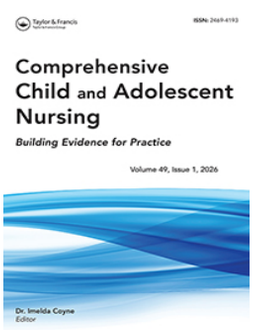

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How Does Pre-Registration Child Specific Education Prepare Newly Qualified Nurses' to Care for Children, Young People, and Their Families? An Empty Narrative Review

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ABSTRACT

This narrative review investigates the influence of child-specific content within pre-registration nursing programs on newly qualified nurses' perceptions of preparedness to care for children, young people, and their families. Despite international recognition of the specialised competencies required for pediatric nursing, the proportion and quality of child-focused education across Higher Education Institutions is not clear. The Population, Exposure, Outcome framework provided a comprehensive search strategy applied across eight databases to identify relevant studies that met the inclusion and exclusion criteria. Of 663 records identified, 451 were screened and 25 full texts were assessed for eligibility by two reviewers. No studies met the eligibility criteria, resulting in an empty review. Although no empirical evidence could be synthesized, the absence of eligible studies is itself a notable finding. Empty reviews are becoming increasingly recognized within structured review methodology as scientifically meaningful contributions. An empty review can highlight areas where assumptions are made without evidence and where systematic research is urgently needed. In our review, the lack of studies reveals a critical and previously uncharted gap in the literature. Although authors acknowledge that a strict inclusion criteria may narrow the field for capturing relevant studies. Rather than representing a failure of the review process, the empty review demonstrates that the research question has not been empirically investigated despite longstanding concerns about adequacy of children's nursing education. Empty reviews aid researchers to identify gaps in the evidence base and to identify where research is needed. They can ensure that policy or curriculum reform is not based upon untested beliefs. Empty reviews offer guidance for researchers, educators and healthcare providers on future research. By confirming through a robust and comprehensive search strategy that no eligible evidence exists, this empty review strengthens the case for dedicated studies exploring the relationship between curriculum content and preparedness outcomes. It highlights the need for empirical work before evidence-based recommendations on

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child-specific content can be made. In this sense, the empty review is not a negative result but an important and constructive contribution, drawing attention to a neglected but vital area of nursing education research.

Introduction

The degree of pediatric curricula embedded within pre-registration nursing programs varies globally (Baker et al., 2021; World Health Organisation, 2020). Some pre-registration programs require student nurses to undertake a specific pediatric clinical module and placement, whereas other programs embed pediatric care throughout the pre-registration program using strategies such as clinical simulation labs, blended or hybrid learning, and mentorship (Janes et al., 2023; Lee & Chiang, 2021; MacKinnon et al., 2017; Wyllie & Batley, 2019). However, some students never experience a pediatric clinical placement or receive the opportunity to care for children and young people throughout their undergraduate learning program (Carey et al., 2024). The content, assessments and outcome of assessments of an undergraduate nursing program are dependent on each University or Institute's criteria as dictated by the country's licensing standards (Nunn-Ellison et al., 2023). In addition, there are varied undergraduate nursing programs where students graduate with either a comprehensive registered nurse degree or a degree where they can only work in specialized areas such as pediatrics, mental health, midwifery, obstetrics or neonatal health (Burhin et al., 2024).

The Global Alliance for Leadership in Nursing Education and Sciences (GANES) developed an international framework of guidelines for nurse education to promote greater international consistency and high-quality nurse education globally (Baker et al., 2021). The framework is underpinned by three pillars: competency expectations for new graduates, articulated as learning outcomes; standards for professional nursing education programs, set out as guidelines; and expectations for educational institutions, also presented as guidelines. Each pillar is supported by detailed indicators to guide implementation (Baker et al., 2021; World Health Organisation, 2020). Other international organizations and professional bodies that inform global standards of nursing include the International Council of Nurses (ICN) and the World Health Organization (WHO). For example, the ICN code of ethics for nurses is a framework to guide regulatory bodies on ethical nursing practice and decision-making to meet international professional standards (ICN, 2021). Global standards in nursing refer to a set of universally accepted guidelines and practices designed to ensure high-quality patient care, safety, education, skills and knowledge, and professional conduct. Nursing standards encompass key areas including clinical practice guidelines, professional ethics, educational requirements, licensure certification and continued education (Nursing Council of New Zealand, 2024). Several challenges in implementing global standards include the limited resources evident in low-income countries, a conflict in cultural healthcare practices and beliefs, variations in licensing and regulatory bodies, and inconsistent curricula content and competency amongst nurses (ICN, 2021).

