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Patient participation in nursing bedside handover: A systematic mixed-methods review

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ABSTRACT

Background: Numerous reviews of nursing handover have been undertaken, but none have focused on the patients' role.
Objectives: To explore how patient participation in nursing shift-to-shift bedside handover can be enacted.
Design: Systematic mixed- methods review.
Data sources: Three search strategies were undertaken in July-August 2016: database searching, backwards citation searching and forward citation searching. To be included, papers had to either be research or quality improvement (QI) projects focusing on the patient role. Fifty-four articles were retrieved, including 21 studies and 25 QI projects.
Review methods: Screening, data extraction and quality appraisal was undertaken systematically by two reviewers. Research studies and QI projects were synthesised separately using thematic synthesis, then the results of this synthesis were combined using a mixed-method synthesis table.
Results: Segregated synthesis of research of patients' perceptions revealed two contrasting categories; patient-centred handover and nurse-centred handover. Segregated synthesis of research of nurses' perceptions included three categories: viewing the patient as an information resource; dealing with confidential and sensitive information; and enabling patient participation. The segregated synthesis of QI projects included two categories: nurse barrier to enacting patient participation in bedside handover; and involving patients in beside handover. Once segregated findings were configured, we discovered that the patient's role in bedside handover involves contributing clinical information related to their care or progress, which may influence patient safety. Barriers related to nurses' concerns for the consequences of encouraging patient participation, worries for sharing confidential and sensitive information and feeling hesitant in changing their handover methods. The way nurses approach patients, and how patient-centred they are, constitute further potential barriers. Strategies to improve patient participation in handover include training nurses, making handovers predictable for patients and involving both patients and nurses throughout the change process.
Conclusions: Using research and QI projects allowed diverse findings to expand each other and identify gaps between research and heuristic knowledge. Our review showed the tension between standardising handovers and making them predictable for patient participation, while promoting tailored and flexible handovers. Further investigation of this issue is required, to understand how to train nurses and patient views. Many barriers and strategies identified were from QI projects and the nurse perspective, thus caution interpreting results is required. We recommend steps be taken in the future to ensure high quality QI projects.

What is already known about the topic?

- Bedside handover is advocated as a nursing activity that can improve the quality of information exchanges between shifts.

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- Bedside handover promotes a patient-centred approach to care by enabling patient participation.
- The plethora of reviews on nursing handover do not comprehensively explore patient participation in bedside handover.

What this paper adds

- Patient participation in bedside handover includes patients contributing to content related to their care and progress.
- Frequent barriers to enabling patient participation in bedside handover include nurses' approach, their discomfort in sharing confidential and sensitive information, and a resistance to change.
- Enabling patient participation in bedside handover may require a standardised approach that is tailored to the individual patient

1. Introduction

Nursing handover is a critical transition in patient care (Kitson et al., 2014). This routine nursing activity can occur up to three times per day, highlighting many opportunities for poor transitions in care. Miscommunication of patient care is a leading cause of patient harm (The Joint Commission, 2013). Thus, ensuring we find the most effective, safe and high-quality process for handover has been an international priority in recent years (Australian Commission on Safety and Quality in Health Care, 2012a, 2012b; World Health Organization, 2006).

2. Background

Nursing handover, also termed handoff or shift report, has been defined as a point in care where the transfer of responsibility and/or accountability for patient care moves from one nurse to another nurse (Australian Commission on Safety and Quality in Health Care, 2012a, 2012b). Types of nursing handover can include face-to-face handover, written, or tape-recorded handover (O'Connell and Penney, 2001). Evidenced in many recent reviews, there is increasing interest in nursing handover process (Kitson et al., 2014; Australian Commission on Safety and Quality in Health Care, 2015; Holly and Poletick, 2014; Poletick and Holly, 2010; Riesenberg et al., 2010) and nursing bedside handover (Anderson et al., 2015).

