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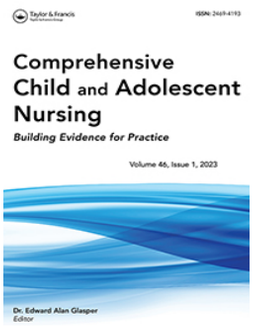

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Participatory Methods to Improve and Develop Pediatric Nursing Practice: A Scoping Review

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ABSTRACT

Children's nurses in African pediatric settings are often responsible for leading practice improvements. There is a shortage of contextually relevant guidance to inform the design of practice improvement projects in African care settings. Distinctive features of children's nursing practice in Africa include high levels of family caregiver involvement, and organizational and professional cultures which value participation. While established practice improvement methods offer many strengths, methods developed in other geographies should not be adopted uncritically. Our purpose in undertaking this review was to inform selection of methods for a multi-center practice improvement project in Africa. Our aim was to identify types of participatory methods used to improve and develop pediatric nursing practice. We used the PRISMA-ScR method to conduct a scoping review to identify published reports of participatory methods used to improve and develop pediatric nursing practice. We undertook structured searches of five bibliographic databases to identify articles. Only articles written in the English language were included and no limitation was applied to publication date. We identified 7,406 titles and abstracts. After screening, 76 articles met the inclusion criteria. A wide range of participatory methodologies were identified; just under half (n = 34) reported on methods that were not recognized or named methodologies but can be described as collaborative in nature. Plan-do-study-act cycles were reported in 22 articles. There was considerable heterogeneity in frameworks, practical tools and/or nursing models on which the participatory methods were based and there was no apparent relationship between these and the choice of participatory methods. The outcomes identified were also heterogenous in nature and were grouped according to whether they improved structure and/or processes and patient outcomes. Most of the included articles stem from high-income countries with little evidence from low-middle-income countries and none in African settings. Less than half of the included articles involved family caregivers in their practice improvement methodologies. This review highlights the need for greater application of formalized methods for practice improvement and improved rigor and consistency in reporting outcomes. There is also a need to formalize participatory practice improvement methodologies specifically suited to Africa's context of children's nursing.

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Introduction

Specialist children's nurses are an extremely rare resource in most African countries, where they account for less than 1% of the nursing workforce (North et al., 2019). The potential importance of their contribution to clinical service delivery through clinical leadership, clinical governance and care direction is considerable (2022). Maximizing this potential is of vital importance to realize the value created through investing in workforce development and one way to achieve this is through ongoing practice improvement/development using methodologies most suited to the context in which the nurses work.

McCormack et al. (1999) define practice development as a continuous process of improvement toward increased effectiveness in person-centered care, through enabling teams to transform the culture and context of care. It is enabled and supported by facilitators committed to a systematic, rigorous, and continuous process of emancipatory changes (McCormack et al., 1999). In higher-resourced nations successive waves of initiatives (including Nursing Development Units, Beacon Units and Magnet Centers) have aimed to identify and develop the best in nursing practices and then cascade that excellence to other teams and settings. In Africa, the Best Practice Project led by the Harry Crossley Children's Nursing Development Unit (CNDU) is facilitating the application of locally-generated evidence and models (Coetzee, 2020; Davis et al., 2014) into local pediatric clinical settings. We believe these nurse-led Best Practice Units are a new initiative in Africa. The aim of our scoping review was to identify what practice improvement methods have been used in other similar projects within pediatric nursing in other parts of the world to inform our project design.

We are aware that the range of methods, theoretical frameworks, practical tools and/or nursing models used in practice improvement and development is large. We were able to narrow our focus in two ways.

Firstly, our prior experience of working to achieve practice improvement initiatives in African pediatric health care settings suggests that using participatory methods to hear and amplify nurses' voices and make implicit practices explicit appear well-suited to practice cultures and contexts (Leonard et al., 2017; North et al., 2020). We defined participatory methods as any method where nurses were actively involved in assessing and/or changing their practice toward improvement/development (McCormack et al., 2007). This prior knowledge led us to narrow our focus to projects that used participatory methods. Examples of participatory methods used globally include co-design, plan-do-study-act (PDSA) cycles, six sigma, action research, appreciative inquiry, brainstorming, huddles, and multi-disciplinary team (MDT) collaboration. There are of course many projects which aim to improve practice by didactic training and upskilling. A recent large systematic review of the effectiveness of strategies to improve health-care provider practices in low to middle-income countries (LMICs) concluded that "training only" was not associated with sustained positive practice improvement (Rowe et al., 2018). We took the decision to exclude studies reporting only training activities from our focus of inquiry.

The second way in which we were able to narrow the focus of our enquiry was informed by knowledge of distinctive caring practices in many African pediatric clinical settings. Family caregivers are omnipresent in most African pediatric health care settings and often contribute to hands-on care delivery for hospitalized children. For this reason, contextually appropriate approaches to improving practice in African settings need to address the ways

in which nurses work in partnership with families to achieve the best outcomes for children (Coetzee, 2020; Power et al., 2021).

A preliminary search for previous related reviews in the Joanna Briggs Institute (JBI) database, the Open Science Framework and the Cochrane Database of systematic reviews did not reveal any reviews related to this topic. A pilot search in PubMed and Google Scholar identified three additional reviews (Dewing, 2008; Manley & McCormack, 2003; McCormack et al., 2007) that addressed practice development but none that focused specifically on participatory practice improvement methods in pediatric nursing. Our review extends the summary of evidence by mapping what participatory practice improvement methods have been used by nurses, alone in or collaboration with MDTs, in clinical pediatrics and where this has been done. It also includes a summary of the types of outcomes that have been improved through these methods and the instances where families have been involved.

Review questions

Our overarching review question was to find out how nurses have used participatory methods to improve/develop practice in clinical pediatric settings. Our specific review questions were: (i) What participatory methods have been applied to improve nursing practice in clinical pediatric settings? (ii) What are the reported outcomes of applying these participatory methods? (iii) Where has this been done geographically (and to what extent is there evidence of work in African countries or in other LMICs globally)? and (iv) To what extent were family caregivers involved?

Methods

We selected a scoping review methodology to explore the breadth or extent of the literature on this topic, to map and summarize the evidence, and to inform future research (Peters et al., 2020). A scoping review methodology is systematic, transparent and replicable, and results are typically presented tabularly with a narrative commentary (Grant & Booth, 2009). Scoping reviews are well-suited to exploratory research questions (Peters et al., 2015) where literature is thought to be scarce or diverse (Colquhoun et al., 2014).

The preferred reporting items for systematic reviews and meta-analyses (PRISMA) statement, endorsed by the Joanna Briggs Institute (JBI), was followed to ensure transparency and replicability of the process while limiting bias – see Figure 1 (Peters et al., 2020). A Population-Concept-Context (PCC) approach was used to structure inclusion and exclusion criteria. For this scoping review, the population was *nurses*, the concept was *participatory methods* (concept 1) of *practice improvement/development* (concept 2) and the context was *clinical pediatric settings*. Nurses were specialist children's nurses and/or general nurses working with children. Other inclusion criteria were sources written in the English language. No limitation on publication date was applied. Articles where nurses were only peripherally involved in a practice improvement initiative led by others were excluded after full text review. We did not limit our search to either practice development or quality improvement as both combat the obstacles that prevent or retard evidence-based practice from becoming everyday practice and both emphasize a facilitative, collaborative approach (Lavery, 2016). To limit our search to practice development or quality improvement would

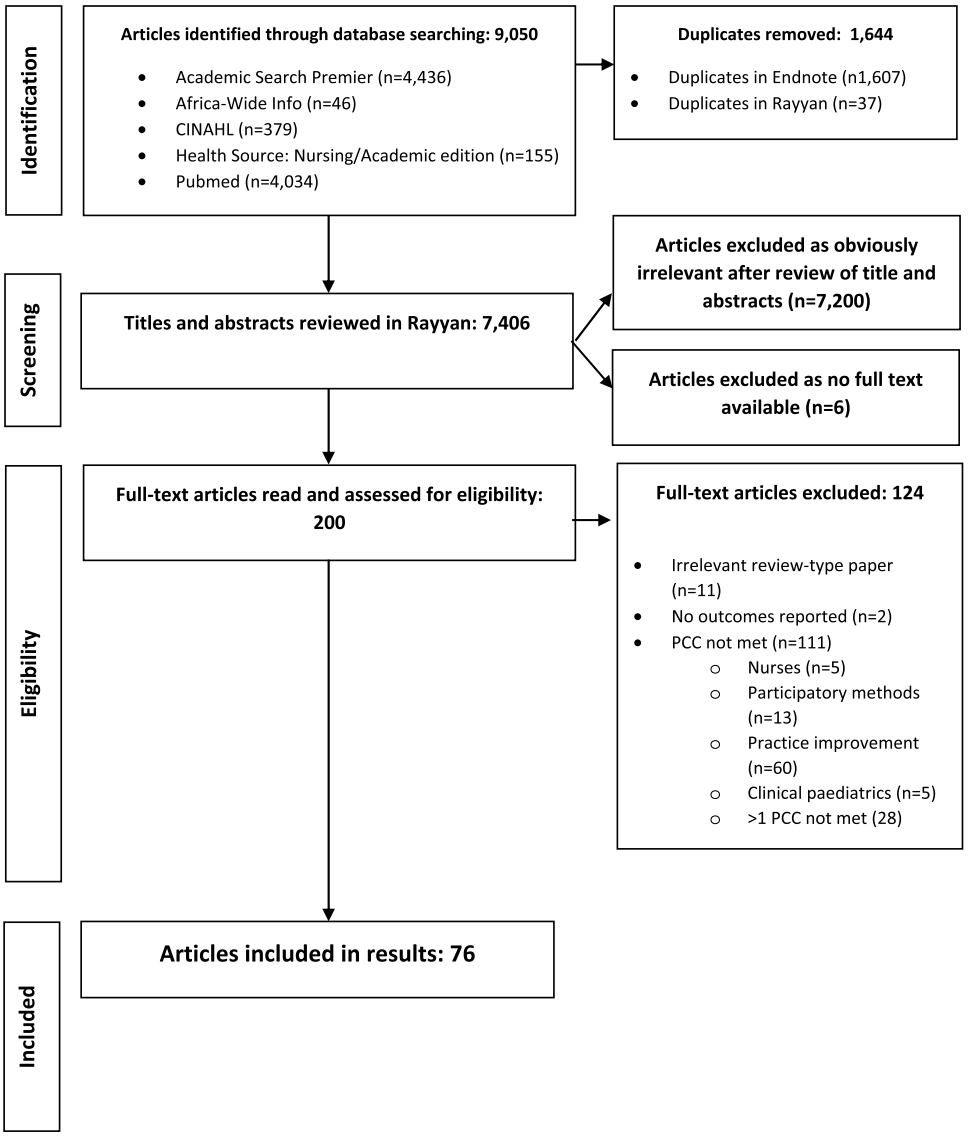

Figure 1. PRISMA flow diagram.

have excluded the other and our focus was rather on the participatory nature of the practice improvement/development.

