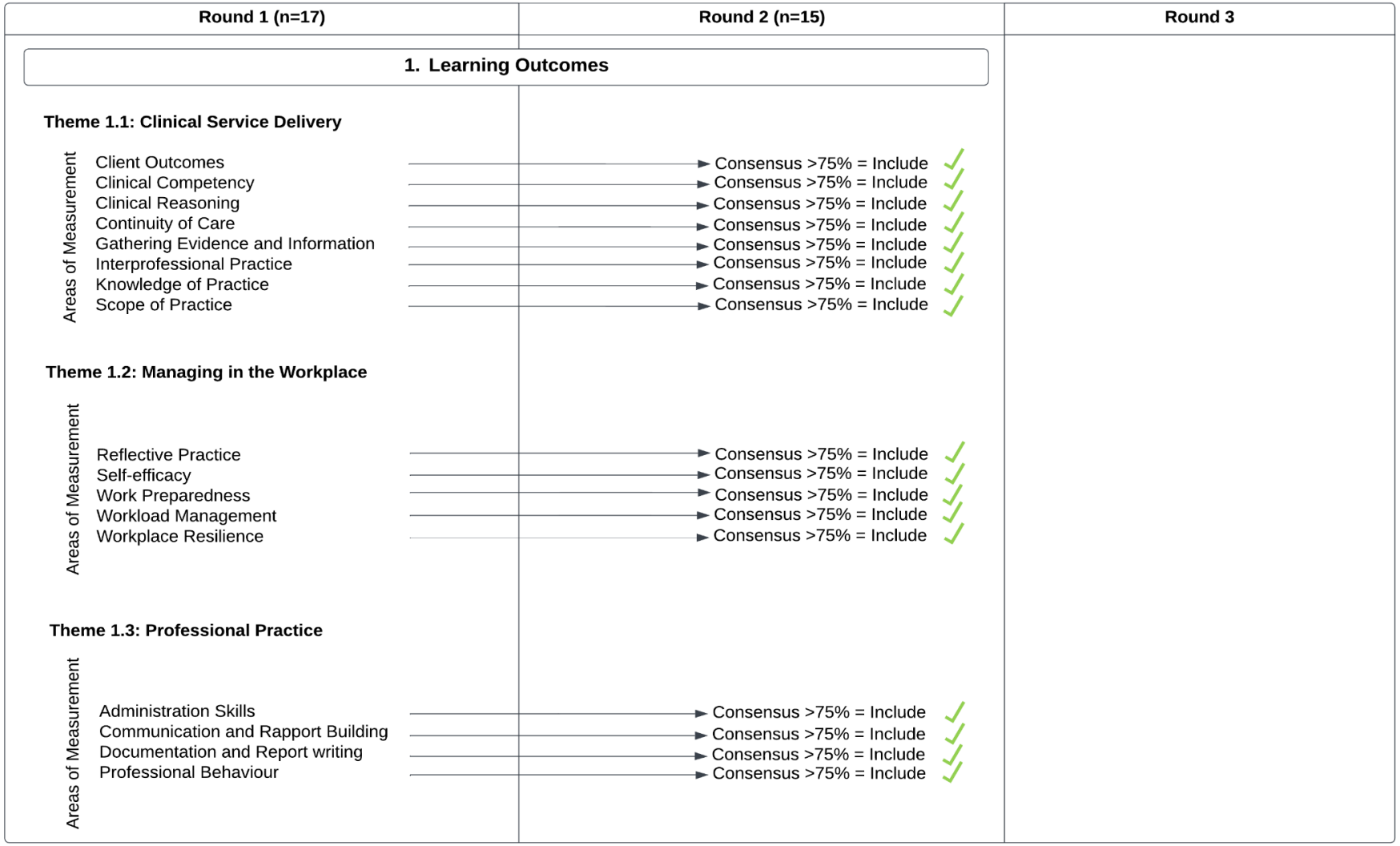


Figure 3B

Decision making process supporting inclusion/exclusion of areas of measurement: Experience of Placement