Graduate nurses who receive minimal to no theoretical or clinical pediatric education or exposure find pediatrics a very challenging or daunting area to work (Taylor & Foster, 2022). Fourth-year undergraduate nurses in Ireland stated they lacked confidence, felt unprepared, and had limited knowledge on how to engage therapeutically with adolescents

and families after completing a placement in a child and adolescent inpatient unit, which provided treatment for, amongst other mental health difficulties, adolescents with eating disorders (Farrington et al., 2020). However, nursing students in British Columbia, Canada, stated the pediatric practicum they experienced during their undergraduate program helped them build collaborative relationships with children, adolescents, and their families that supported a relational holistic approach within the context of family-centered care (Onororemu & Sanders, 2024).

Recommendations to improve undergraduate nursing include the provision of protected time for preceptors and clinical educators within child healthcare clinical settings to enhance the clinical learning environment and engagement with children, where undergraduate curricula, teaching practices, assignment topics and assessment outcomes are based on contemporary health issues of relevance to children, young people and families (Ben-Sefer, 2009; Farrington et al., 2020; Ojemeni et al., 2017). Further recommendations include a pre-program assessment to ascertain contextual relevance to curriculum development; flexibility and creativity in teaching methods; and a tailored approach for greater student engagement. What is less well understood is the proportion of child-specific content, including clinical learning, and how this influences student nurses at the point of registration. A preliminary search of Prospero, CINAHL, Medline and Cochrane Database for Systematic Reviews indicated there were no current or in-progress reviews identified.

Methods

Review question

The aim of this narrative review was to determine: how does the proportion of child-specific content of pre-registration nursing programmes in Higher Education Institutions impact newly qualified registered nurses' perceptions of preparedness to care for children, young people, and their families?

The PEO (Population of interest, Exposure of interest and Outcome) framework was utilized in the development of the review question (Moola et al., 2015) as seen in Table 1.

The PEO framework has been demonstrated to be effective in health-related research and the field of nursing (Porritt et al., 2014). In this review, the PEO framework provided the structure needed to support the generation of search terms (Table 2).

Table 1. Population of interest, exposure of interest, and outcome (PEO) framework.

Population of interest	The review will consider studies that include: • The perceptions, views, and beliefs of newly qualified nurses working with children, young, people and their families in their first year of practice.
Exposure of interest	The review will consider studies that: • Focus on pre-registration nursing programmes, including those at Diploma, Bachelorette degree, masters, and dual registration, provided by Higher Education Institutes. • Examine the proportion, style, number, method, mode of delivery or timing of content specific to children and young people, including but not limited to field-specific, shared content, shared learning, or specialist education.
Outcome	The review will consider studies that: • Consider the impact of the proportion of child-specific content on perceptions of preparedness, but not limited to readiness, competence to care for children, young people, and their families.

Table 2. Search terms generated from the (PEO) framework.

Population of interest	New* qualified OR new graduate* OR new registrant OR child* nurs* OR paediatric nurs* OR pediatric nurs* OR specialist child* nurs*
Exposure of interest	Pre-registration OR undergraduate OR post graduate OR freshman OR sophomore AND nurs* education OR nurs* programme AND proportion OR number OR delivery OR timing AND field specific OR child specific OR shared content OR shared learning OR specialist education AND higher education Institut* OR educational institut* OR academic institut* OR Universit* OR college of higher education
Outcome	Prepared* OR readiness OR competen* OR proficien*

Table 3. Inclusion and exclusion criteria.

Inclusion Criteria	Exclusion Criteria
-Studies that include the perceptions, views, and beliefs of newly qualified nurses working with children, young people from birth to 18 years of age and their families in their first year of practice.	– Studies will be excluded that consider the type, style, method or mode of delivering field specific content. – Studies will be excluded that consider who is responsible for delivering the content.
-Studies that report the proportion, number, delivery, or timing of field specific content.	– Studies where there is no focus on pre-registration education.
-Studies that include undergraduate or postgraduate pre-registration nursing programmes leading to a recognised qualification as a children's nurse, paediatric nurse, child health nurse or equivalent.	– Studies that do not include child specific content. – Studies will be excluded that solely focus on content related to neonatal nursing, which has its own specialist training and environment.
-Studies from 2016 onwards.	– Grey literature.
-Peer reviewed published research.	– Studies that are not published in English as there is no capacity for translation.
-Full text articles available in English.	

Eligibility criteria

The creation of the research question utilizing the PEO framework facilitated the development of the eligibility criteria as the selection process to determine which sources of evidence were to be included or excluded within the review. The eligibility criteria (Table 3) were developed using the framework characteristics suggested by Aromataris et al. (2024), which consider types of populations, exposures, and outcomes, as well as research study design and additional publication characteristics such as date, language, and review status.

Studies that were not published in English were excluded as there was no capacity for translation. The review chose to narrow the search parameters to studies published after 2016. The rationale for this was in recognition of the amendment to UK and International pre-registration educational standards for registered nurses in 2016 and 2018 (Nursing Council of New Zealand, 2016; Nursing and Midwifery Council, 2018). The review was interested in papers that consider the proportion of child specific-content and similar terms, number, delivery and timing of the field-specific content. Any papers that focus on other aspects of delivery, such as type, style, method or mode, were excluded, as these do not directly relate to proportion. The focus was upon pre-registration and perceptions of preparedness; thus, post-registration and related programs/courses were excluded. Studies that focus on neonatal nursing were excluded, as this is considered a specialist area of practice, open to registered nurses across different parts of the register (Beynon, 2022).