The main search was directed by a subject specialist senior librarian and peer-reviewed by another, following the evidence-based guideline for Peer Review of Electronic Search Strategies (PRESS) for evidence syntheses by (McGowan et al., 2016). In close consultation with these librarians a detailed search strategy, including all identified key words and definition terms (e.g., Medical Subject Heading (MeSH) terms in PubMed and Medical Dictionary terms in Academic Search Premier) and incorporating the elements of the PCC was conducted across five electronic databases (PubMed, CINAHL, Academic Search

Premier, Health Source: Nursing/Academic Edition and Africa-Wide Information). A complete search strategy for these databases has been included as supplemental material.

One of our secondary objectives was to report what the outcomes of applying participatory methods of practice improvement were. Currently, there are no international nurse-sensitive outcomes for pediatric nursing (Amatt et al., 2022). More broadly speaking, there is no agreement within the nursing profession on how the quality of nursing care should be measured and there are no indicators or performance measures that capture the unique contribution that nursing makes to patient outcomes (Sim et al., 2018). Sim's et al. (2018) outcomes of nursing practice were used to broadly categorize the outcomes reported (Sim et al., 2018). Sim et al. (2018) developed nursing-sensitive patient indicators to measure the outcomes of nursing practice, through a four-round Delphi survey in consultation with patients and nurses about the relative concepts and their priority as indicators of quality nursing practice. The process generated 103 concepts and participants agreed on eight overarching constructs. Sim et al. (2018) adapted Donabedian's (1988) framework of structure, process, and outcome measures and the eight constructs were categorized accordingly. Structure relates to the attributes of the setting, process relates to what occurred in giving and receiving care, and outcomes relates to the changes that are observed in the patient's health and/or condition resulting from the care provided to them (Donabedian, 1988). Sim's et al. (2018) adapted framework combined the categories of processes and patient outcomes, recognizing the dynamic relationship between these categories.

In choosing to categorize identified outcomes according to Sim et al. (2018) framework of nursing-sensitive patient outcomes, we were mindful that it adds to previously recognized quality indicators, such as the National Quality Forum (NQF), the National Database of Nursing Quality Indicators (NDNQI) and the California Nursing Outcomes Coalition (CALNOC) by including the constructs of care and caring, communication, and coordination and collaboration under the categories of processes and patient outcomes, which complement the construct of safety to evaluate nursing practice (Sim et al., 2018).

Two reviewers (NP and EC) agreed on the outcome categories for each of the included articles.

The objectives, inclusion criteria and methods for this scoping review were specified in advance and documented in a protocol published in the Open Science Framework on 30 November 2020 (https://osf.io/e7kud).

Results

The search strategy revealed 9,050 titles. After combining the results first in Endnote and then in Rayyan, a web-based collaborative screening tool for review authors (Ouzzani et al., 2016), 1,644 duplicates were removed, resulting in 7,406 titles and abstracts that were each screened by at least two of the reviewers (NP and EC). Any discrepancies were resolved through discussion. Two hundred full text articles were retrieved and after each was reviewed by the same two reviewers (NP and EC) a further 124 were excluded as they did not meet the inclusion criteria, resulting in a final sample of 76 (see Figure 1 for details). All articles included in the final sample involved active participation of nurses, exclusively or as part of a MDT, with the aim of improving/developing care for hospitalized children. Data from the included articles were extracted as per the review questions. A summary of the

results is reported under the review questions and summarized in Table 1. Detailed extracted data, i.e., greater detail on methodologies, outcomes and how they were measured has been presented in a Supplemental Table.

Participatory practice improvement methods used by nurses

Table 1 shows the wide range of participatory methodologies identified. There was a wide spread with a total of 16 different methods. Most of the articles (n = 34) reported on methods that were not recognized or named methodologies but can be described as collaborative in nature because the nurses worked together with families (n = 4) (He et al., 2018; Lipke et al., 2018; Nichols, 2014; Spazzapan et al., 2020) and without (n = 5) (Chen-Lim et al., 2012; Cockerham et al., 2011; Patton et al., 2017; Tidwell et al., 2011; Uhm et al., 2018), nurses worked together as part of a MDT with families (n = 2) (Balice-Bourgois et al., 2020; Khan et al., 2018) and without (n = 20) (Acal Jiménez et al., 2018; Bovero et al., 2018; Bradshaw et al., 2020; Costello et al., 2008; Cregin et al., 2008; DeMauro et al., 2013; Dobrasz et al., 2013; Field et al., 2018; Hockenberry et al., 2007; Kamerling et al., 2008; Kaufman et al., 2015; Kurlat et al., 1998; Margonari & Hannan, 2017; Monforto et al., 2012; Montgomery & Budreau, 1996; Northway et al., 2015; Praglowski, 2015; Sawyer et al., 2019; Snyder et al., 2020; Welsh et al., 1999), nurses worked together as part of an international collaboration (n = 2) (Day et al., 2013; Khan, Abdullah, etal., 2017), and nurses worked together as part of a university and rural hospital collaboration (n = 1) (Stephens & Mosser, 2013). PDSA cycles were reported in 22 articles (Acorda, 2015; Benning & Webb, 2019; Chapman et al., 2020; Corey & Snyder, 2008; Epstein, 2017; Falciglia et al., 2003; Fieldston et al., 2016; Geyer et al., 2016; Grover et al., 2015; Jackson et al., 2006; Kellams et al., 2017; Kelley-Quon et al., 2019; Khan, Baird, etal., 2017; Leonardi et al., 2019; Lopez et al., 2019; Ozawa et al., 2017; Shermont et al., 2016; Spruill & Heaton, 2014; Stikes & Barbier, 2013; Thornton et al., 2019; Welch et al., 2017; White et al., 2014). Five articles reported using six sigma/lean six sigma (Connor et al., 2016; Geerlinks et al., 2020; Harris et al., 2011; McBeth et al., 2018; Wilt Major, 2016)) and three reported using the Delphi technique in conjunction with other methodologies: the great cookie experiment (Barton et al., 2012), an interactive simulation course (Gilfoyle et al., 2017), and PDSA cycles (Jackson et al., 2006). A further 12 methodologies (Albert et al., 2019; Ammentorp et al., 2011; Araujo dos Santos et al., 2016; Beringer & Juliet, 2009; Bowen et al., 2020; Edwards et al., 2007; Jakubik et al., 2004; Jordan-Marsh et al., 2004; McMullan et al., 2013; O'Connor, 2017; Sams et al., 2016; Yu et al., 2017) were only mentioned in one or two articles. See Table 1 and the Supplemental Table for more details.

We noticed considerable heterogeneity in frameworks, practical tools and/or nursing models on which the participatory methods were based and there was no apparent relationship between the choice of participatory methods and theoretical frameworks, tools, or models. Eleven of the 34 articles that described collaborative methodologies did not report a recognized framework, practical tool, or nursing model either (Bowen et al., 2020; Costello et al., 2008; Cregin et al., 2008; DeMauro et al., 2013; Dobrasz et al., 2013; Field et al., 2018; He et al., 2018; Kaufman et al., 2015; Kurlat et al., 1998; Praglowski, 2015; Tidwell et al., 2011). Examples of theoretical frameworks followed included the Institute for Healthcare Improvement Model (IHI) (Bradshaw et al., 2020; Fieldston et al., 2016; Grover et al., 2015; Ozawa et al., 2017), the JBI Practical Application of Clinical Evidence System (PACES) &

Table 1. Summary of included articles.

Author & year	Methods applied to improve practice *Theoretical frameworks, practical tools &/or nursing models*	Reported outcomes *Structure or Processes & Patient Outcomes* (Sim et al., 2018)	Country	FI
Acal Jiménez et al. (2018)	MDT collaboration including huddles *Donabedian's framework assessment of quality of care* *SQUIRE reporting guidelines*	Bedside rounds *Processes & Patient outcomes*	USA	N
Acorda (2015)	PDSA cycles	BiPAP related pressure ulcers *Processes & Patient outcomes*	USA	N
Albert et al. (2019)	MDT brainstorming *Key-driver diagrams* *SQUIRE reporting guidelines*	Hand hygiene *Structure*	USA	N
Ammentorp et al. (2011)	Rehearsals, video-recordings & feedback *Social Learning Theory & Patient-centered approach*	HCP communication with families *Processes & Patient outcomes*	Denmark	Y
Araujo dos Santos et al. (2016)	Care Convergent Research *Theory of basic human needs*	Nursing patient history tool *Processes & Patient outcomes*	Brazil	N
Balice-Bourgois et al. (2020)	MDT collaboration & involvement of parents *Craig's Social Communication Model of pain*	Pain management in newborns *Processes & Patient outcomes*	Switzerland	Y
Barton et al., 2012	Great Cookie Experiment, Delphi Technique & *Iowa model of EBP & Magnet Model of care*	Plan of care *Processes & Patient outcomes*	USA	N
Benning and Webb (2019)	PDSA cycles *Key-driver diagrams*	Pediatric falls *Processes & Patient outcomes*	USA	Y
Beringer and Juliet (2009)	Action research	Reduced nurse time off the ward *Structure*	UK	N
Bovero et al., 2018	MDT collaboration *PEPPA framework & four-dimensional model of collaboration*	ANP role development *Processes & Patient outcomes*	Switzerland	Y
Bowen et al. (2020)	Simulation-based workshop	Communication with families *Processes & Patient outcomes*	USA	N
Bradshaw et al. (2020)	MDT collaborative intervention *IHI & key-driver diagrams*	HepB vaccination rates *Structure, Processes & Patient outcomes*	USA	Y
Chapman et al. (2020)	PDSA cycles *Key-driver diagrams*	Patient safety & staff communication *Processes & Patient outcomes*	Australia	N
Chen-Lim et al. (2012)	Nursing collaboration (clinical & research) *Johns Hopkins Nursing EBP model*	Pain assessment of cognitively impaired children *Processes & Patient outcomes*	USA	Y
Cockerham et al. (2011)	New & experienced nurse collaboration *Blooms Taxonomy of Education Objectives*	New nurse knowledge & confidence *Processes & Patient outcomes*	USA	N
Connor et al. (2016)	Six sigma *Key-driver diagram*	Medication events/errors *Processes & Patient outcomes*	USA	N
Corey and Snyder (2008)	PDSA cycles	Antibiotic administration for febrile patients *Processes & Patient outcomes*	USA	N

(*Continued*)

Table 1. (Continued).