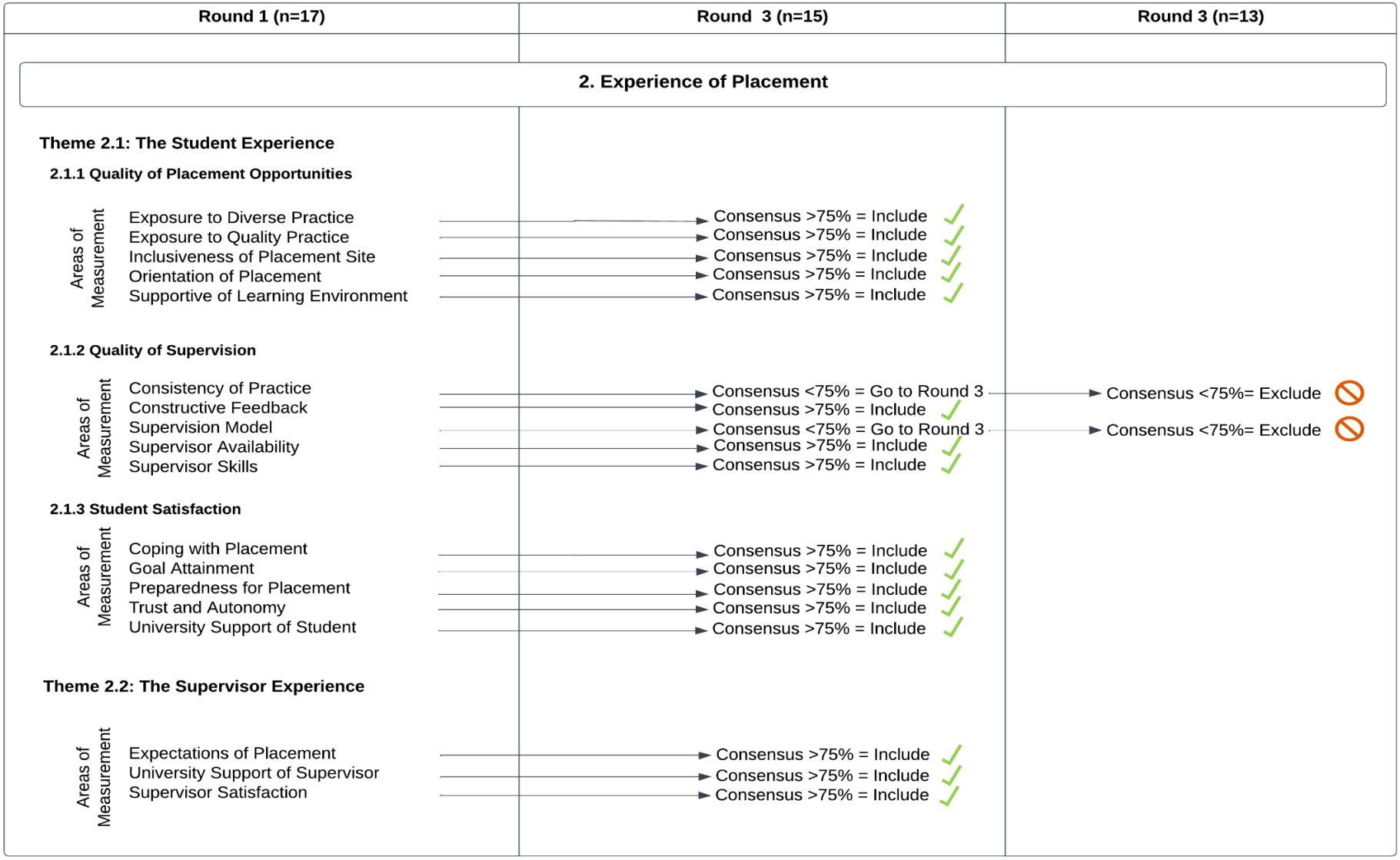