Frequent areas of investigation are outcomes of nursing handover broadly (Australian Commission on Safety and Quality in Health Care, 2015; Staggers and Blaz, 2013) and bedside handover specifically (Mardis et al., 2016; Sherman et al., 2013; Vines et al., 2014; Gregory et al., 2014). Emerging evidence shows that bedside handover can decrease patient falls (Mardis et al., 2016), discharge times (Sherman et al., 2013), and over-time costs (Gregory et al., 2014), while enhancing team collaboration (Sherman et al., 2013; Gregory et al., 2014). However, most outcome measures for bedside handover are self-reported data (Mardis et al., 2016), including increased patient and nurse satisfaction (Mardis et al., 2016; Gregory et al., 2014), and improved patient-centred care (PCC) (Sherman et al., 2013; Gregory et al., 2014). Overall, review findings suggest the quality of evidence for outcomes of bedside handover is poor (Staggers and Blaz, 2013; Sherman et al., 2013) due to small-scale studies with no comparison group, and simultaneous implementation of multiple interventions making outcome measures difficult (Mardis et al., 2016). Given many reviewers have recently investigated outcome data; the focus of our review is not to report outcomes of bedside handover.

No type of nursing handover has been proven effective in terms of patient outcomes and nursing process outcomes (Smeulers et al., 2014). Thus, we are still seeking strategies to optimise nursing handover. Patients and nurses identify similar purposes for bedside handover, including patient involvement, partnership and improving the accuracy of handover, while nurses also identify service-delivery improvements (Chaboyer et al., 2010; McMurray et al., 2011). One promising feature of bedside handover is its suggested effect on PCC (Chaboyer et al., 2010). Bedside handover can incorporate additional processes for information-exchange that other types of handover do not, like nurse-patient introductions and patient participation (Chaboyer et al., 2008). The latter is an international recommendation (World Health Organization, 2007). To involve patients in patient-centred activities, like bedside handover, nurses require skills and characteristics, inclusive of relationship-building skills, the ability to individualise care and to consider biopsychosocial perspectives (Scholl et al., 2014).

Although patient participation is advocated as part of bedside handover, this step has received relatively little attention by reviewers. Four reviews mention the patient's active role in handover (Kitson et al., 2014; Australian Commission on Safety and Quality in Health Care, 2015; Anderson et al., 2015; Gregory et al., 2014). Of these, two teams of reviewers highlight the need for further understanding of the patient's role in handover (Kitson et al., 2014; Anderson et al., 2015). Gregory and colleagues (2014) demonstrated bedside handover as a means of improving PCC through dyadic relationships between patients and nurses, identifying that possible participatory roles for patients include asking questions, sharing medical history and shared decision-making. Despite suggested benefits, the researchers highlight the need to identify a practice model for bedside handover, that includes and defines the patient's role, that can be tailored and sustained within local settings (Gregory et al., 2014). In 2012, a review protocol was published in The Joanna Briggs Institute Library of Systematic Reviews, aiming to report patients', family members' and nurses' experiences, beliefs, opinions, and desires for patient presence during handover (McCloskey et al., 2012). However no results have been reported. Overall, this previous work highlights the need for a review that specifically explores and comprehensively synthesises evidence of how patients can participate in bedside handover.

In previous reviews on nursing bedside handover, only one team of researchers have included quality improvement (QI) projects (Gregory et al., 2014). Many hospitals and clinicians are operationalising bedside handover, thus QI projects provide details of practical experiences, which may provide potential strategies to enhance patient participation, as well as data related to feasibility, fidelity and salient contextual issues (Portela et al., 2015; O'Rourke and Fraser, 2016). QI projects are often viewed as 'weak' evidence; a view that can be adopted when QI projects are judged against research criteria (O'Rourke and Fraser, 2016). QI projects make heuristic knowledge explicit and propositional, allowing this type of evidence to be open to critique (O'Rourke and Fraser, 2016). Thus, using knowledge from local improvement experiences may help understand the process of patient participation in bedside handover in this review. We aim to address gaps identified in current reviews by further clarifying what the patient's role is in bedside handover, as well as barriers and enhancing strategies.

3. Objectives

The research question guiding this systematic review is: how can patient participation in nursing bedside handover be enacted, from the perspective of patients, nurses, and from a local implementation perspective. Within this overarching question, three sub questions require addressing:

1) What is the patient's role in bedside handover? (Research: how the intervention works; QI projects: feasibility of the intervention in practice and how it is shaped to be relevant and sustainable)
2) What are the barriers to patients enacting their role in bedside handover? (Research: why the intervention works; QI projects: salient contextual issues for implementation)
3) What strategies enable patient participation in bedside handover? (Research: why the intervention works; QI projects: salient contextual issues for implementation)

Each sub question is amendable to review using research and QI project findings.