Author & year	Methods applied to improve practice *Theoretical frameworks, practical tools &/or nursing models*	Reported outcomes *Structure or Processes & Patient Outcomes* (Sim et al., 2018)	Country	FI
Costello et al. (2008)	MDT collaboration	CLABSI rates *Processes & Patient outcomes*	USA	N
Cregin et al. (2008)	MDT collaboration	Pain management *Structure, Processes & Patient outcomes*	USA	Y
Day et al. (2013)	International collaboration *Joint Commission International Quality Standards*	Oncology care *Structure, Processes & Patient outcomes*	Guatemala	N
DeMauro et al. (2013)	MDT collaboration	Resuscitation of hypothermic infants *Structure, Processes & Patient outcomes*	USA	N
Dobrasz et al. (2013)	MDT collaboration	Antibiotic administration *Structure, Processes & Patient outcomes*	USA	N
Edwards et al. (2007)	Peer education programme *Theory of Planned Behavior*	Antipyretic administration *Processes & Patient outcomes*	Australia	N
Epstein, 2017	PDSA cycles	Postoperative pain management *Processes & Patient outcomes*	USA	Y
Ercole-Fricke et al. (2016)	MDT collaborative problem-solving	Care of adolescent psychiatric patients *Processes & Patient outcomes*	USA	Y
Falciglia et al. (2003)	PDSA cycles *Fishbone diagram*	Nosocomial infections *Structure, Processes & Patient outcomes*	USA	N
Field et al. (2018)	MDT collaboration	Patient care quality, safety, & flow *Structure, Processes & Patient outcomes*	USA	N
Fieldston et al. (2016)	PDSA cycles *IHI & Key-driver diagram*	Patient quality of care *Structure*	USA	N
Geerlinks et al. (2020)	Lean six sigma	Antibiotic administration *Processes & Patient outcomes*	Canada	Y
Geyer et al. (2016)	PDSA cycles	Safer sleep practices *Processes & Patient outcomes*	USA	Y
Gilfoyle et al. (2017)	Interactive simulation course & Delphi technique	Resuscitation *Structure, Processes & Patient outcomes*	Brazil	N
Grover et al. (2015)	PDSA cycles *IHI & Key-driver diagram*	CLABSI rates *Structure, Processes & Patient outcomes*	USA	N
Harris et al. (2011)	Six sigma	Iatrogenic infections in PICU *Structure, Processes & Patient outcomes*	USA	N
He et al. (2018)	Nurse-parent collaboration	Improved parent involvement in care *Processes & Patient outcomes*	China	Y
Hockenberry et al. (2007)	MDT collaboration *Evidence-based practice principles*	Procedural pain management *Structure, Processes & Patient outcomes*	USA	Y

(*Continued*)

Table 1. (Continued).

Author & year	Methods applied to improve practice *Theoretical frameworks, practical tools &/or nursing models*	Reported outcomes *Structure or Processes & Patient Outcomes* (Sim et al., 2018)	Country	FI
Jackson et al. (2006)	PDSA cycles & Delphi technique	Nasal cannula care *Structure, Processes & Patient outcomes*	USA	N
Jakubik et al. (2004)	Interactive advanced pediatric nurse training *Benner's proficiency development, Covey's leadership principle, Zemke's concept of general leadership*	Nurse knowledge, skills & role development *Structures, Processes & Patient outcomes*	USA	N
Jordan-Marsh et al. (2004)	Participatory action research *Social ecology approach*	Pain management *Processes & Patient outcomes*	USA	N
Kamerling et al. (2008)	MDT collaboration *Family-centered care*	Parent visitation in PICU *Structure, Processes & Patient outcomes*	USA	Y
Kaufman et al. (2015)	MDT collaboration	Nutritional status of admitted children *Processes & Patient outcomes*	USA	N
Kellams et al. (2017)	PDSA cycles	Safe sleep practices *Processes & Patient outcomes*	USA	Y
Kelley-Quon et al. (2019)	PDSA cycles *Key-driver diagrams*	SSC for surgical infants *Processes & Patient outcomes*	USA	Y
Khan et al. (2017)	PDSA cycles	Night-time communication *Processes & Patient outcomes*	USA	Y
Khan et al. (2017)	International collaboration *International Quality Improvement Collaborative Framework*	Post congenital heart surgery care *Processes & Patient outcomes*	Pakistan	N
Khan et al. (2018)	MDT collaboration with families *Modified I-PASS*	Family-centered rounds *Processes & Patient outcomes*	USA	Y
Kurlat et al. (1998)	MDT collaboration	Infection control *Processes & Patient outcomes*	Argentina	N
Leonardi et al. (2019)	PDSA cycles *Key-driver diagrams*	Neonatal sepsis *Processes & Patient outcomes*	USA	Y
Lipke et al. (2018)	Nurse collaboration with families *CHAT huddles*	Infant safe sleep & reduction of falls *Processes & Patient outcomes*	USA	Y
Lopez et al. (2019)	PDSA cycles *Structured interdisciplinary bedside rounding*	Family involvement in bedside rounds *Processes & Patient outcomes*	USA	Y
Margonari and Hannan (2017)	MDT collaboration *American Pain Society Quality of Care Committee*	Pain management *Structure, Processes & Patient outcomes*	USA	N
McBeth et al. (2018)	Lean six sigma	Ventilator-associated pneumonia *Structure, Processes & Patient outcomes*	USA	N
McMullan et al. (2013)	Root cause analysis *Lighting rounds*	CLABSI & LOS *Structures, Processes & Patient outcomes*	USA	N

(*Continued*)

Table 1. (Continued).

Author & year	Methods applied to improve practice *Theoretical frameworks, practical tools &/or nursing models*	Reported outcomes *Structure or Processes & Patient Outcomes* (Sim et al., 2018)	Country	FI
Monforto et al. (2012)	MDT collaboration *Shared governance model*	Workflow & patient flow *Structures, Processes & Patient outcomes*	USA	N
Montgomery and Budreau (1996)	MDT collaboration *IOWA model*	Intravenous infiltration *Structures, Processes & Patient outcomes*	USA	N
Nichols (2014)	Nurse-mother collaboration *Breast is best*	Promotion of breastfed infants *Processes & Patient outcomes*	USA	Y
Northway et al. (2015)	MDT collaboration *Iterative process including brainstorming* *SQUIRE reporting guidelines*	Patient handover from surgery to PICU *Processes & Patient outcomes*	Canada	N
O'Connor (2017)	Joanna Briggs Institute PACES & GRiP audit & feedback tool	Continuity of care, patient & staff safety *Processes & Patient outcomes*	USA	N
Ozawa et al. (2017)	PDSA cycles *IHI*	Pain management *Structure, Processes & Patient outcomes*	Japan	N
Patton et al. (2017)	Nursing collaboration *Communication process model & ISHAPED handoff tool*	Patient handoff *Structure, Processes & Patient outcomes*	USA	N
Praglowski (2015)	MDT collaboration	Weight maintenance *Processes & Patient outcomes*	USA	Y
Sams et al. (2016)	Collaborative and Proactive Solutions *Strengths-based approach*	Inpatient psychiatric care *Processes & Patient outcomes*	USA	Y
Sawyer et al. (2019)	MDT collaboration *Kirkpatrick's 4-level model*	Extracorporeal cardiopulmonary resuscitation *Structure, Processes & Patient outcomes*	USA	N
Shermont et al. (2016)	PDSA cycles, teach-back methodology, root cause analysis *Key-driver diagram*	Discharge bundles *Structure, Processes & Patient outcomes*	USA	Y
Snyder et al. (2020)	MDT collaboration *Participatory QI framework*	Catheter-associated urinary tract infections *Processes & Patient outcomes*	USA	N
Spazzapan et al. (2020)	Nurse-parent collaboration *Patient-centered care*	Patient-centered care *Processes & Patient outcomes*	USA	Y
Spruill and Heaton (2014)	PDSA cycles	Continuity of care *Structure, Processes & Patient outcomes*	USA	N
Stephens and Mosser (2013)	University & rural community hospital collaboration *Adult learning theory*	Peripheral intravenous insertion *Structure, Processes & Patient outcomes*	USA	N
Stikes and Barbier (2013)	PDSA cycles *Kangaroo care*	Kangaroo care *Structure, Processes & Patient outcomes*	USA	Y
Thornton et al. (2019)	PDSA cycles	CLABSI rates *Processes & Patient outcomes*	USA	N

(*Continued*)

Table 1. (Continued).

Author & year	Methods applied to improve practice *Theoretical frameworks, practical tools &/or nursing models*	Reported outcomes *Structure or Processes & Patient Outcomes* (Sim et al., 2018)	Country	FI
Tidwell et al. (2011)	Nurse collaboration	Patient & nurse satisfaction & nurse overtime *Structure, Processes & Patient outcomes*	USA	Y
Uhm et al. (2018)	Nurse collaboration *SBAR handover technique & Donabedian's model*	Patient handover *Structure, Processes & Patient outcomes*	Korea	N
Welch et al. (2017)	PDSA cycles	NICU LOS & readmissions *Processes & Patient outcomes*	USA	Y
Welsh et al. (1999)	MDT collaboration *Continuous quality improvement model*	Care of asthmatic patients *Structure, Processes & Patient outcomes*	USA	N
White et al. (2014)	PDSA cycles *Key-driver diagrams*	Time to discharge and LOS *Structure, Processes & Patient outcomes*	USA	N
Wilt Major (2016)	Lean six sigma *Institute of Medicine*	Infiltration of peripheral intravenous therapy *Processes & Patient outcomes*	USA	Y
Yu et al. (2017)	Joanna Briggs Institute PACES & GRiP audit & feedback tool *SBAR handover technique*	Clinical handovers *Structure, Processes & Patient outcomes*	China	N

FI family involvement: Y yes, N no.