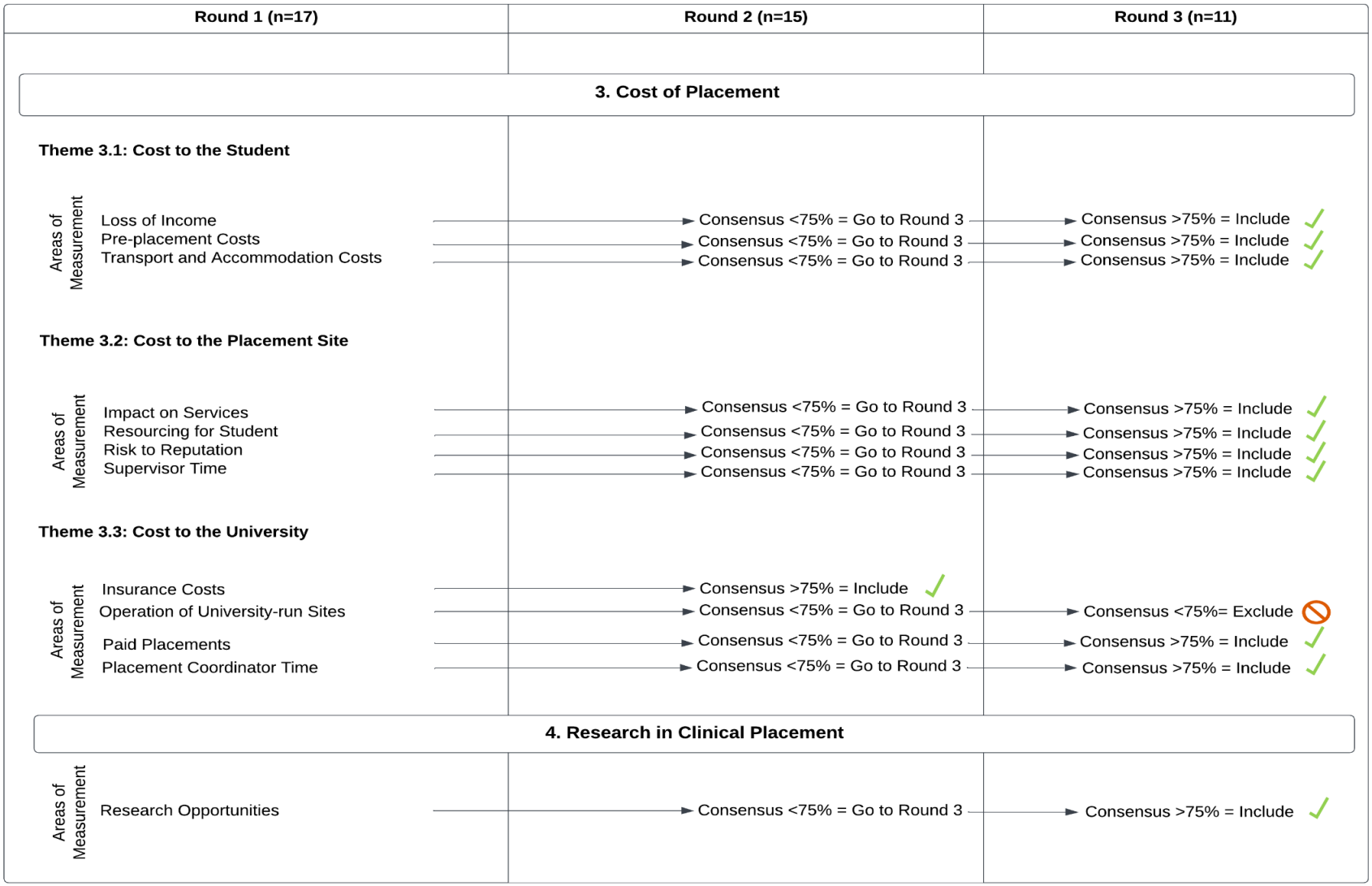