Types of study designs for inclusion

In view of the research question and chosen framework, the types of studies for inclusion were not limited to one design. The study therefore considered quantitative, both analytical (including experimental and observational designs) and descriptive designs (including case-reports, case-series and cross-sectional), mixed-methods and qualitative empirical studies across a variety of qualitative research designs. On initial searching, no systematic reviews or literature reviews existed on the review question; however, the intention was to screen the reference lists of all included papers to identify any papers not initially found during the search strategy.

Search strategy

The search strategy aimed to identify published peer-reviewed research as indicated in the eligibility criteria. The search strategy was conducted in three stages. In the first stage an initial limited search was conducted, of the databases CINAHL and Medline, to identify potential studies on the topic. This was conducted by two members of the research team (MC, DE), and consensus was reached on the keywords, synonyms, alternate spellings and truncation that were included in the title or abstract and MESH index terms in the development of the full search strategy (MC, DE, JB, MF, SN). This was in line with the published protocol for the narrative review (Carey et al., 2024). The second stage was to apply all identified keywords and index terms across a total of eight databases (CINAHL Ultimate, Embase, Medline, ProQuest, PubMed, ERIC, Cochrane Database of Systematic Reviews, and Joanna Briggs Institute for Systematic Reviews) using a systematic search conducted on the 19 July 2024. An updated search was conducted on26 August 2025. One final search limited between 2024 and 2026 was conducted on 6 March 2026, limited to publications from 2024 to present, to ensure the most current literature was captured. Grey literature was not considered; however, as a final stage, to improve the sensitivity of the search, a manual search was conducted of reference lists from articles included for full screening and a screening of the first 10 pages of Google Scholar to compare for any additional papers.

Search outcome and study selection

The search strategy conformed to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines for systematic reviews (Page et al., 2021). Figure 1 shows a summary of the search results. References were initially stored via EndNote version 21 (The EndNote Team, 2013) for each of the database searches. The final number of records was uploaded into the data management software Rayyan (Ouzzani et al., 2016) for final screening. A breakdown of the full search is available in Figure 1 to promote reproducibility.

A total of 639 records across the eight databases were identified; 212 duplicates were removed, leaving 524 articles for screening. The title and abstract of records were screened by members of the research team (MC, DE, JB, MF, SN). A total of 499 articles were removed for not meeting the eligibility criteria. Following initial screening, 25 Reports were sought for full-text review. During this process, eligible reports were screened by two members of the research team, and any discrepancies that arose were discussed with the remainder of the research team. A total of 13 papers were excluded for the following reasons: wrong population ($n = 6$), wrong exposure ($n = 5$), wrong outcome ($n = 5$) and