BiPAP bilevel positive airway pressure, CHAT current communication history assessment treatment, CLABSI central line-associated bloodstream infections, EBP evidence-based practice, GRiP Getting Research into Practice, HCP healthcare professionals, IHI Institute for Healthcare Improvement, I-PASS Illness severity Patient summary Action list Situation awareness & contingency planning Synthesis by receiver, LOS length of stay, MDT multidisciplinary team, PACES Practical Application of Clinical Evidence System, PDSA plan-do-study-act, PEPPA participatory evidence-informed patient-centered process, PICU pediatric intensive care unit, SBAR situation background assessment & recommendation, SQUIRE Standards for Quality Improvement Reporting Excellence, SSC skin-to-skin contact.

Getting Research into Practice (GRiP) audit and feedback tool (O'Connor, 2017; Yu et al., 2017), and Donabedian's framework assessment of quality of care (Acal Jiménez et al., 2018; Uhm et al., 2018). Practical tools included key-driver diagrams (Albert et al., 2019; Benning & Webb, 2019; Bradshaw et al., 2020; Chapman et al., 2020; Connor et al., 2016; Fieldston et al., 2016; Grover et al., 2015; Kelley-Quon et al., 2019; Leonardi et al., 2019; Shermont et al., 2016; White et al., 2014) and established handover tools such as the Situation Background Assessment & Recommendation (SBAR) handover technique (Uhm et al., 2018; Yu et al., 2017) and the Modified I-PASS tool (Khan et al., 2018). Nursing models included family-centered care (Kamerling et al., 2008) and patient-centered care (Ammentorp et al., 2011; Spazzapan et al., 2020). Twelve studies (Ammentorp et al., 2011; Barton et al., 2012; Bovero et al., 2018; Bradshaw et al., 2020; Fieldston et al., 2016; Gilfoyle et al., 2017; Grover et al., 2015; Jackson et al., 2006; Jakubik et al., 2004; Patton et al., 2017; Shermont et al., 2016; Uhm et al., 2018) used more than one methodology and/or framework, practical tool, or nursing model and these have been detailed in Table 1 and the Supplemental Table.

Reported outcomes of practice improvement/development

A variety of outcomes were reported in the 76 included articles. These outcomes are summarized in Table 1 and detailed in the Supplemental Table. As with the reported methodologies, we identified great heterogeneity in improved outcomes and these were categorized as either structure or processes and patient outcomes according to Sim et al.'s (2018) categories. Thirty-one articles reported improvements in structure, as well as processes and patient outcomes; 42 articles reported improvements in the categories of processes and patient outcomes; and three articles reported improvements in structure only.

Processes and patient outcomes

Examples of outcomes grouped under processes and patient outcomes include safe sleep and reduction of falls (Benning & Webb, 2019; Geyer et al., 2016; Kellams et al., 2017; Lipke et al., 2018), reduced infection rates (Costello et al., 2008; Falciglia et al., 2003; Grover et al., 2015; Harris et al., 2011; Kurlat et al., 1998; Leonardi et al., 2019; McBeth et al., 2018; McMullan et al., 2013; Snyder et al., 2020; Thornton et al., 2019), intravenous line care (Montgomery & Budreau, 1996; Stephens & Mosser, 2013; Wilt Major, 2016), medication administration (Bradshaw et al., 2020; Connor et al., 2016; Corey & Snyder, 2008; Dobrasz et al., 2013; Edwards et al., 2007; Geerlinks et al., 2020), length of stay (LOS) (McMullan et al., 2013; Welch et al., 2017; White et al., 2014), pain management (Balice-Bourgois et al., 2020; Chen-Lim et al., 2012; Cregin et al., 2008; Epstein, 2017; Hockenberry et al., 2007; Jordan-Marsh et al., 2004; Margonari & Hannan, 2017; Ozawa et al., 2017), communication with families (Ammentorp et al., 2011; Bowen et al., 2020), nurse communications (Chapman et al., 2020; Khan, Baird, etal., 2017), family involvement in rounds and/or patient care (He et al., 2018; Kamerling et al., 2008; Kelley-Quon et al., 2019; Khan et al., 2018; Lopez et al., 2019; Shermont et al., 2016; Spazzapan et al., 2020; Stikes & Barbier, 2013), planning/executing improved patient care (Barton et al., 2012; Day et al., 2013; Ercole-Fricke et al., 2016; Field et al., 2018; Jackson et al., 2006; Khan, Abdullah, etal., 2017; O'Connor, 2017; Sams et al., 2016; Spruill & Heaton, 2014; Welsh et al., 1999), resuscitation (DeMauro et al., 2013; Gilfoyle et al., 2017; Sawyer et al., 2019), patient handovers/hand-offs

(Northway et al., 2015; Patton et al., 2017; Uhm et al., 2018; Yu et al., 2017), nurse role development/knowledge (Bovero et al., 2018; Cockerham et al., 2011; Jakubik et al., 2004), and nurse workflow/patient flow (Field et al., 2018; Monforto et al., 2012; Tidwell et al., 2011). Outcomes reported in only one article that could not be grouped included child nutrition (Kaufman et al., 2015), breastfeeding (Nichols, 2014), and patient weight management (Praglowski, 2015). Most of the articles (27/31) that included outcomes under structure involved some change/improvement to the construct of organizational characteristics, two articles improved nurse workload (Monforto et al., 2012; Tidwell et al., 2011), and three articles improved nursing work environment (Jakubik et al., 2004; Spruill & Heaton, 2014; Tidwell et al., 2011).

Structure

The three articles that reported outcomes grouped under structure only included improvements in organizational characteristics (hand-hygiene practices (Albert et al., 2019) and improved quality of care (Fieldston et al., 2016) and nurse workload (minimizing nurse time off the ward (Beringer & Juliet, 2009).

Numerous forms of measurement were reported, including patient assessments, medical record review, observation, questionnaires (validated and non-validated), focus groups and/or interviews, surveys, and audits. The Supplemental Table provides details of the outcome measurements used in each of the included articles. We did not discern any patterns between reported outcomes and means of measurement. Only three articles (Acal Jiménez et al., 2018; Albert et al., 2019; Northway et al., 2015) adhered to SQUIRE guidelines (Standards for Quality Improvement Reporting Excellence 2.0) to write up/present their results (Ogrinc et al., 2016). All three of these were quality improvement projects.

Countries in which participatory methods have been reported

Ninety-one percent of the included articles reported on participatory methods to improve/develop practice in high-income countries (USA = 59, Canada = 2, Europe = 4, Australia = 2, Japan = 1, North Korea = 1). Five articles were identified from upper-middle-income countries (Brazil = 2, Guatemala = 1, Argentina = 1, China = 2) and one from a low-income country (Pakistan) (The World by Income and Region [Internet], 2022). The two articles from lower to middle income countries' (Guatemala and Pakistan) involved international collaboration. There were no reports of participatory methods used to improve/develop nursing practice in clinical pediatric settings in African countries.

Family involvement

Thirty-nine percent (30/76) of the included articles involved family caregivers in their projects (see Table 2 for details of family involvement). Types of involvement took various forms. Family caregivers were involved in projects which aimed to help improve nurses' communication with families (Ammentorp et al., 2011; Khan, Baird, etal., 2017), child pain management (Balice-Bourgois et al., 2020; Chen-Lim et al., 2012; Cregin et al., 2008; Epstein, 2017; Hockenberry et al., 2007), safer sleep/reduction of falls (Geyer et al., 2016; Kellams et al., 2017; Lipke et al., 2018), consultation regarding nurses' role and the

Table 2. Family involvement in participatory practice improvement methods.

Author, year & country	How families were involved
Ammentorp et al. (2011) Denmark	Parents completed a questionnaire to evaluate the effects of the intervention.
Balice-Bourgois et al. (2020) Switzerland	Parents were encouraged to participate in their child's pain management.
Benning and Webb (2019) USA	Patients & families were educated on falls prevention.
Bovero et al. (2018) Switzerland	Various interactions with family e.g., nurse consultant liaised between MDT & family & out-of-hospital practitioners.
Bradshaw et al. (2020) USA	Families were consulted to identify barriers to their child receiving HepB vaccine & were educated/informed regarding the importance of the vaccine.
Chen-Lim et al. (2012) USA	Past parents were involved in the selection of the two tools as part of the Family Advisory Council. During project implementation, parents were involved in discussing their child's pain behaviors with the nurse. Parents completed questionnaires regarding the pain tools implemented.
Cregin et al. (2008) USA	A child life specialist educated the parents regarding the use of non-pharmacological pain management techniques.
Epstein (2017) USA	Families were educated on the use of patient-controlled analgesia.
Ercole-Fricke et al. (2016) USA	A problem-solving approach involved establishing relationships with adolescents & engaging with them during challenging behavior with empathy, questioning & mutual solutions.
Geerlinks et al. (2020) Canada	Parents were taken on a pre-discharge tour of the emergency department (ED) to familiarize them with the intervention. Parents carried a febrile neutropenia card for their child to display at the ED as a guide for nurses & to ensure prompt assistance.
Geyer et al. (2016) USA	Parents were educated regarding the new safe sleep protocol & encouraged to adhere to it.
He et al. (2018) China	Parents were educated by nurses regarding their involvement in their baby's care.
Hockenberry et al. (2007) USA	Nurses encouraged families to be involved in the child's pain care by advocating for their child.
Kamerling et al. (2008) USA	Parents were educated & prepared for what to expect upon entering the post-anaesthetic care unit specifically regarding the surgery, anesthesia & the goal of reducing preoperative anxiety.
Kellams et al. (2017) USA	Mothers were educated by nurses regarding safe sleep practices.
Kelley-Quon et al. (2019) USA	Mothers were educated about skin-to-skin contact (SSC) & encouraged to provide SSC to their infants.
Khan et al. (2017) USA	Families were involved in evening bedside family-centered huddles & received update sheets on the patient from daytime staff. Families assessed communication & their experience.
Khan et al. (2018) USA	Families were involved in designing & refining the intervention. They were encouraged to participate in rounds, e.g., express concerns re medical errors & their child's condition.
Leonardi et al. (2019) USA	Mothers were encouraged to alert nurses to any concerns regarding their infant while rooming-in. Mothers/parents were asked to bring their infant back to hospital for a follow-up appointment within 24-48 hours of discharge.
Lipke et al. (2018) USA	Parents were educated on the topic of sudden infant death syndrome (SIDS) prevention & participated in providing a safe sleep environment for their infant.
Lopez et al. (2019) USA	Families were encouraged to be involved in interdisciplinary rounds.
Nichols (2014) USA	Nurses worked with mothers to achieve their goal of breastfeeding their infant on the infant's first oral feed.
Praglowski (2015) USA	Patients & families were educated regarding healthy food & portion sizes.
Sams et al. (2016) USA	Adolescents were involved in mindfulness groups.
Shermont et al. (2016) USA	Families were involved in a teach-back discharge planning bundle.
Spazzapan et al. (2020) USA	Parents were actively involved in the design & content of the "a bit about me" boards. In completing the boards, parents had a role in providing nonmedical information to improve staff's knowledge of their child's traits.