Figure 3C

Decision making process supporting inclusion/exclusion of areas of measurement: Cost of Placement and Research in Clinical Placement



Textbox 1

Statements collated from expert opinion supporting importance (Cost and Research in Clinical Placement)

Cost of Placement

Cost to the Student

Loss of Income
Important to Measure:
Statement 1 - To quantify costs associated with each placement and allow for more informed placement decisions.
Statement 2 - To ensure placement expectations and that any additional placement commitments don't cause undue financial burden on students.

Pre-placement Costs
Important to Measure:
Statement 1 - To accurately assess the financial impact on students and how this influences their placement experience.
Statement 2 - To accurately communicate the expected financial commitment of clinical placement and support student preparedness for placement.

Transport and Accommodation Costs
Important to Measure:
Statement 1 - To accurately assess the financial impact on students and how this influences their placement experience.
Statement 2 - To quantify costs associated with each placement and allow for more informed placement decisions.

Cost to the Placement Site

Supervisor's Time
Important to Measure:
Statement 1 - To understand the opportunity cost or potential lost revenue of providing supervision.

Resourcing Costs for the Student
Important to Measure:
Statement 1 - To understand the cost of supporting students while at the placement site.

Risk to Reputation
Important to Measure:
Statement 1 - To determine whether student placements lead to increased risk, which may influence future offers of placement.

Impact on Services
Important to Measure:
Statement 1 - To determine appropriate fee structures for student-led healthcare services.
Statement 2 - To understand what impact on services actually occurs (i.e decrease or increase in service capacity) while supervising students.
Not Important to Measure:
Statement 1 - It may result in loss of placement sites or the placement site may request financial remuneration.

Cost to the University

Paid Placements
Important to Measure:
Statement 1 - To determine if the benefits outweigh the cost.
Statement 2 - To allow for sufficient resourcing of clinical placements.
Not Important to Measure:
Statement 1 - It may encourage placement sites to offer placements for monetary gain or other ulterior motives.

Operating University Run Placement Sites
Important to Measure:
Statement 1 - It enables resourcing for high quality and evidenced-based placement sites.

Placement Coordinator's Time
Important to Measure:
Statement 1 - To address current barriers to career progression.
Statement 2 - To capture the large scope of the role and support workload allocation.
Statement 3 - To identify time spent/needed to effectively support supervisors and students.
Statement 4 - To identify time spent or needed to effectively support 'at risk students'.
Not Important to Measure:
Statement 1 - It may lead to cost cutting.

Research in Clinical Placement

Research Opportunities	*Important to Measure:* Statement 1 - More translation research is needed. Statement 2 - Research can lead to beneficial partnerships between the university, placement site and student. Statement 3 - To gain information about wider scopes of practice, as well as identifying new placement opportunities. Statement 4 - To support new and innovative placement and assessment, as well as to determine support requirements.	*Not Important to Measure:* Statement 1 - Research is not a top priority in clinical placement. Statement 2 - It may place additional pressure on placement coordinators to undertake research. Statement 3 - Research does not play a direct role in the student's experience of placement.

H *Round 3*

In Round 3, 11 experts completed Survey 1, and nine experts completed Survey 2. Consensus data including mean and standard deviation are presented in Table 4.

In Survey 1, the two remaining areas of measurement related to ‘Experience of Placement’ did not achieve consensus (Figure 3B) and were removed. Two of the three remaining areas of measurement associated with ‘Cost of Placement’ achieved consensus. ‘Cost of university run placement sites’ did not achieve consensus and was removed (Figure 3C). Three of the four areas of measurement relating to ‘Research in Clinical Placement’ achieved consensus (Table 4).