4. Methods and analysis

4.1. Design

A mixed-methods review was conducted, following (2012) systematic methodology for diverse study types. Our review was underpinned by social constructionism. We acknowledged that each primary author of studies/projects included in our review brought socially constructed understandings, which were combined with our review team perspectives to build understanding on the topic. Gough et al. (2012) suggests a 'fit-for-purpose' approach, where an integrated or segregated approach can be undertaken. A segregated approach allows two or more sub-reviews to be undertaken to answer different aspects of the same research question, and these sub-reviews can be synthesised (Gough et al., 2012). We mapped our design (Supplementary file 1), an important step when combining diverse study types in systematic reviews (Harden and Thomas, 2005). Consistent with (2012) work, this study is a mixed-methods review, because qualitative and quantitative research as well as QI projects were included to answer the research questions. Although Gough et al. (2012) does not classify the types of mixed-methods reviews, mapping the design helped illustrate the importance placed on each study/project included. Priority was not given to any method; it was a parallel design, where the diverse studies/projects expanded each other.

4.2. Literature search

To ensure a comprehensive search strategy, our literature search was guided by the PICOT framework. The components include population of interest (P), issue of interest (I), comparison of interest (C), outcome of interest (O) and timeframe (T) (Fineout-Overholt, 2005). Our search focused on patients and nurses (P) and bedside handover (I). Patient participation was not included as an intervention of interest (I), as it is considered part of the bedside handover process (Chaboyer et al., 2010), but may be an underreported topic in reviews. Comparison of interest (C) was not relevant as our purpose was not to compare bedside handover to other methods of delivering handover. It is common for the comparison element to be excluded (Polit-O'Hara and Beck, 2008). In terms of outcomes (O), it was recognised that 'research' and 'QI' projects could report similar or different outcomes related to the patient's role, barriers and improvement strategies. Some outcome terms included 'perception', as well as 'improve' or 'implement'. We set a timeframe (T) of research published since 2005. This provided a comprehensive search of the last 10 years and aligned with the World Health Organisation's High 5s campaign (World Health Organization, 2006). Since this campaign was launched, patient safety, patient participation, PCC and clinical handover focus has increased (Kitson et al., 2014).

To create an exhaustive search strategy, both key words and indexed terms were used and a health librarian assisted with the search. For Search 1; databases were searched including CINAHL; Medline and PsychINFO due to their appropriateness for the topic and because they are large databases for nursing research (Supplementary file 2). Articles found during Search 1 between July and August 2016 were used for two further searches. In Search 2; backward citation searching was undertaken; reference lists of articles were searched for studies/projects not identified in Search 1. For Search 3; forward citation searching was conducted using Scopus database to identify studies citing articles after their publication.

4.3. Screening and data extraction

Screening was a two-step process conducted by two reviewers (GT, WC). First, the reviewers independently screened papers against our inclusion and exclusion criteria using a screening tool developed by the research team. Inclusion criteria were adult patients or nurses in hospital settings, studies related to bedside handover and patient participation that were either 'research' or 'QI' projects. Second, studies meeting the inclusion criteria were re-screened to determine if they were research or QI projects. If authors did not explicitly state their project as research or QI, the paper was screened against two criteria: 1) evaluative approach; and 2) ethics approval process. To be classified as research, evidence of both a research methodology and ethics approval were required (O'Rourke and Fraser, 2016). For the first criteria, research had time-intensive and planned evaluative approaches requiring statistical or methodological expertise that specifically evaluated the intervention. QI projects had less time intensive evaluative approaches, often requiring knowledge of basic statistics, use of routinely collected hospital data, or informal evaluation such as 'lessons learnt' (O'Rourke and Fraser, 2016). For criteria two, research studies required ethical approval whilst QI projects did not (O'Rourke and Fraser, 2016). All research and QI projects were in peer-reviewed journals. A third reviewer was available to resolve any discrepancies between the two reviewers related to the two steps of the screening process, however this was not required.

Research and QI data were independently extracted by two reviewers (GT, IS) using data extraction forms. When extracting findings, the reviewers reported exact numbers and/or words without interpreting data (Harden and Thomas, 2005).