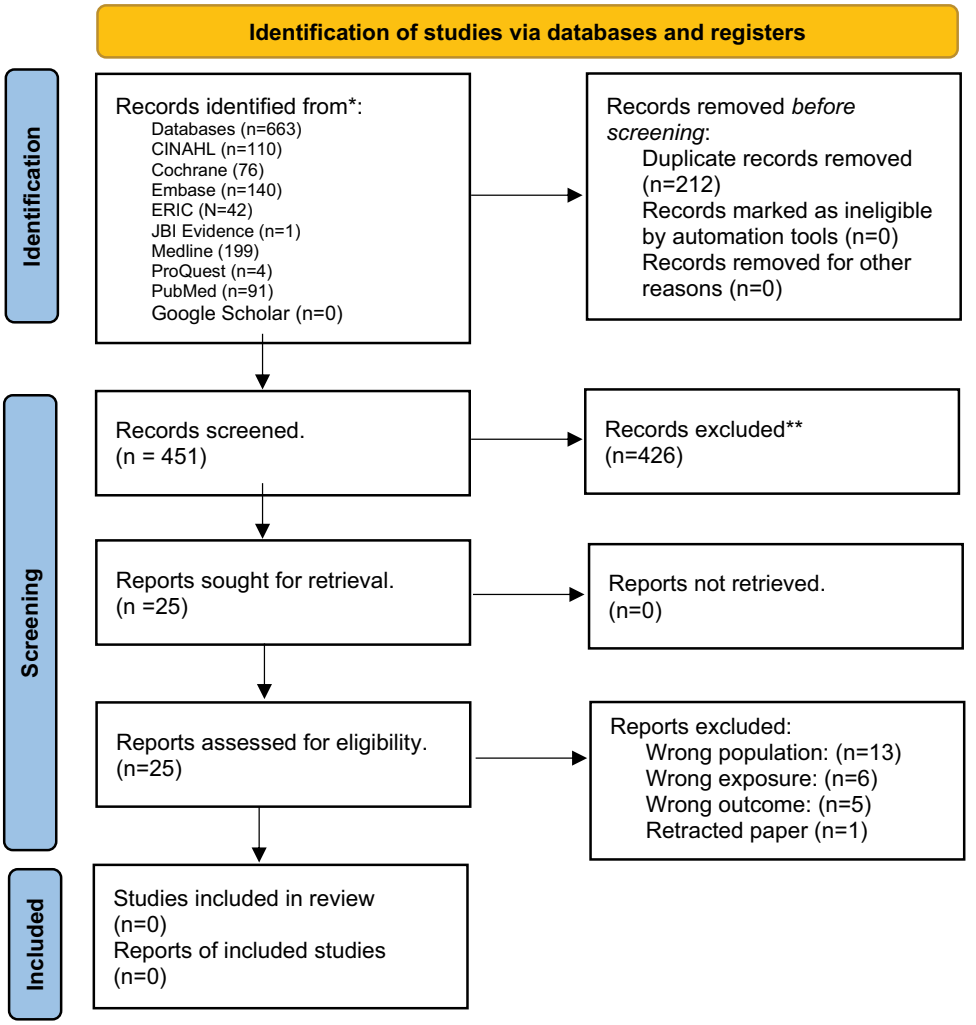

Figure 1. PRISMA diagram for search outcome.

$n = 1$ retracted paper (Table 4). On completion of the structured search, the research team was left with no eligible papers for critical appraisal, extraction and analysis.

Assessment of methodological quality

The research team intended to critically appraise any included articles using the Joanna Briggs Institute standardized critical appraisal tools (Munn et al., 2020). However, due to the paucity of evidence available to meet the eligibility criteria, this process was unable to be completed. The proposed critical appraisal, as presented in the protocol (Carey et al., 2024), would be conducted by two reviewers independently to assess for methodological quality and any disagreements to be discussed by a third reviewer. The assessment of any included papers, which was not possible, would be included in data extraction and analysis regardless of their methodological quality.

Table 4. Excluded studies at full-text screening.

No.	Author & date	Peer reviewed primary research or systematic review	Inclusion criteria (*N* = does not meet criteria)					Comments	Decision Inc/Exc first opinion	Decision Inc/ Exc second opinion	Final decision
			Pub in English	2016 onwards	Population	Exposure of interest	Outcome				
1	Akdeniz Kudubes et al., (2020)	Y	Y	Y	N	Y	Y	Study explored the effects of web-based paediatric palliative care education on knowledge acquisition and practice; however, population was nursing students not newly qualified.	Exc. DE	Exc. MF	Excl
2	AlReshidi et al., (2018)	Y- Review	Y	Y	N	N	Y	Review focus was to explore the impact of a range of education programmes (little indication of (pre-reg) on factors affecting post-operative pain. These were general nurses with no clear view of being newly qualified.	Exc. DE	Exc. MF	Excl
3	Brady et al., (2022)	Y	Y	Y	N	Y	Y	Wrong population: A study of nursing students to evaluate the knowledge and confidence of children and young people mental health issues following service-user led workshop.	Exc. DE	Exc. MF	Excl
4	Cantlay et al., (2017)	Y	Y	Y	Y	Y	N	Study exploring master of nursing science accelerated programme on self-perception readiness of new graduate nurses, however, wrong outcome as no mention of child-specific content.	Exc. DE	Exc. MF	Excl
5	Crighton et al. (2018)	Y	Y	Y	N	Y	Y	Study that explore preparedness for practice to transition to newly qualified nurse, however, population is children's nursing students.	Exc. DE	Exc. MF	Excl
6	Dudley et al., (2020)	Y	Y	Y	Y	Y	N	Study explores the relationship between undergraduate clinical learning and work readiness in new graduate nurses, however, no mention of the outcome.	Exc. DE	Exc. MF	Excl
7	Ehrenberg et al., (2016)	Y	Y	Y	Y	N	N	Focus on new graduate trajectories, however, wrong outcome as focus is upon first three years post-registration and no clear mention of child-specific content.	Exc. DE	Exc. MF	Excl
8	Regino et., (2019)	Y	Y	Y	N	Y	Y	A qualitative study to analyse training and evaluation of professional competency to work in paediatric, but based on perspective of university professors (wrong population)	Exc. JB	Exc. MC	Excl
9	Tucker et al., (2019)	Y	Y	Y	N	N	N	Evaluation of a structured preceptorship programme, population was newly qualified district nurses. No relation to exposure of pre-registration programme of study. No focus on the outcome.	Exc. JB	Exc. MC	Excl
10	Galeoto et al., (2021)	Y	Y	Y	N	Y	Y	Cross sectional study on test of competence in pre-registration education, however, population is on paediatric student nurses not newly qualified.	Exc. DE	Exc. MF	Excl

(*Continued*)

Table 4. (Continued).