Table 4

Round three level of agreement on importance

Area of Measurement		Level of Consensus (%)	Mean	Std. Deviation
Experience of Placement - The Student Experience: Quality of Supervision				
Supervision model		63.4	1.64	0.48
Consistency of practice		63.4	1.64	0.48
Cost of Placement – Cost to the Student				
Transport and accommodation costs	Important to Measure Statement 1	88.8	1.11	0.31
	Important to Measure Statement 2	100	1.00	0.00
Loss to income	Important to Measure Statement 1	88.8	1.11	0.31
	Important to Measure Statement 2	77.7	1.22	0.42
Pre-placement costs	Important to Measure Statement 1	77.7	1.22	0.42
	Important to Measure Statement 2	88.8	1.11	0.31
Cost of Placement – Cost to the Placement Site				
Supervisor time	Important to Measure Statement 1	88.8	1.11	0.31
Resourcing for student	Important to Measure Statement 1	88.8	1.11	0.31
Risk to reputation	Important to Measure Statement 1	55.5	1.44	0.50
Impact on services	Important to Measure Statement 1	66.6	1.33	0.47
	Important to Measure Statement 2	77.7	1.22	0.42
	Not Important to Measure Statement 1	33.3	1.67	0.47
Cost of Placement – Cost to the University				
Paid placements	Important to Measure Statement 1	88.8	1.11	0.31
	Important to Measure Statement 2	88.8	1.11	0.31
	Not Important to Measure Statement 1	22.2	1.78	0.42
Operating university run sites	Important to Measure Statement 1	66.6	1.33	0.47
Placement coordinator time	Important to Measure Statement 1	66.6	1.33	0.47
	Important to Measure Statement 2	77.7	1.22	0.42
	Important to Measure Statement 3	77.7	1.22	0.42
	Important to Measure Statement 4	77.7	1.22	0.42
	Not Important to Measure Statement 1	33.3	1.67	0.47
Research in Clinical Placement				
Research Opportunities	Important to Measure Statement 1	88.8	1.11	0.31
	Important to Measure Statement 2	100	1.00	0.00
	Important to Measure Statement 3	100	1.00	0.00
	Important to Measure Statement 4	100	1.00	0.00
	Not Important to Measure Statement 1	44.4	1.56	0.50
	Not Important to Measure Statement 2	33.3	1.67	0.47
	Not Important to Measure Statement 3	33.3	1.67	0.47

I *Areas of Measurement not Achieving Consensus*

Several areas of measurement within the theme of 'Experience of Placement' did not achieve consensus with variation in opinion between experts. For example, the importance of placement experience measures such as 'supervision model' and 'consistency of practice' received 100% and 75% agreement, respectively, from placement supervisors and recent graduates. However, among placement coordinators, only 50% agreed on the importance of the 'supervision model', and 15% agreed on 'consistency of practice'. The notion that variations in supervisory models and differences in health professional practices may pose challenges for students during their learning journey can also be seen as a valuable educational opportunity, as highlighted by one expert's response:

> ... one of the biggest learning experiences students gain from going on multiple placements in different sites and different supervisors is the exposure to a range of different ways, practices, skills, approaches ... I think we would do our profession a disservice by becoming a standardised workforce that all has the same, consistent approach ("cookie cutter" approach) to areas of practice. I think it is valuable for students to see varying levels of good practice vs. not-so-good practice, provided they have the opportunity to debrief this in a safe space, to be able to identify and understanding the 'not-so-good' practice in context (Placement Coordinator #4).

Similarly, measuring the cost associated with 'operating university run placement sites' also did not achieve consensus. Reviewing free text responses from experts in Rounds 2 and 3 suggested that there is support for university operated clinical placement sites from all stakeholder groups. However, there was disagreement about the cost of such endeavours being a specific performance measure of clinical placement. The following expert responses support this premise:

> Cost of operating university run placement sites should not purely be measured according to income and expenses. There are lots of benefits which become immeasurable such as service to the university sector, student educative experience, positive marketing/exposure for the university (Placement Supervisor #9).