4.4. Quality assessment

Research and QI data were appraised separately, as both required unique criteria for assessing their quality (O'Rourke and Fraser, 2016). For research, the Mixed Methods Assessment Tool (MMAT) was used, as the research included both qualitative, quantitative and mixed-methods methodologies. The MMAT allows reviewers to critically appraise the methodology of these diverse studies and produce a quality score for the study (Pluye et al., 2009; Pluye, 2016). It is efficient and reliable and has been used by many researchers internationally (Pace et al., 2012). For 'QI' projects, the Quality Improvement Minimum Quality Criteria Set (QI-MQCS) was used, which has been designed to appraise the quality of projects reporting implementation or QI strategies (Hempel et al., 2015). This tool is both valid and reliable and provides an overall quality score, allowing us to provide recommendations for future improvement or implementation efforts (Hempel et al., 2015). Two reviewers (GT, IS) gained common understanding of both tools, independently appraised research studies and QI projects, and discussed any areas of discrepancy. A third reviewer acted as an adjudicator (WC).

4.5. Data synthesis

Mixed-method synthesis allows synthesis to be tailored to the types of studies/projects collected and research questions posed. Before integration, the research and QI findings were synthesised separately (i.e. segregated synthesis) using thematic synthesis. Further, patients' and nurses' perceptions within research studies were analysed separately, allowing differences to be illuminated. Units of analysis for research studies included data under 'findings' or 'results' headings in the paper, as well as findings in the abstract (Thomas and Harden, 2008). In some studies, observations were conducted in addition to capturing perceptions; these data were included to help confirm or disconfirm findings. QI projects lacked uniformity in headings, any data reporting implementation methods, improvement methods, sustainability, lessons learnt or future directions were classed as units of analysis. All units of analysis were copied into NVivo Software (QSR International Pty Ltd., 2014), and read many times in their entirety to allow the reviewer to become immersed in data. One reviewer undertook line-by-line coding.

By coding the text with descriptive codes, similar concepts across qualitative and quantitative studies were recognised and the findings were translated into a common form (Thomas and Harden, 2008). Codes were then organised by grouping codes that belonged together to form hierarchies of subcategories and then higher order categories (Thomas and Harden, 2008). The review team examined summaries of each step of the analysis process to question and confirm findings. This process was iterative, with reviewers constantly referring to primary studies.

The final synthesis step was a cross-comparison between the research and QI syntheses (Harden and Thomas, 2005). A configurative approach was used and allowed synthesis of heterogeneous sources. The sources were slotted together in an interpretive manner to expand and explain, instead of confirming each other (Sandelowski et al., 2012). A mixed-methods synthesis table was created; columns were labelled with one of three research questions guiding this review (Oliver et al., 2005; Shepherd et al., 2006). The researcher then returned to the segregated synthesis findings, placing findings under one of the columns. Once all segregated synthesis had been reviewed, and placed into the table, the reviewer used abductive reasoning to 'match' the three columns; a creative and visual process, which allowed the reviewer to infer possible links between analysed findings from many sources (Mirza et al., 2014). The outcome was an inference that is explanatory and plausible, but not certain (Mirza et al., 2014). This approach enabled identification of strategies to address barriers to patient participation in bedside handover across diverse sources (Gough et al., 2012).

5. Rigour

To maintain rigour, we followed a systematic review process (Gough et al., 2012). The accuracy of data (descriptive validity) (Sandelowski and Barroso, 2006) was maintained by the comprehensiveness of our search strategy and keeping a clear trail of search decisions (Whittemore, 2008; Evidence for Policy and Practice Centre, 2010). Interpretive validity was maintained by representing primary researchers' viewpoints. This included having two reviewers independently extract data without interpretation, integrating all study results as evenly as possible, and considering quality assessments to ensure conclusions were not overstated (Thomas and Harden, 2008; Whittemore, 2008). The credibility of data interpretations (theoretical validity) was maintained by keeping analytic memos of interpretations, and regular team discussions about the outputs of synthesis (Sandelowski and Barroso, 2006). Finally, the utility and transferability of findings (pragmatic validity) has been heightened by providing data extraction tables, including context around the studies, and allowing readers to judge the usefulness of findings for their setting (Thomas and Harden, 2008).

6. Findings

Twenty-one research studies were included (Fig. 1). Most research was conducted in Australia (n = 13). Researchers usually described their approach as 'qualitative', using individual interviews for data collection (Table 1). Five studies used observations to support interviews. Studies were frequently conducted in medical or surgical wards, often included more than one unit, and usually in a single hospital setting. In total, research studies included 391 patients and 341 nurses.