No.	Author & date	Peer reviewed primary research or systematic review	Inclusion criteria (*N* = does not meet criteria)					Comments	Decision Inc/Exc first opinion	Decision Inc/ Exc second opinion	Final decision
			Pub in English	2016 onwards	Population	Exposure of interest	Outcome				
11	Salehi et al., (2021)	Y	Y	Y	N	N	Y	A longitudinal, mixed methods evaluation study looking at post graduate paediatric nurse education, but participants registered nurses already not newly qualified. considered competence post the education programme.	Inc. JB	Exc. MC	Excl
12	Hussein et al., (2017)	Y	Y	Y	Y	N	N	New-graduate nurses experience of first year of 12 months of a transitional support programme. No focus on undergraduate or clear mention of child-specific content.	Exc. JB	Exc. DE	Excl
13	Reynolds et al., (2018)	Y	Y	Y	N	Y	N	Cross sectional study reviewing field specific content of pre-registration nurse education. Does not give perspective of NQN, survey results from academics.	Exc. JB	Exc. MF	Excl
14	Putkuri et al., (2021)	Y	Y	Y	N	N	Y	Study focused on competency in mental health issues to work in public health child health clinics. Participants not NQN, not enough focus on pre-registration education.	Inc. JB	Exc. MC	Excl
15	Patterson, et al., (2017)	?	Y	Y	Y	Y	N	Background study - Cross sectional study examined work readiness of new graduates. New graduates but, outcome not focused on child health content.	Exc. JB	Exc. MC	Excl
16	Palese et al., (2022)	Y	Y	Y	Y	Y	N	Cross sectional study to measure learning experience in last year and perceived competence. New graduates but no focus on outcome related to child specific content.	Exc. JB	Exc. MC	Excl
17	Koo and Lee, (2022)	Y	Y	Y	N	Y	Y	Quasi-experimental study that explored pediatric nurses competency programme. Wrong population as the focus is upon nursing students.	Exc. MC	Exc. DE	Excl
18	McKenna et al., (2018)	Y	Y	Y	Y	N	N	Qualitative follow up study. Population was newly qualified nurse but wrong exposure focusing on post graduate programmes. No mention of the outcome but possible reflections on education-based themes.	Exc. MC	Exc. DE	Excl
19	Murdoch et al., (2017)	Y- scoping review	Y	Y	Y	N	N	Scoping review with a focus on new graduates. Wrong exposure, which was post graduate interprofessional collaboration. No mention of the outcome of interest.	Exc. JB	Exc. MC	Excl
20	Lopez-Entrambasaguas et al., (2019)	Y	Y	Y	Y	Y	N	Qualitative study exploring NQN competency acquisition during their pre-registration training. No mention of outcome related to child specific content.	Exc. MC	Exc. DE	Excl
21	Kang and Hwang, (2023)	Y	Y	Y	Y	Y	N	Descriptive comparative design explored the impact of nursing practicum changes on new graduate nurses. No clear mention of child-specific content.	Exc. MC	Exc. DE	Excl

(*Continued*)

Table 4. (Continued).

No.	Author & date	Peer reviewed primary research or systematic review	Inclusion criteria (*N* = does not meet criteria)					Comments	Decision Inc/Exc first opinion	Decision Inc/ Exc second opinion	Final decision
			Pub in English	2016 onwards	Population	Exposure of interest	Outcome				
22	Jung et al., (2017)	Y	Y	Y	Y	N	N	Pilot experimental design evaluating simulation on competency and critical thinking of new graduate nurses. No clear mention of child-specific content or focus on pre-registration.	Exc. MC	Exc. DE	Excl
23	Kavanagh et al., (2017)	Y	Y	Y	Y	N	N	Post-hire and pre-start performance-based development system assessments of new graduates to assess entry level competency. No clear focus of exposure or field-specific content as the outcome.	Exc. MC	Exc. DE	Excl
24	Kelly (2018)	N	Y	Y	N	N	N	Not primary research. Opinion piece regarding post-graduate master's students reflection on challenges of providing care for families with differing cultural backgrounds. Wrong exposure and outcome.	Exc. MC	Exc. DE	Excl
25	Mckitterick et al.,	Y	Y	Y	N	N	N	Retracted paper.	Exc. MC	Exc. DE	Excl

Data extraction

As indicated in the search outcome and study selection section, no papers were identified for retrieval and inclusion within the review. Below is a report of the intended methods for data extraction and an example of the extraction table that was designed in the protocol for use with the review. The review expected to retrieve papers with a variety of outcomes; therefore, the structure presented in Textbox 1 was created to capture this data.

Textbox 1: Article information and data to be extracted.

General information study characteristics:

- Year of publication
- Country of study
- Type(s) and duration of nursing programme/education if applicable
- Methodology
- Sample size and characteristics
- Data collection methods

Outcome:

- Impact on perceived preparedness for practice of the population and not limited to: Feelings, beliefs, and readiness of perceived preparedness for practice.
- Experience or experiences of population that lead to perceived preparedness for practice.
- Factors that impede preparedness for practice.
- Perceived competence or proficiency.
- The proportion of content provided.
- Number of hours and timing of theory and practice content specific to children in young people.