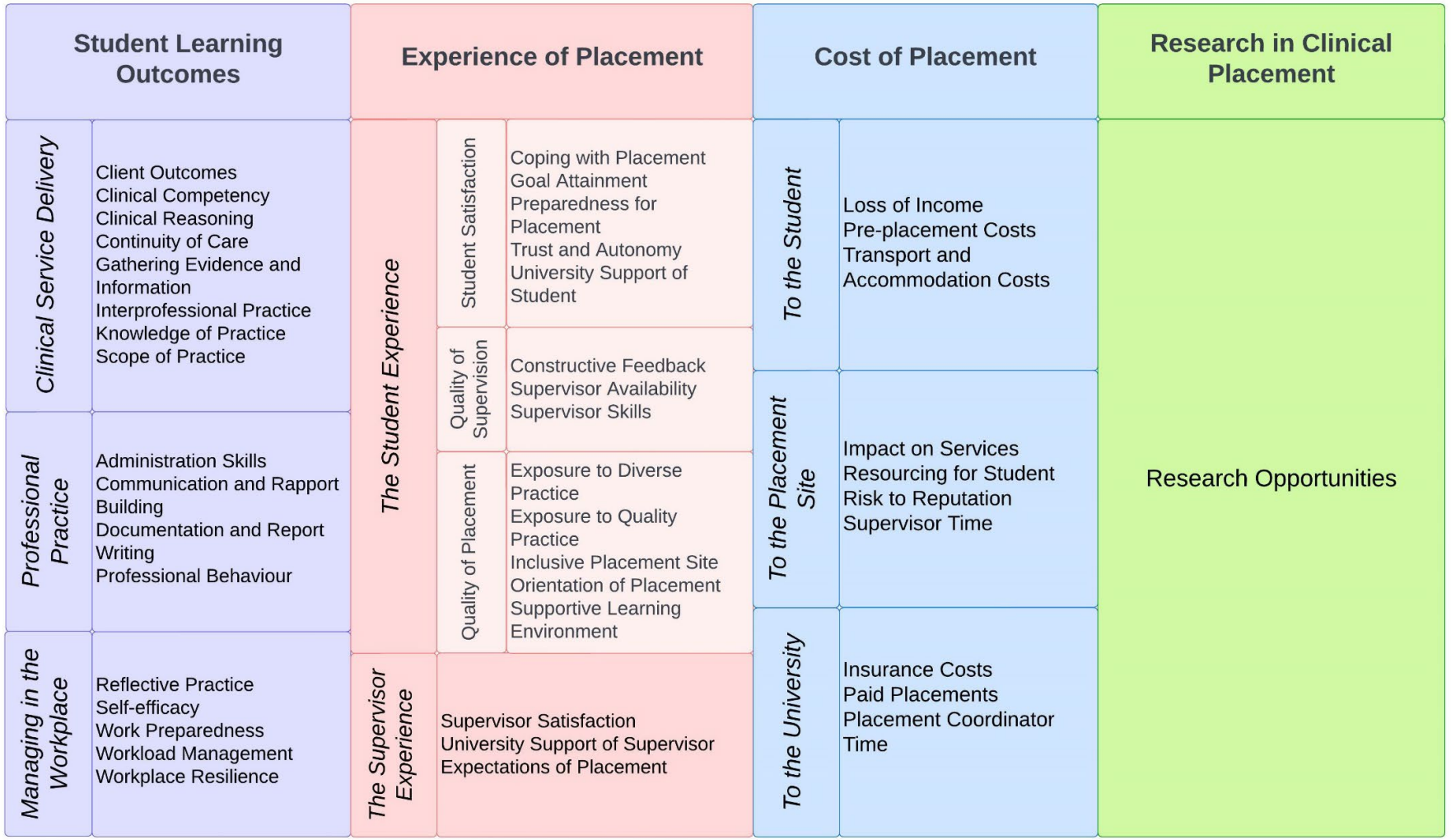
> I don't think the cost of uni run placements should factor in (sic) into measuring clinical placements as they aren't a money-making entity for most universities (Recent Graduate #3).

J *Finalised Areas of Measurement*

Following the three Delphi rounds, consensus was achieved on 44 important areas of measurement. The finalised areas of measurement are presented in Textbox 2.

Textbox 2.