(*Continued*)

Table 2. (Continued).

Author, year & country	How families were involved
Stikes and Barbier (2013) USA	Parents were actively involved in kangaroo care (KC).
Tidwell et al. (2011) USA	Parents/families were invited & encouraged to participate in bedside handover by asking questions & sharing concerns.
Welch et al. (2017) USA	Feedback from NICU multidisciplinary meetings were shared with parents within 24 hr & their questions/input were brought back to the group at the next meeting.
Wilt Major (2016) USA	Parents were encouraged to assess their child's peripheral intravenous site daily & report if any concerns.

development thereof (Bovero et al., 2018), administration of vaccines (Bradshaw et al., 2020) and antibiotics (Geerlinks et al., 2020), improved care of the psychiatric patient (Ercole-Fricke et al., 2016; Sams et al., 2016), increased family involvement in care (He et al., 2018; Kelley-Quon et al., 2019; Leonardi et al., 2019; Nichols, 2014; Praglowski, 2015; Shermont et al., 2016; Spazzapan et al., 2020; Stikes & Barbier, 2013; Welch et al., 2017; Wilt Major, 2016) and involvement in patient rounds/bedside reporting (Khan et al., 2018; Lopez et al., 2019; Tidwell et al., 2011).

Summary of results

The sources identified suggest that participatory practice improvement methods used by nurses supported improvements in the care of hospitalized children. Of the seventy-six articles identified, almost half (44.7%) did not report a recognized methodology, framework, practical tool, or nursing model but involved nurses working together, with or without a MDT, and with or without family caregivers.

While most articles (55.3%) did report a recognized methodology, we found great heterogeneity in participatory methods, frameworks, practical tools, and nursing models as well as heterogeneity in improved outcomes.

Collaborative approaches, without a formal label, were the most reported methodology, with PDSA cycles next in quantity. Most included articles (n = 73) reported improvements categorized under processes and patient outcomes and only three articles reported improvements categorized under structure only.

Most of the reported articles were from high income countries with none reported in African countries. Perhaps surprisingly for pediatric care settings, less than half of the included articles involved families in their process of practice improvement/development, and where family caregivers were involved, this involvement took a variety of forms.

Discussion

This scoping review identified 76 articles that reported nurses' active participation in practice improvement methodologies in clinical pediatrics. The heterogeneity in methods identified is similar to that reported by Rowe et al. (2018). Based on their review, Rowe et al. concluded that interventions which included group problem solving and community support had larger positive effects compared to numerous other methods. Combined approaches using multiple strategies appeared to be the most effective at improving healthcare provider practices overall (Rowe et al., 2018). Rowe et al.'s review makes

a compelling case for a holistic and comprehensive approach to practice improvement, which addresses how health care workers learn and the context in which they are attempting to develop their practice.

Group problem solving and community involvement are characteristic of participatory practice improvement activities. Many of the uncategorized "collaborative" approaches we identified exhibited characteristics of group problem solving and community involvement.

PDSA cycles were the most frequently reported recognized methodology in our review. This is echoed by the results of the NHS Horizons Improvement Olympics, where PDSA cycles were rated as the most popular method among change leaders. Interestingly, neither the second or the third most highly-rated methods that emerged from the Improvement Olympics – appreciative inquiry and "What matters to you?" were identified in our review (Improvement Method Olympics [Internet], 2022).

In McCormack's et al., 2007 review paper on theories related to practice development, the authors report that the consistent learning approaches to practice development in the literature are labeled as "active learning" or "reflective learning," which focus on the active engagement and participation of participants (McCormack et al., 2007). Lavery (2016) suggests that practice development values evidence from practice while quality improvement methodologies, e.g. the use of PDSA cycles, allows local context to shape how new practices become part of normal work and suggests that acknowledging what unites practice development and quality improvement might strengthen them both (Lavery, 2016). Our review focused more broadly on practice improvement and included articles that used either practice development or quality improvement methodologies.

There was also a great heterogeneity identified in improved outcomes reported across the included articles. Our review did not identify a discernible pattern related to the choice of methodology and the nature of nursing-sensitive patient outcomes according to Sim et al.'s categories that were adapted from Donabedian's framework of structure, process, and outcomes (Donabedian, 1988; Sim et al., 2018). Of the two included articles (Acal Jiménez et al., 2018; Uhm et al., 2018) which based their practice improvement on Donabedian's (1988) framework, one (Acal Jiménez et al., 2018) reported outcomes related to process and patient outcomes only, while the second (Uhm et al., 2018) reported outcomes related to structure, process and patient outcomes. Donabedian asserts that the three-part approach to quality care is possible because good structure increases the likelihood of good process, and good process increases the likelihood of good outcome (Donabedian, 1988).

Gaps in knowledge base

Although numerous methodologies, frameworks, practical tools, and nursing models have been associated with participatory practice improvement methods, our review did not identify a clear indication of what works best. It is also not discernible whether the involvement of family caregivers had a greater effect on improved practice than those without and this merits further exploration, particularly with an Afrocentric lens. We found little to no reported evidence of nurse participatory practice methods in low to upper-middle income countries, and none in African countries. However, this could be due to reporting bias.

Implications for practice and research

This review found dozens of practice improvement projects that varied in methods, approach and reported outcomes. Our review of the identified literature, which is mainly from higher resourced settings, suggests a need for greater application of formalized methods for practice improvement, and improved rigor and consistency in conceptualizing and reporting outcomes.

We support calls for greater standardization in reporting of practice improvement projects (Rowe et al., 2018), e.g. application of SQUIRE, to which only three of 76 included articles conformed. However, a reporting standard does not provide direction regarding the process of improvement or the selection of method. Future practice improvement methodologies should be mindful of integrating a holistic approach addressing structure, processes, and patient outcomes to explore and change existing practice cultures.

We recommend more use of established quality improvement methodologies, making use of formalized approaches when designing practice improvement projects. There are many resources collated by organizations providing leadership in knowledge translation to support practical innovation. See for example NHS Horizons (Improvement Method Olympics [Internet], 2022), related to PDSA cycles (PDSA Cycle - The W. Edwards Deming Institute [Internet], 2022), "What matters to you?"(2022) and appreciative inquiry (Cooperrider, 2022).

We also recommend further research to understand and formalize participatory practice improvement methodology specifically suited to Africa's context for nursing practice. This should involve contextualization of established methods and rigorous evaluation of process and outcomes.

Limitations of this review

This scoping review identified reports of nurses' active participation in practice improvement methodologies in clinical pediatrics, the outcomes that have been reported, where this has been published and whether family caregivers have been involved. It was beyond the scope of this review to identify the suitability of the methodologies used or to determine whether these methods are better than traditional, didactic methods of training. It was also beyond the scope of this review to identify which participatory methods were better than others in terms of the impact that the methodologies had on outcomes. The extreme heterogeneity of methods and outcomes identified made analysis challenging. We endeavored to offset this challenge through a rigorous approach to data extraction and charting by multiple reviewers.

Conclusion

This scoping review included 76 articles that reported nurses' active participation in practice improvement methodologies in clinical pediatrics, following a rigorous and comprehensive search strategy over five databases. Our purpose in undertaking this review was to inform design of a Best Practice Project for pediatric nurses in African care settings. Most of the published literature stems from high-income countries where established initiatives

to develop nursing practice already exist. We found little to no evidence reported in L-MICs, and none in African settings.

We hoped that our review of the literature would identify rigorous accounts of practice improvement using methods which would be suited to our African context. With context in mind, we hoped to identify reports which integrated important design considerations such as the pivotal role of family caregivers and the value of collaborative and participatory approaches. Instead, our review has identified an almost total gap in published reports of studies embodying a holistic and comprehensive approach to participatory practice improvement meeting these objectives.