Data analysis and synthesis

The choice of narrative review was selected as the design, as researchers anticipated the research question as likely to produce eligible studies of a variety of research designs. If this were proven true, then the likelihood of completing a meta-analysis or meta-synthesis would be rendered unfeasible. For these reasons, the authors selected a descriptive analytical approach to summarize extracted data across a variety of designs (Textbox one). A meta-aggregative approach was chosen for the analysis and presentation of qualitative findings (Lockwood et al., 2015). A table of study characteristics for all potential included papers was proposed.

Due to the unavailability of any paper meeting the inclusion criteria, no results can be presented within this review. The researchers appreciate the limitations of a review of no evidence. However, given the importance of the research question, the paucity of evidence highlights a significant gap in the body of research, which will be explored within the next section.

Discussion

The gap in pediatric nursing education

The absence of literature examining how the proportion of child-specific content in pre-registration nursing programs impacts new qualified registered nurses' perceptions of preparedness to care for children, young people and their families draws attention to a critical gap in nursing education. The authors are therefore reporting an empty review where no studies met pre-defined inclusion criteria. The absence of any studies meeting the

inclusion criteria is itself a finding. It suggests that despite long-standing concerns about the adequacy of child-specific content in pre-registration programmes, the relationship between curriculum content and newly qualified nurses' preparedness has not been empirically investigated. This raises an important question as to why this relationship has remained unstudied?

Empty reviews are recognized as legitimate and valuable contributions to evidence synthesis, serving to map critical gaps in knowledge and inform future research agendas (Cochrane Effective Practice and Organisation of Care, 2017; Gray, 2021; Slyer, 2016).

There is evidence of empty reviews published in the literature (Alenazi et al., 2021; Leighton et al., 2021), which acknowledge the lack of reporting guidance available for presenting the findings of empty reviews. However, following the example from Alenazi et al. (2021), the authors revisited the excluded studies to determine if any were suitable for inclusion if the eligibility criteria were open to include other aspects of delivery, such as type, style, method or mode. No additional studies were identified. An updated search on 6th March 2026, across all three search periods, confirmed that no eligible studies exist, further substantiating the significance of this gap. The central question, therefore, is not whether this gap exists, but why this relationship has remained underexamined despite longstanding concerns about children's nursing content within pre-registration education.

Despite the increased need for skilled children's nurses, pre-registration programmes in some countries note a reduction in their child-specific content and clinical placements (Clancy et al., 2021; McCarthy & Wyatt, 2014). Recent studies indicate a trend toward the reduction of child-specific content in pre-registration nursing programmes in these contexts, limited exposure to pediatric clinical learning experiences, and a move to curriculum design that prioritizes generalist education (Chesney et al., 2021; Clancy et al., 2021; Sharun, 2023; Sundal & Alteren, 2024). Several nursing organizations and authors have long highlighted concerns that child-specific content is being marginalized in nursing undergraduate programmes, despite the unique competencies required for pediatric nursing (Betz, 2021; Echtenkamp & Wheeler, 2024; Nurses, 2023).

This trend toward reduction in child-specific content poses a threat to the preparation of future clinicians and to the children in their care and neglects recognition of the specific bio-psychosocial and pathophysiological differences in the healthcare needs of infancy and childhood. Without adequate exposure to pediatric care, newly qualified nurses may lack competence and confidence in managing child and youth patients, leading to potential safety risks for children and young people and an undervaluing of pediatric nursing as a specialty (Harrison et al., 2020; Reid-Searl et al., 2021; Sundal & Alteren, 2024). Researchers have highlighted some of these risks, including in relation to the delivery of home health care to children with complex medical needs, where lack of child nursing-specific knowledge is linked to increased hospitalizations and emergency room visits as well as contributing to caregiver burden (Nageswaran & Golden, 2017). Other literature suggests that limited preparation within undergraduate programmes results in nurses feeling ill-equipped to care for young people overall, and particularly unprepared for mental health presentations, which places both nurses and patients at risk (Hurley et al., 2024; Van Orne, 2024).

The unique complexity of nursing children and young people

Child and young people's health is a uniquely complex and specialized area of practice. Children undergo predictable developmental changes that impact their biological, anatomical, physiological, psychological, emotional, and social responses to acute and chronic illnesses or injuries (Duffy et al., 2022). In addition to specialized assessment skills and knowledge, nurses who work with children and young people must be skilled and adaptive communicators across a wide range of language abilities, from non-verbal to fully developed speech (Bell & Condren, 2016; Lind et al., 2024).