Twenty-five QI projects to implement or improve bedside handover, inclusive of patient participation, were included (Supplementary file 4). Eighty-eight percent (n = 22) of the projects were conducted in USA. QI projects tended to be conducted in medical/surgical units or cardiology/telemetry units, most commonly in one unit (16/25), at one hospital (22/25). In six projects, four or more units were included, where hospitals undertook large scale roll outs of bedside handover. Most projects (16/25) provided no sample size for evaluation. For QI

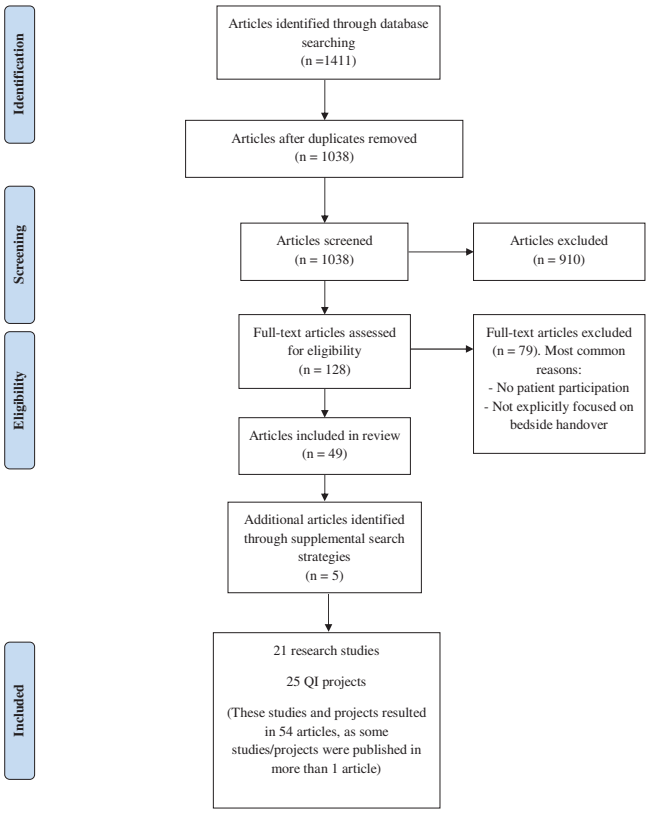

Fig. 1. Search Outcome.

strategies (Table 2), all projects included communication with nurses throughout the change process. End-users were often involved in the change process (n = 16); which may have been useful for nurses who were often resistive to change practice. Nearly 90% of projects trained nurses for bedside handover. Less than half of the projects informed patients of change, used standardised handover templates inclusive of patient participation or used a framework to guide the change process.

7. Quality of research and QI projects

Half (n = 14) of the studies were purely qualitative studies (Chaboyer et al., 2010; McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Drach-Zahavy et al., 2015; Jeffs et al., 2013a, 2014, 2013b; Johnson and Cowin, 2013; Kerr et al., 2014a, 2014b; Liu et al., 2012; Lu et al., 2013; Lupieri et al., 2016) (Table 1). Using the MMAT, the methodological quality of qualitative research was generally high, with half (n = 7) scoring 4/4 (McMurray et al., 2011; Staggers et al., 2015; Jeffs et al., 2013a, 2014, 2013b; Kerr et al., 2014a; Lupieri et al., 2016). Most studies including qualitative data collection lost points for not disclosing researchers' influence on data collection or analysis (Chaboyer et al., 2010; Bruton et al., 2016; Drach-Zahavy et al., 2015; Johnson and Cowin, 2013; Johnson et al., 2016; Kerr et al., 2014b; Lu et al., 2013); this was also the case for two mixed-methods studies (Bradley and Mott, 2014; Klim et al., 2013). A more detailed version of data extraction is available online (Supplementary file 3).

Six articles included pre-post-test data collection; these studies had good recruitment strategies and comparable samples (Bradley and Mott, 2014; Johnson et al., 2016; Kerr et al., 2016; Köberich, 2014; Maxson et al., 2012; Sand-Jecklin and Sherman, 2013; , 2014). Data collection instruments could have been improved with measures of validity and reliability (n = 4) (Bradley and Mott, 2014; Kerr et al., 2016; Köberich, 2014; Maxson et al., 2012). Reports of complete outcome data and response rates could have enhanced the studies (n = 4) (Bradley and Mott, 2014; Kerr et al., 2016; Köberich, 2014; Sand-

Table 1
Summary of research.