Finalised areas of measurement related to the themes of 'Learning Outcomes', 'Experience of Placement', 'Cost of Placement' and 'Research in Clinical Placement'



IV DISCUSSION

The aim of this study was to gain consensus on the important areas of measurement that need to be considered in the evaluation of clinical placement performance. Through consensus building within a modified Delphi approach, 44 areas of measurement were identified and supported as important to measure when evaluating clinical placement. This study is novel in its scope and design, addressing limitations of existing approaches by encompassing a wider range of measurement areas, including cost considerations, and by ensuring applicability across diverse clinical placement models and health disciplines. Unlike other models for evaluation, this framework integrates stakeholder perspectives across educational, experiential, and financial dimensions. Its unique contribution lies in offering a holistic evaluation model that aligns with contemporary clinical education needs and that it is adaptable to various models of clinical placement, including within student-led healthcare services.

Existing frameworks for clinical placement have been designed to work as universal guides to supporting quality in clinical placement, predominately focusing on areas of measurement associated with the experience of placement or are intended to be implemented at the organisational level to support positive learning environments (McAllister et al., 2018; Siggins Miller Consultants, 2012). This study's contribution lies in its comprehensive identification of key areas for measuring clinical placement performance. Unlike frameworks such as the BPCLE, this study integrates diverse stakeholder perspectives to include critical dimensions such as financial parameters, research opportunities, and supervision quality. These additions enhance the applicability of our findings across various clinical placement models and allied health disciplines, offering a more comprehensive basis for evaluation.

While the findings of this study are similar to the BPCLE in emphasising the importance of a supportive learning environment, this study extends its scope by addressing specific areas within the overarching themes of learning outcomes, placement experience and placement cost, the latter being notably absent in the BPCLE. As a result, the findings of this study will guide improvements in placement performance by ensuring intended learning outcomes, maintaining strong stakeholder relationships, and addressing cost concerns. Fundamentally, these areas of measurement address the needs and expectations of the frontline stakeholders involved in the clinical placement partnership and acknowledges the increasing concerns about the costs involved in sourcing, participating in, and facilitating placement (Copeland, 2020; Forbes, 2022; Patrick et al., 2008; Wray & McCall, 2007).

Evaluating the educational outcomes, placement experiences, and costs within student-led healthcare services has, until recently, been a relatively unexplored area. However, current literature on the effectiveness of student-led services as clinical placement providers has begun to identify various outcomes achieved within these models of clinical placement (Beckman et al., 2022; Heales et al., 2021; Nyoni et al., 2021). Contemporary research has highlighted the importance of clinical educators in fostering supportive learning environments, providing constructive feedback, offering developmental opportunities, and ensuring adequate resources for high-quality placements (Heales et al., 2021). Additionally, student-led healthcare services are recognised as environments that facilitate clinical skill development, cultivate empathy and leadership, and enhance interprofessional practice skills (Wilson et al., 2023).

Our modified Delphi study identified clinical placement outcomes of importance that align closely with the contemporary literature focusing on educational outcomes attained within student-led healthcare services (Beckman et al., 2022; Heales et al., 2021; Nyoni et al., 2021). The diverse expertise of the expert panel, covering various clinical placement models and contexts, is a notable strength of this study (Jünger et al., 2017). The identified areas of measurement are relevant to a range of contexts due to the diverse experiences of the experts involved and aids in ensuring that the consensus reached is not limited to a single model or setting but rather, reflects a broad spectrum of clinical placement scenarios (Peisah et al., 2023). This approach offers comparability across various models, locations, and health disciplines (Bernhardt

et al., 2017), providing key stakeholders with a set of clinical placement measures that can be used to evaluate the performance of student-led healthcare services and compare them to more traditional clinical placement models to determine their effectiveness.