Various sub-specialties within pediatrics, such as children with complex healthcare needs, children with cancer and young people living with mental illness, further necessitate specialized knowledge and skills training to prepare nurses to enter the field. Children living with complex medical needs are increasingly common, and therefore, skills and knowledge surrounding the multi-faceted care needs of this patient group are paramount for good outcomes and quality care in this patient group (Clancy et al., 2021). The number of children and young people impacted by mental health disorders has increased over the last 15 years (Sorter et al., 2024), and therefore nurses will frequently encounter children with not only physical illness but also behavioral and mental disorders; thus, education is key (Vallières-Noël et al., 2016).

The care of a child is embedded within a family system that influences all aspects of the child's health; therefore, family-centered care and/or child and family-centered care (Zgambo et al., 2025) are fundamental concepts of child and youth nursing (Cosgrove et al., 2024). Nurses play a critical role in engaging with parents, guardians, and extended family members, providing emotional support and guidance throughout the child's healthcare journey (Roscigno, 2016; Seniwati et al., 2023); therefore, preparing new nurses to meet the extended needs of the family is paramount. The interconnected nature of a child's health, healing, growth, and development within their family and community environment has been recognized since Florence Nightingale first described pediatric nursing (Nightingale, 1969). It was acknowledged then (and still is now) that a child's health and healing processes are closely connected to their growth and development, both of which are supported within the context of their family and community environment (Seniwati et al., 2023). As a result, nurses must have the skills and knowledge to collaborate with both children, young people and their parents, caregivers and extended family to promote health and wellbeing (Duffy et al., 2022).

In some countries, such as the USA, Australia and New Zealand, organizations have developed practice standards and competencies specific to pediatric nursing (American Nurses Association National Association of Pediatric Nurse Practitioners and Society of Pediatric Nurses, 2015; Australian College of Children & Young People's Nurses, 2016; New Zealand Nurses Organisation, 2024), acknowledging that child health nurses differ significantly from those who care for adults (Buckley et al., 2021; Sharun, 2023). In addition, the Pediatric Nursing Association of Europe (PNAE) states that "children and their families/guardians have a right to know that the nurse who cares for their child is specifically educated and competent to do so" (Paediatric Nursing Associations of Europe, 2005, p. 1). Despite all of this and the need for skilled child health nurses on the rise, many nursing programmes fail to adequately prepare graduates for the complexities of pediatric nursing, leaving new nurses underprepared for the realities of

caring for children and young people (Clancy et al., 2021). Another key and unique aspect of nursing children surrounds communication approaches. Children's nurses use both verbal and non-verbal communication skills, including adjusting language and tone, asking questions, and using art and play to engage with children (Sabetsarvestani & Geçkil, 2024). From a child nursing perspective, these are important tools to have to successfully work with children of different ages. Reid-Searl et al. (2021) describe the effective trial of a mock hospital pediatric ward that provided an opportunity for undergraduate nursing students to experience children's play, practice age-related communication and practice providing explanations about hospital-related procedures. Although the authors highlight the importance of clinical exposure and practice with children in order to develop these key and integral child nursing skills, they acknowledge, as others have, that many undergraduate programs do not have access to enough child health nursing placements; therefore, students miss out on these opportunities (Gamble, 2017; Reid-Searl et al., 2021).

Work readiness and addressing gaps in nursing education

The transition from student nurse to registered nurse can be particularly challenging, with studies showing that only 35% of nursing graduates feel well-prepared for practice (Crighton et al., 2018). New graduate nurses working in pediatric settings frequently face greater challenges and experience more stress than their counterparts in adult care environments (McKenzie et al., 2021; Taylor & Foster, 2022). Asseiri et al. (2025)'s recent integrative review exploring the transition to practice experiences of graduate nurses emphasized the need to improve undergraduate pediatric nursing education, as insufficient training led to a lack of preparedness and confidence, negatively impacting the transition process to registered nurse. While no studies have directly examined the relationship between curriculum content and preparedness outcomes, existing literature documenting the consequences of inadequate preparation exists. Limited work readiness in managing pediatric patients and ineffective communication skills have also been found by others to lead to oversight of patient deterioration and act as a significant workplace stressor for new nurses (Reid-Searl et al., 2021).

Some undergraduate nursing programs aim to prepare students for quality care across the lifespan by combining theoretical knowledge with practical experience (Lubbers & Rossman, 2016; Patterson et al., 2017). However, if there is limited exposure to pediatric nursing content within the undergraduate curriculum and limited clinical placements within a pediatric setting, there is a risk in new graduate nurses lacking competence and confidence to care for children (Reid-Searl et al., 2021; Sundal & Alteren, 2024). Without sufficient exposure, nursing graduates may struggle to provide safe and effective pediatric care, increasing risks for both patients and healthcare providers (Harrison et al., 2020; McCarthy & Wyatt, 2014). Previous studies, while not specifically focused on pediatric nursing, have identified the challenges that face new graduate nurses, including the competence to recognize deterioration (Herron, 2018; Towner et al., 2022). While preparation in terms of education plays an important role in addressing these challenges, children can deteriorate rapidly; therefore, exposure to pediatric patients is key to developing confidence and competence (Ilangakoon et al., 2020).