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References

Acal Jiménez, R., Swartz, M., & McCorkle, R. (2018). Improving quality through nursing participation at bedside rounds in a pediatric acute care unit: A pilot project. *Journal of Pediatric Nursing*, *43*, 45–55. https://doi.org/10.1016/j.pedn.2018.08.010

Acorda, D. E. (2015). Nursing and respiratory collaboration prevents BiPAP-related pressure ulcers. *Journal of Pediatric Nursing*, *30*(4), 620–623. https://doi.org/10.1016/j.pedn.2015.04.001

Albert, N. M., Chipps, E., Falkenberg Olson, A. C., Hand, L. L., Harmon, M., Heitschmidt, M. G., Klein, C. J., Lefaiver, C., & Wood, T. (2019). Fostering academic-clinical research partnerships. *JONA: The Journal of Nursing Administration*, *49*(5), 234–241. https://doi.org/10.1097/NNA.0000000000000744

Amatt, N. G., Marufu, T. C., Boardman, R., Reilly, L., & Manning, J. C. (2022). Pediatric nurse-sensitive outcomes: A systematic review of international literature. *International Nursing Review*. https://doi.org/10.1111/inr.12805

Ammentorp, J., Kofoed, P. -E., & Laulund, L. W. Impact of communication skills training on parents perceptions of care: Intervention study. (2011). *Journal of Advanced Nursing 67*(2), 394–400. (John Wiley & Sons, Inc). https://doi.org/10.1111/j.1365-2648.2010.05475.x

Araujo dos Santos, D. M., Macedo de Sousa, F. G., Sarmento Paiva, M. V., & Torres Santos, A. (2016). Development and implementation of a nursing patient history in pediatric intensive care. *Acta Paulista de Enfermagem*, *29*(2), 136–145. https://doi.org/10.1590/1982-0194201600020

Balice-Bourgois, C., Zumstein-Shaha, M., Simonetti, G. D., & Newman, C. J. (2020). Interprofessional collaboration and involvement of parents in the management of painful procedures in newborns. *Frontiers in Pediatrics*, *8*, 394. https://doi.org/10.3389/fped.2020.00394

Barton, S. J., Forster, E. K., Stuart, M. E., Patton, A. M., Rim, J. -S., & Torowicz, D. L. (2012). New knowledge, innovations, and improvement in a magnet® children's hospital cardiac center. *Journal of Pediatric Nursing*, *27*(3), 271–274. https://doi.org/10.1016/j.pedn.2011.07.002

Benning, S., & Webb, T. (2019). Taking the fall for kids: A journey to reducing pediatric falls. *Journal of Pediatric Nursing*, *46*, 100–108. https://doi.org/10.1016/j.pedn.2019.03.008

Beringer, A., & Juliet, H. (2009). Time off the ward: An action research approach to reducing nursing time spent accompanying children to X-ray. *Paediatric nursing*, *21*(2), 31–33. https://doi.org/10.7748/paed.21.2.31.s29

Bovero, M., Giacomo, C., Ansari, M., & Roulin, M. J. (2018). Role of advanced nurse practitioners in the care pathway for children diagnosed with leukemia. *European Journal of Oncology Nursing*, *36*, 68–74. https://doi.org/10.1016/j.ejon.2018.08.002

Bowen, R., Lally, K. M., Pingitore, F. R., Tucker, R., McGowan, E. C., & Lechner, B. E. (2020). A simulation based difficult conversations intervention for neonatal intensive care unit nurse practitioners: A randomized controlled trial. *Plos One*, *15*(3), e0229895. https://doi.org/10.1371/journal.pone.0229895

Bradshaw, C., DiFrisco, E., Schweizer, W., Pavsic, J., Demarco, K., Weckesser, J., Gold VonSimson, G., & Rosenberg, R. E. (2020). Improving birth dose hepatitis b vaccination rates: A quality improvement intervention. *Hospital Pediatrics*, *10*(5), 430–437. https://doi.org/10.1542/hpeds.2019-0294

Chapman, L. R., Molloy, L., Wright, F., Oswald, C., Adnum, K., O'Brien, T. A., & Mitchell, R. (2020). Implementation of situational awareness in the pediatric oncology setting. Does a 'huddle' work and is it Sustainable? *Journal of Pediatric Nursing*, *50*, 75–80. https://doi.org/10.1016/j.pedn.2019.10.016

Chen-Lim, M. L., Zarnowsky, C., Green, R., Shaffer, S., Holtzer, B., & Ely, E. (2012). Optimizing the assessment of pain in children who are cognitively impaired through the quality improvement process. *Journal of Pediatric Nursing*, *27*(6), 750–759. https://doi.org/10.1016/j.pedn.2012.03.023

Cockerham, J., Figueroa-Altmann, A., Eyster, B., Ross, C., & Salamy, J. (2011). Supporting newly hired nurses: A program to increase knowledge and confidence while fostering relationships among the team. *Nursing Forum*, *46*(4), 231–239. https://doi.org/10.1111/j.1744-6198.2011.00236.x

Coetzee, M. (2020). *The role of the children's nurse in optimising autonomic regulation: The regul8 framework*. *Open UCT*. https://open.uct.ac.za/handle/11427/31206

Coetzee, M., Leonard, A., Bonaconsa, C., Power, N., & North, N. (2020). Developing children's nursing care outcome statements in Africa using world café methods. *International Nursing Review*, *67*(4), 529–534. https://doi.org/10.1111/inr.12621

Colquhoun, H. L., Levac, D., O'Brien, K. K., Straus, S., Tricco, A. C., Perrier, L., Kastner, M., & Moher, D. (2014). Scoping reviews: Time for clarity in definition, methods, and reporting. *Journal of Clinical Epidemiology*, *67*(12), 1291–1294. https://doi.org/10.1016/j.jclinepi.2014.03.013

Connor, J. A., Ahern, J. P., Cuccovia, B., Porter, C. L., Arnold, A., Dionne, R. E., & Hickey, P. A. (2016). Implementing a distraction-free practice with the red zone medication safety initiative. *Dimensions of Critical Care Nursing*, *35*(3), 116–124. https://doi.org/10.1097/DCC.0000000000000179

Cooperrider, D. (2022, July 15). *What is appreciative inquiry* [Internet]. Davidcooperrider.com. https://www.davidcooperrider.com/ai-process/ .

Corey, A. L., & Snyder, S. (2008). Antibiotics in 30 minutes or less for febrile neutropenic patients: A quality control measure in a new hospital. *Journal of Pediatric Oncology Nursing*, *25*(4), 208–212. https://doi.org/10.1177/1043454208319971

Costello, J. M., Morrow, D. F., Graham, D. A., Potter-Bynoe, G., Sandora, T. J., & Laussen, P. C. (2008). Systematic intervention to reduce central line-associated bloodstream infection rates in a pediatric cardiac intensive care unit. *Pediatrics*, *121*(5), 915–923. https://doi.org/10.1542/peds.2007-1577

Cregin, R., Rappaport, A., Montagnino, G., Sabogal G, Moreau, H., & Abularrage, J. J. (2008). Improving pain management for pediatric patients undergoing nonurgent painful procedures. *American Journal of Health-System Pharmacy*, *65*(8), 723–727. https://doi.org/10.2146/ajhp070094

Davis, C., Hendry, I., Barlow, H., Leonard, A., White, L. -A., & Coetzee, M. (2014). Journal club: Integrating research awareness into postgraduate nurse training. *Curationis*, *37*(2), 1–9. https://doi.org/10.4102/curationis.v37i2.1244

Day, S. W., McKeon, L. M., Garcia, J., Wilimas, J. A., Carty, R. M., de Alarcon, P., Antillon, F., & Howard, S. C. (2013). Use of joint commission international standards to evaluate and improve pediatric oncology nursing care in Guatemala. *Pediatric Blood & Cancer*, *60*(5), 810–815. https://doi.org/10.1002/pbc.24318

DeMauro, S. B., Douglas, E., Karp, K., Schmidt, B., Patel, J., Kronberger, A., Scarboro, R., & Posencheg, M. (2013). Improving delivery room management for very preterm infants. *Pediatrics*, *132*(4), e1018–25. https://doi.org/10.1542/peds.2013-0686

Dewing, J. (2008). Implications for nursing managers from a systematic review of practice development. *Journal of Nursing Management*, *16*(2), 134–140. https://doi.org/10.1111/j.1365-2834.2008.00844.x

Dobrasz, G., Hatfield, M., Jones, L. M., Berdis, J. J., Miller, E. E., & Entrekin, M. S. (2013). Nurse-driven protocols for febrile pediatric oncology patients. *Journal of Emergency Nursing*, *39*(3), 289–295. https://doi.org/10.1016/j.jen.2013.01.014

Donabedian, A. (1988). The quality of care. How can it be assessed? *JAMA*, *260*(12), 1743–1748. https://doi.org/10.1001/jama.1988.03410120089033

Edwards, H., Walsh, A., Courtney, M., Monaghan, S., Wilson, J., & Young, J. (2007). Promoting evidence-based childhood fever management through a peer education programme based on the theory of planned behaviour. *Journal of Clinical Nursing (Wiley-Blackwell)*, *16*(10), 1966–1979. https://doi.org/10.1111/j.1365-2702.2007.01767.x

Epstein, H. M. (2017). Postoperative patient-controlled analgesia in the pediatric cardiac intensive care unit. *Critical Care Nurse*, *37*(1), 55–61. https://doi.org/10.4037/ccn2017724

Ercole-Fricke, E., Fritz, P., Hill, L. E., & Snelders, J. (2016). Effects of a collaborative problem-solving approach on an inpatient adolescent psychiatric unit. *Journal of Child & Adolescent Psychiatric Nursing*, *29*(3), 127–134. https://doi.org/10.1111/jcap.12149

Falciglia, H. S., Kamp, T., Hasselfeld, K., Hendy, M. P., Altimier, L. B., Kosmetatos, N., & M. M. Eichel. (2003). Process improvement model: A new tool lowers rate of coagulase negative staphylococci infections (nosocomial) in infants under 1500 grams. *Neonatal Intensive Care : The Journal of Perinatology-Neonatology*, *16*(6), 15–28.

Field, M., Fong, K., & Shade, C. (2018). Use of electronic visibility boards to improve patient care quality, safety, and flow on inpatient pediatric acute care units. *Journal of Pediatric Nursing*, *41*, 69–76. https://doi.org/10.1016/j.pedn.2018.01.015

Fieldston, E. S., Jonas, J. A., Lederman, V. A., Zahm, A. J., Xiao, R., DiMichele, C. M., Tracy, E., Kurbjun, K., Tenney-Soeiro, R., Geiger, D. L., Hogan, A., & Apkon, M. (2016). Developing the capacity for rapid-cycle improvement at a large freestanding children's hospital. *Hospital Pediatrics*, *6*(8), 441–448. https://doi.org/10.1542/hpeds.2015-0239

Geerlinks, A. V., Digout, C., Bernstein, M., Chan, A., MacPhee, S., Pambrun, C., Gallant, G., Wyatt, L., Fernandez, C. V., & Price, V. E. (2020). Improving time to antibiotics for pediatric oncology patients with fever and suspected neutropenia by applying lean principles. *Pediatric Emergency Care*, *36*(11), 509–514. https://doi.org/10.1097/PEC.0000000000001557

Geyer, J. E., Smith, P. K., & Kair, L. R. (2016). Safe sleep for pediatric inpatients. *Journal for Specialists in Pediatric Nursing*, *21*(3), 119–130. https://doi.org/10.1111/jspn.12146