Financial considerations are critical for both universities and placement providers, influencing the sustainability and quality of placements (Bowles et al., 2014). The University Accord, which seeks to reform and enhance higher education in Australia, places a significant emphasis on the financial sustainability of educational programs, including clinical placements (Australian Universities Accord Final Report, 2023). Identifying the costs associated with clinical placements, such as transport and accommodation, loss of income, pre-placement expenses, supervisor time, and student resourcing, is essential for optimising resources and improving student placement experiences. By incorporating these cost measurements into the evaluation of clinical placement performance, universities and placement providers can better understand the financial burden on both students and institutions, leading to more informed decisions about resource allocation, funding, and support. This alignment with the University Accord's focus on financial sustainability ensures that clinical placements remain viable and beneficial for all parties involved, while also achieving financial accountability.

The results of this study need to be considered in light of its limitations. Although in line with recommendations to effectively recruit a heterogeneous expert panel (Hsu & Sandford, 2007), the broad spectrum of opinions and priorities this approach produced can affect the level of consensus established. We recruited equal representation from key stakeholder groups to strike a good balance of perspectives (Keeney et al., 2001). However, as the study progressed, representation changed due to attrition, with fewer placement supervisors and recent graduates participating in later rounds, shifting the balance of opinion in favour of placement coordinators. This shift likely influenced the areas of measurement that did not achieve consensus, as placement coordinator perspectives became more prominent in later rounds.

To enhance the reliability of the areas of measurement identified in this study, a 75% consensus threshold was applied. This threshold is consistent with best practices for achieving rigor in Delphi studies (Hsu & Sandford, 2007; Maguire & Delahunt, 2017) and ensures that only areas with broad and robust agreement across the panel were included. Nonetheless, areas that failed to achieve consensus (i.e. “supervision model,” “consistency of practice,” and the “cost of operating university-run placement sites”) may have achieved consensus if greater representation from other stakeholder groups had been maintained. Therefore, we acknowledge that the attrition experienced in this study may have influenced the findings and recommend further research to validate and extend on our results. Applying a mixed-methods approach to evaluating the more nuanced aspects of these areas of measurement would provide a deeper understanding and elicit rich, multifaceted insights that might otherwise be overlooked in a predominantly quantitative approach (Creswell & Clark, 2017), such as the one employed in this modified Delphi study.

Given the diversity of the expert panel, the findings of this study are broadly applicable across different clinical placement models, geographical locations and allied health professions (Hsu & Sandford, 2007; Jünger et al., 2017). Furthermore, a key contribution of this study lies in its ability to integrate educational, experiential, and financial dimensions into a cohesive evaluation framework, bridging gaps identified in prior research. However, further research is needed to determine whether the identified areas of measurement and their priorities for measurement align consistently across diverse clinical placement contexts. Future studies could investigate how contextual factors such as resource availability, cultural differences, and specific disciplinary requirements shape the prioritisation and implementation of these measurement areas. Understanding these influences would provide valuable insights into the adaptability and effectiveness of the framework across diverse clinical placement settings (Beckman et al., 2022; Heales et al., 2021).

Additionally, a cost-benefit analysis derived from the cost measurements in this study could provide valuable insights into financial sustainability of clinical placement and offer critical information about the educational value of student-led healthcare services (Mazander et al.,

2024). Investigating the application of this study's findings in these specific contexts will also help to identify necessary refinements and enhance its translational potential (Beckman et al., 2022; Wilson et al., 2023), ultimately paving the way for comparative analyses of different clinical placement models in different clinical contexts. Such comparative analyses can help stakeholders identify best practices, assess the relative strengths and weaknesses of different models, and understand how specific contexts influence outcomes (Nyoni et al., 2021).

V CONCLUSION

By synthesising the diverse experiences of key stakeholders, this study provides a comprehensive list of important areas of measurement applicable across various clinical placement models, locations, and health disciplines. While recognising that expert opinions may vary, the diverse expertise of the panel strengthens the reliability and relevance of the results, offering key stakeholders a comprehensive perspective on measuring clinical placement performance. These findings provide a solid foundation for evaluating clinical placements across various models and offer valuable insights to guide future research into evaluating clinical placements.

VI DECLARATION OF INTEREST STATEMENT

The authors report no conflict of interest. All authors contributed to the design of the research, the selection of expert panel members, and the writing of the manuscript.

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