Strengths, limitations and recommendations for future reviews

The narrative review aimed to address a previously unexplored issue within nursing education: the impact of child-specific content on newly qualified nurses' preparedness to care for children and families. The review followed a comprehensive and systematic search informed by PRISMA guidance, which enhanced the overall auditability and reproducibility of the review. The review aimed to draw upon international evidence and draw from global standards and frameworks. The review acknowledges that limiting included studies to English-language publications may exclude potentially relevant studies from non-English-speaking countries. The review further acknowledges as a limitation that no relevant studies met the inclusion criteria, and an empty review is reported. The search strategy was built to ensure all terms were captured related to exposure of interest. The authors acknowledge that these related terms and tight inclusion criteria (outcomes) may have narrowed the field for capturing relevant studies. The authors acknowledge that a scoping review, inclusive of gray literature, may have been the more suitable approach to identify available evidence for inclusion.

Implications for educators and practice

The ability to provide recommendations from an empty review is challenging, given there are no findings to draw upon. In the absence of empirical evidence, it is not possible to make definitive recommendations about the optimal proportion of child-specific content in pre-registration programmes, nor to draw conclusions about the relationship between curriculum content and preparedness outcomes. Although drawing from the example of Alenazi et al. (2021), authors can consider implications for future practice. Furthermore, Slyer (2016) states an empty review can provide direction for research to *"fill this knowledge gap, with recommendations to guide the types of research designs needed"* (p. 2).

The identification of child-specific content proportions required to prepare nurses to care for children, young people, and their families has not been possible. Therefore, assumptions cannot be made regarding perceived preparedness, competence or confidence. There is a clear gap in knowledge about how to ensure that newly qualified children's nurses caring for babies, children and young people are adequately prepared. This gap needs to be addressed through empirical research before evidence-based curriculum recommendations can be made; however, educators and employers of nurses need to consider the required portions of theory and practice content and how these may contribute toward preparation.

Future research agenda

In the absence of available evidence, directions for future research are presented. Further empirical studies are needed to explore how the proportion of child-specific content in pre-registration nursing programmes influences newly qualified nurses' perceived preparedness, competence, and confidence in pediatric care. Studies could be developed that consider the longitudinal experiences of newly qualified nurses as they transition to pediatric settings. Research should consider how education has prepared them to care for these populations and their families in pediatric settings. There is also scope to explore clinical placements as part of pre-registration practice learning across different pediatric settings to determine how these

exposures aid readiness for practice. Authors note that a scoping review of the broader literature on children's nursing education and workforce preparedness would be a valuable next step.

Conclusion

This narrative review highlights a critical gap in the literature regarding the impact of child-specific content in pre-registration nursing programmes on newly qualified nurses' preparedness to care for children, young people, and their families. Despite the growing complexity of pediatric healthcare and the recognized need for specialized competencies, no studies were identified that met the inclusion criteria. This highlights a concerning lack of empirical evidence. The lack of evidence and discussion reinforces the urgent need for research to evaluate the impact of current curricula, which in turn should inform curriculum development, a review of clinical practice exposure, and the development of international standards to ensure nursing graduates are adequately prepared for pediatric practice to care for babies, children, young people and their families. Addressing this gap is essential to safeguard the quality of care for children and to support the confidence and competence of the future nursing workforce.

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Appendix

Example of initial search via CINAHL and MEDLINE, conducted 26 August 2025:

Search: CINAHL	Number
S1: New* qualified OR new graduate* OR new registrant OR child* nurs* OR paediatric nurs* OR pediatric nurs* OR specialist child* nurs*	45,272
S2: Pre-registration OR undergraduate OR post graduate OR freshman OR sophomore AND nurs* education OR nurs* programme AND proportion OR number OR delivery OR timing AND field specific OR child specific OR shared content OR shared learning OR specialist education AND higher education Institut* OR educational institut* OR academic institut* OR Universit* OR college of higher education	830,691
S3: S1 AND S2	6,690
S4: Prepared* OR readiness OR competen* OR proficien*	199,204
S5: S3 AND S4	1,357
S6: S5 AND 2016[date-publication] AND English [Language] AND Peer Reviewed	110

Search: MEDLINE	Number
S1: New* qualified OR new graduate* OR new registrant OR child* nurs* OR paediatric nurs* OR pediatric nurs* OR specialist child* nurs*	69,298
S2: Pre-registration OR undergraduate OR post graduate OR freshman OR sophomore AND nurs* education OR nurs* programme AND proportion OR number OR delivery OR timing AND field specific OR child specific OR shared content OR shared learning OR specialist education AND higher education Institut* OR educational institut* OR academic institut* OR Universit* OR college of higher education	19,849,576
S3: S1 AND S2	41,186
S4: Prepared* OR readiness OR competen* OR proficien*	881,514
S5: S3 AND S4	4,339
S6: S5 AND 2016[date-publication] AND English [Language] AND Peer Reviewed	199