Gilfoyle, E., Koot, D. A., Annear, J. C., Bhanji, F., Cheng, A., Duff, J. P., Grant, V. J., St. George-Hyslop, C. E., Delaloye, N. J., Kotsakis, A., McCoy, C. D., Ramsay, C. E., Weiss, M. J., &

Gottesman, R. D. (2017). Improved clinical performance and teamwork of pediatric interprofessional resuscitation teams with a simulation-based educational intervention. *Pediatric Critical Care Medicine*, *18*(2), e62–9. https://doi.org/10.1097/PCC.0000000000001025

Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, *26*(2), 91–108. https://doi.org/10.1111/j.1471-1842.2009.00848.x

Grover, T. R., Pallotto, E. K., Brozanski, B., Piazza, A. J., Chuo, J., Moran, S., McClead, R., Mingrone, T., Morelli, L., & Smith, J. R. (2015). Interdisciplinary teamwork and the power of a quality improvement collaborative in tertiary neonatal intensive care units. *Journal of Perinatal & Neonatal Nursing*, *29*(2), 179–186. https://doi.org/10.1097/JPN.0000000000000102

Harris, B. D., Hanson, C., Christy, C., Adams, T., Banks, A., Willis, T. S., & Maciejewski, M. L. (2011). Strict hand hygiene and other practices shortened stays and cut costs and mortality in a pediatric intensive care unit. *Health Affairs*, *30*(9), 1751–1761. https://doi.org/10.1377/hlthaff.2010.1282

He, S. W., Xiong, Y. E., Zhu, L. H., Lv, B., Gao, X. R., Xiong, H., Wang, H., Shi, H. -R., & Latour, J. M. (2018). Impact of family integrated care on infants' clinical outcomes in two children's hospitals in China: A pre-post intervention study. *Italian Journal of Pediatrics*, *44*(1), 65. https://doi.org/10.1186/s13052-018-0506-9

Hockenberry, M., Walden, M., Brown, T., & Barrera, P. (2007). Creating an evidence-based practice environment: One hospital's journey. *Journal of Nursing Care Quality*, *22*(3), 222-31, 32–3. https://doi.org/10.1097/01.NCQ.0000277778.43018.96

Improvement Method Olympics [Internet]. (2022, July 15). NHS England. NHS Horizons. The National Health Service (NHS). http://horizonsnhs.com/improvementmethodolympics/

Jackson, J. K., Ford, S. P., Meinert, K. A., Leick-Rude, M. K., Anderson, B., Sheehan, M. B., Haney, B. M., Leeks, S. R., & Simon, S. D. (2006). Standardizing nasal cannula oxygen administration in the neonatal intensive care unit. *Pediatrics*, *118*(Supplement_2), S187–96. https://doi.org/10.1542/peds.2006-0913Q

Jakubik, L. D., Grossman, M. B., Daly-Parker, M. O., Gaffney, L. M., Strauss, K. A., & Mars, P. A. (2004). Clinical and professional role development among experienced pediatric nurses: The pediatric medical nursing certificate program. *Journal for Specialists in Pediatric Nursing*, *9*(4), 113–122. https://doi.org/10.1111/j.1547-5069.2004.00113.x

Jordan-Marsh, M., Hubbard, J., Watson, R., Hall, R. D., Miller, P., & Mohan, O. (2004). The social ecology of changing pain management: Do I have to cry? *Journal of Pediatric Nursing*, *19*(3), 193–203. https://doi.org/10.1016/j.pedn.2004.01.008

Kamerling, S. N., Lawler, L. C., Lynch, M., & Schwartz, A. J. (2008). Family-centered care in the pediatric post anesthesia care unit: Changing practice to promote parental visitation. *Journal of PeriAnesthesia Nursing*, *23*(1), 5–16. https://doi.org/10.1016/j.jopan.2007.09.011

Kaufman, J., Vichayavilas, P., Rannie, M., Peyton, C., Carpenter, E., Hull, D., Alpern, J., Barrett, C., da Cruz, E. M., & Roosevelt, G. (2015). Improved nutrition delivery and nutrition status in critically ill children with heart disease. *Pediatrics*, *135*(3), e717–25. https://doi.org/10.1542/peds.2014-1835

Kellams, A., Parker, M. G., Geller, N. L., Moon, R. Y., Colson, E. R., Drake, E., Corwin, M. J., McClain, M., Golden, W. C., & Hauck, F. R. (2017). TodaysBaby quality improvement: Safe sleep teaching and role modeling in 8 US maternity units. *Pediatrics*, *140*(5), 1–9. https://doi.org/10.1542/peds.2017-1816

Kelley-Quon, L. I., Kenney, B. D., Bartman, T., Thomas, R., Robinson, V., Nwomeh, B. C., & Bapat, R. (2019). Safety and feasibility of skin-to-skin care for surgical infants: A quality improvement project. *Journal of Pediatric Surgery*, *54*(11), 2428–2434. https://doi.org/10.1016/j.jpedsurg.2019.02.016

Khan, A., Abdullah, A., Ahmad, H., Rizvi, A., Batool, S., Jenkins, K. J., Gauvreau, K., Amanullah, M., Haq, A., Aslam, N., Minai, F., & Hasan, B. (2017). Impact of international quality improvement collaborative on congenital heart surgery in Pakistan. *Heart*, *103*(21), 1680–1686. https://doi.org/10.1136/heartjnl-2016-310533

Khan, A., Baird, J., Rogers, J. E., Furtak, S. L., Williams, K. A., Allair, B., Litterer, K. P., Sharma, M., Smith, A., Schuster, M. A., & Landrigan, C. P. (2017). Parent and provider experience and shared understanding after a family-centered nighttime communication intervention. *Academic Pediatrics*, *17*(4), 389–402. https://doi.org/10.1016/j.acap.2017.01.012

Khan, A., Spector, N. D., Baird, J. D., Ashland, M., Starmer, A. J., Rosenbluth, G., Garcia, B. M., Litterer, K. P., Rogers, J. E., Dalal, A. K., Lipsitz, S., Yoon, C. S., Zigmont, K. R., Guiot, A., O'Toole, J. K., Patel, A., Bismilla, Z., Coffey, M., Langrish, K. ... Landrigan, C. P. (2018). Patient safety after implementation of a coproduced family centered communication programme: Multicenter before and after intervention study. *BMJ*, *363*, k4764. https://doi.org/10.1136/bmj.k4764

Kurlat, I., Corral, G., Oliveira, F., Farinella, G., & Alvarez, E. (1998). Infection control strategies in a neonatal intensive care unit in Argentina. *The Journal of Hospital Infection*, *40*(2), 149–154. https://doi.org/10.1016/S0195-6701(98)90094-9

Lavery, G. (2016). Quality improvement – rival or ally of practice development? *International Practice Development Journal*, *6*(1), 1–4. https://doi.org/10.19043/ipdj.61.015

Leonard, A., Bonaconsa, C., Ssenyonga, L., & Coetzee, M. (2017). Graphic facilitation as a novel approach to practice development. *Nursing Children & Young People*, *29*(8), 42–45. https://doi.org/10.7748/ncyp.2017.e869

Leonardi, B. M., Binder, M., Griswold, K. J., Yalcinkaya, G. F., & Walsh, M. C. (2019). Utilization of a neonatal early-onset sepsis calculator to guide initial newborn management. *Pediatric Quality & Safety*, *4*(5), e214. https://doi.org/10.1097/pq9.0000000000000214

Lipke, B., Gilbert, G., Shimer, H., Consenstein, L., Aris, C., Ponto, L., Lafaver, S., & Kowal, C. (2018). Newborn safety bundle to prevent falls and promote safe sleep. *MCN: The American Journal of Maternal/Child Nursing*, *43*(1), 32–37. https://doi.org/10.1097/NMC.0000000000000402

Lopez, M., Vaks, Y., Wilson, M., Mitchell, K., Lee, C., Ejike, J., Oei, G., Kaufman, D., Hambly, J., Tinsley, C., Bahk, T., Samayoa, C., Pappas, J., & Abd-Allah, S. (2019). Impacting satisfaction, learning, and efficiency through structured interdisciplinary rounding in a pediatric intensive care unit: A quality improvement project. *Pediatric Quality & Safety*, *4*(3), e176. https://doi.org/10.1097/pq9.0000000000000176

Manley, K., & McCormack, B. (2003). Practice development: Purpose, methodology, facilitation and evaluation. *Nursing in Critical Care*, *8*(1), 22–29. https://doi.org/10.1046/j.1478-5153.2003.00003.x

Margonari, H., & Hannan, M. S. (2017). Quality improvement initiative on pain knowledge, assessment and documentation skills of pediatric nurses. *Pediatric Nursing*, *43*(2), 65–70.

McBeth, C. L., Montes, R. S., Powne, A., North, S. E., & Natale, J. E. (2018). Interprofessional approach to the sustained reduction in ventilator-associated pneumonia in a pediatric intensive care unit. *Critical Care Nurse*, *38*(6), 36–45. https://doi.org/10.4037/ccn2018121

McCormack, B., Manley, K., Kitson, A., Titchen, A., & Harvey, G. (1999). Towards practice development–a vision in reality or a reality without vision? *Journal of Nursing Management*, *7*(5), 255–264. https://doi.org/10.1046/j.1365-2834.1999.00133.x

McCormack, B., Wright, J., Dewar, B., Harvey, G., & Ballantine, K. (2007). A realist synthesis of evidence relating to practice development: Findings from the literature analysis. *Practice Development in Health Care*, *6*(1), 25–55. https://doi.org/10.1002/pdh.211

McGowan, J., Sampson, M., Salzwedel, D. M., Cogo, E., Foerster, V., & Lefebvre, C. (2016). PRESS peer review of electronic search strategies: 2015 guideline statement. *Journal of Clinical Epidemiology*, *75*, 40–46. https://doi.org/10.1016/j.jclinepi.2016.01.021

McMullan, C., Propper, G., Schuhmacher, C., Sokoloff, L., Harris, D., Murphy, P., & Greene, W. H. (2013). A multidisciplinary approach to reduce central line–associated bloodstream infections. *The Joint Commission Journal on Quality and Patient Safety*, *39*(2), 61–69. https://doi.org/10.1016/S1553-7250(13)39009-6

Monforto, K., Figueroa-Altmann, A., Stevens, C., Thiele, K., & Ely, E. (2012). Time changes for scheduled nursing assessments: Impact on clinical decisions and patient discharge. *Journal of Pediatric Nursing*, *27*(1), 26–33. https://doi.org/10.1016/j.pedn.2010.11.002

Montgomery, L. A., & Budreau, G. K. (1996). Implementing a clinical practice guideline to improve pediatric intravenous infiltration outcomes. *AACN Clinical Issues: Advanced Practice in Acute & Critical Care*, *7*(3), 411–424. https://doi.org/10.1097/00044067-199608000-00010

Nichols, C. (2014). A simple change in process results in significant improvement in the rate of first feeding at breast. *JOGNN: Journal of Obstetric, Gynecologic & Neonatal Nursing*, *43*(Supp 1), S40–1. https://doi.org/10.1111/1552-6909.12421

North, N., Leonard, A., Bonaconsa, C., Duma, T., & Coetzee, M. (2020). Distinctive nursing practices in working with mothers to care for hospitalised children at a district hospital in KwaZulu-Natal, South Africa: A descriptive observational study. *BMC Nursing*, *19*(1), 1–12. https://doi.org/10.1186/s12912-020-00421-1

North, N., Shung-King, M., & Coetzee, M. (2019). The children's nursing workforce in Kenya, Malawi, Uganda, South Africa and Zambia: Generating an initial indication of the extent of the workforce and training activity. *Human Resources for Health*, *17*(1), 30. https://doi.org/10.1186/s12960-019-0366-4

Northway, T., Krahn, G., Thibault, K., Yarske, L., Yuskiv, N., Kissoon, N., & Collet, J. -P. (2015). Surgical suite to pediatric intensive care unit handover protocol: Implementation process and long-term sustainability. *Journal of Nursing Care Quality*, *30*(2), 113–120. https://doi.org/10.1097/NCQ.0000000000000093

O'Connor, T. (2017). Implementation of a pediatric behavioral staffing algorithm in an acute hospital: A best practice implementation project. *JBI Database of Systematic Reviews and Implementation Reports*, *15*(11), 2799–2814. https://doi.org/10.11124/JBISRIR-2017-003359

Ogrinc, G., Davies, L., Goodman, D., Batalden, P., Davidoff, F., & Stevens, D. (2016). SQUIRE 2.0 (Standards for Quality Improvement Reporting Excellence) revised publication guidelines from a detailed consensus process: Table 1. *BMJ Quality & Safety*, *25*(12), 986–992. https://doi.org/10.1136/bmjqs-2015-004411

Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—A web and mobile app for systematic reviews. *Systematic Reviews*, *5*(1), 210. https://doi.org/10.1186/s13643-016-0384-4

Ozawa, M., Yokoo, K., Funaba, Y., Fukushima, S., Fukuhara, R., Uchida, M., Aiba, S., Doi, M., Nishimura, A., Hayakawa, M., Nishimura, Y., & Oohira, M. (2017). A quality improvement collaborative program for neonatal pain management in Japan. *Advances in Neonatal Care*, *17*(3), 184–191. https://doi.org/10.1097/ANC.0000000000000382

Patton, L. J., Tidwell, J. D., Falder-Saeed, K. L., Young, V. B., Lewis, B. D., & Binder, J. F. (2017). Ensuring safe transfer of pediatric patients: a quality improvement project to standardize handoff communication. *Journal of Pediatric Nursing*, *34*, 44–52. https://doi.org/10.1016/j.pedn.2017.01.004

PDSA Cycle - *The W. Edwards Deming Institute* [Internet]. (2022, July 15). *The W. Edwards Deming Institute*. https://deming.org/explore/pdsa/

Peters, M. D., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D., & Soares, C. B. (2015). Guidance for conducting systematic scoping reviews. *International Journal of Evidence-Based Healthcare*, *13*(3), 141–146. https://doi.org/10.1097/XEB.0000000000000050

Peters, M. D., Marnie, C., Tricco, A. C., Pollock, D., Munn, Z., Alexander, L., McInerney, P., Godfrey, C. M., & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JBI Evidence Synthesis*, *18*(10), 2119–2126. https://doi.org/10.11124/JBIES-20-00167

Power, N. M., North, N., Leonard, A. L., Bonaconsa, C., & Coetzee, M. (2021). A scoping review of mother–child separation in clinical paediatric settings. *Journal of Child Health Care*, *25*(4), 534–548. https://doi.org/10.1177/1367493520966415

The power of four words: "What Matters to you?" [Internet]. (2022, September 14). Institute for Healthcare Improvement. http://www.ihi.org/Topics/WhatMatters/Pages/default.aspx

Praglowski, N. (2015). Family-style dining on a child and adolescent psychiatry unit: A quality improvement project to reduce weight changes in patients. *Journal of Child & Adolescent Psychiatric Nursing*, *28*(2), 92–96. https://doi.org/10.1111/jcap.12107

Rowe, A. K., Rowe, S. Y., Peters, D. H., Holloway, K. A., Chalker, J., & Ross Degnan, D. (2018). Effectiveness of strategies to improve health-care provider practices in low-income and middle-income countries: A systematic review. *The Lancet Global Health*, *6*(11), e1163–75. https://doi.org/10.1016/S2214-109X(18)30398-X

Sams, D. P., Garrison, D., & Bartlett, J. (2016). Innovative strength-based care in child and adolescent inpatient psychiatry. *Journal of Child & Adolescent Psychiatric Nursing*, *29*(3), 110–117. https://doi.org/10.1111/jcap.12147

Sawyer, T., Burke, C., McMullan, D. M., Chan, T., Valdivia, H., Yalon, L., & Roberts, J. (2019). Impacts of a pediatric extracorporeal cardiopulmonary resuscitation (ECPR) simulation training program. *Academic Pediatrics*, *19*(5), 566–571. https://doi.org/10.1016/j.acap.2019.01.005

Shermont, H., Pignataro, S., Humphrey, K., & Bukoye, B. (2016). Reducing pediatric readmissions. *Journal of Nursing Care Quality*, *31*(3), 224–232. https://doi.org/10.1097/NCQ.0000000000000176

Sim, J., Crookes, P., Walsh, K., & Halcomb, E. (2018). Measuring the outcomes of nursing practice: A Delphi study. *Journal of Clinical Nursing*, *27*(1–2), e368–78. https://doi.org/10.1111/jocn.13971

Snyder, M. D., Priestley, M. A., Weiss, M., Hoegg, C. L., Plachter, N., Ardire, S., & Thompson, A. (2020). Preventing catheter-associated urinary tract infections in the pediatric intensive care unit. *Critical Care Nurse*, *40*(1), e12–7. https://doi.org/10.4037/ccn2020438

Spazzapan, M., Vijayakumar, B., & Stewart, C. E. (2020). A bit about me: Bedside boards to create a culture of patient-centered care in pediatric intensive care units (PICUs). *Journal of Healthcare Risk Management*, *39*(3), 11–19. https://doi.org/10.1002/jhrm.21387

Spruill, C., & Heaton, A. (2014). Designing an innovative nursing care delivery model to promote continuity of care. *JOGNN: Journal of Obstetric, Gynecologic & Neonatal Nursing*, *43*(Supp 1), S40–S. https://doi.org/10.1111/1552-6909.12420

State of the world's nursing: Investing in education, jobs and leadership [Internet]. (2022, July 15). World Health Organisation. https://www.who.int/publications/i/item/9789240003279

Stephens, K. P., & Mosser, N. R. (2013). Simulation to improve pediatric patient outcomes: University and hospital collaborative. *Clinical Simulation in Nursing*, *9*(7), e243–7. https://doi.org/10.1016/j.ecns.2011.11.010

Stikes, R., & Barbier, D. Applying the plan-do-study-act model to increase the use of kangaroo care. (2013). *Journal of Nursing Management 21*(1), 70–78. (John Wiley & Sons, Inc). https://doi.org/10.1111/jonm.12021

Thornton, A. Y., Huneke Rosenberg, R., & Oehlke, S. M. (2019). Trifecta of collaboration: Working together to improve central line-associated bloodstream infection reduction in a pediatric cardiac intensive care unit. *Journal of Infusion Nursing*, *42*(3), 137–142. https://doi.org/10.1097/NAN.0000000000000325

Tidwell, T., Edwards, J., Snider, E., Lindsey, C., Reed, A., Scroggins, I., Zarski, C., & Brigance, J. (2011). A nursing pilot study on bedside reporting to promote best practice and patient/family-centered care. *Journal of Neuroscience Nursing*, *43*(4), E1–5. https://doi.org/10.1097/JNN.0b013e3182212a1d

Uhm, J. Y., Lim, E. Y., & Hyeong, J. (2018). The impact of a standardized inter-department handover on nurses' perceptions and performance in republic of Korea. *Journal of Nursing Management*, *26*(8), 933–944. https://doi.org/10.1111/jonm.12608

Welch, C. D., Check, J., & O'Shea, T. M. (2017). Improving care collaboration for NICU patients to decrease length of stay and readmission rate. *BMJ Open Quality*, *6*(2), e000130. https://doi.org/10.1136/bmjoq-2017-000130

Welsh, K. M., Magnusson, M., & Napoli, L. (1999). Asthma clinical pathway: An interdisciplinary approach to implementation in the inpatient setting. *Pediatric Nursing*, *25*(1), 79-80, 3–7.

White, C. M., Statile, A. M., White, D. L., Elkeeb, D., Tucker, K., Herzog, D., Warrick, S. D., Warrick, D. M., Hausfeld, J., Schondelmeyer, A., Schoettker, P. J., Kiessling, P., Farrell, M., Kotagal, U., & Ryckman, F. C. (2014). Using quality improvement to optimise paediatric discharge efficiency. *BMJ Quality & Safety*, *23*(5), 428–436. https://doi.org/10.1136/bmjqs-2013-002556

Wilt Major, T. (2016). Decreasing IV infiltrates in the pediatric patient - system-based improvement project. *Pediatric Nursing*, *42*(1), 14–49.

The World by Income and Region [Internet]. (2022, July 15). Datatopics.worldbank.org. *The World Bank Group*. https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html

Yu, Z., Zhang, Y., Gu, Y., Xu, X., & McArthur, A. (2017). Pediatric clinical handover: A best practice implementation project. *JBI Database of Systematic Reviews and Implementation Reports*, *15*(10), 2585–2596. https://doi.org/10.11124/JBISRIR-2016-003296