Study Country	Approach	Population	Outcomes	Quality score
Staggers, 2015, USA	Qualitative[c]	Patients (n = 20) in 1 unit at 1 hospital	Themes: It depends how sick I am, I want to know everything, my life is in their hands	4/4
Bradley and Mott, 2014, Aus	Mixed methods, pre-post-test[c]	Patients (n = 9) and nurses (n = 48) in 3 units at 1 hospital	Patient perceptions: Taxonomy: Social, the nurses, patient care Nurse perceptions: Improvements in perceptions of patient involvement and other positive aspects of BSHO identified	Qual: 3.5/4 Quant: 1.5/4 MM: 3/3
Bruton et al., 2016, UK	Qualitative	Patients (n = 8) and nurses (n = 10) in 2 units at 1 hospital	Themes: Structure of nurse handover, purpose of nurse handover, patient experience of handover, medical ward rounds, patients' experience of general communication, overall rating of experience	3/4
Chaboyer et al., 2010 McMurray et al., 2011, Aus	Case study (18)[c] and qualitative study (19)	Nurses (n = 34) in 6 units at 2 hospitals (18); Patients (n = 10) in 2 units at 1 hospital (19)	Categories from article 1 (18): Structure, process, outcome Themes from article 2 (19): Acknowledging patients as partners, amending inaccuracies, passive engagement, handover as interaction	Article 1: 3.5/4 Article 2: 4/4
Drach-Zahavy et al., 2015, Israel	Qualitative	Nurses (n = 18) in 1 unit at 1 hospital	Themes: Adaptation of declared handover goals for practical implementation, contextual factors that constrain an effective nursing handover, nursing handover strategies	3/4
Drach-Zahavy and Shilman 2015, Israel	Quantitative and qualitative, cross-sectional[c]	Patients (n = 100) and nurses (n = 100) in 5 units at 1 hospital	Nurses' initiative for patient participation in BSHO positively associated with presence of escorts, and negatively associated with ward overload, and patient neuroticism, extraversion and conscientiousness. Patients' initiative for participation in BSHO positively associated with presence of escorts, presence of head nurse, neuroticism and agreeableness positively. Openness to experience negatively associated with patient initiative. Types of patient-nurse communication during handovers: enquiries, coordination, retrieving information, friendly dialogues and complaints	Qual: 4/4 Quant: 3.5/4[d]
Ford et al., 2014, USA	Quantitative	Patients (n = 103) in 2 units at 1 hospital	Most patients always experienced BSHO and had positive experiences of the process. More exposure to BSHO increased positive perceptions	4/4
Friesen et al., 2013, USA[a]	Qualitative and quantitative	Patients (n = 107) in 8 units at 1 multi hospital system	Patients had positive perceptions about BSHO process. Themes: Introducing the new nurse, knowing through collaboration and communication, engaging the patient to participate and provide their perspective, educating health care providers, managing privacy	Qual: 3.5/4 Quant: 1.5/4 [d]
Jeffs et al., 2013 Jeffs et al., 2014 Jeffs et al., 2013 Canada	Qualitative	Nurses (n = 43) in 4 units at 1 hospital (50, 52); Patients (n = 45) in 4 units at 1 hospital (51)	Themes from article 1 (50): Clarifying information and intercepting errors, visualizing patients and prioritizing care. Themes from article 2 (52): Being supported to change and embrace bedside reporting, maintaining confidentiality and respecting patients' preferences, experiencing challenges with bedside reporting. Themes from article 3 (51): Creating a space for personal connection, "bumping up to speed", varying preferences	Article 1: 4/4 Article 2: 4/4 Article 3: 4/4
Johnson and Cowin 2013, Aus	Qualitative	Nurses (n = 30) in 2 units at 3 hospitals	Themes: Bedside handover strengths and weaknesses, patient involvement in handover, good communication is about good communicators, three sources of information, other issues	3.5/4
Johnson, 2016, Aus	Mixed-methods, pre-post-test	Nurses (n(pre) = 40 n(post) = 80) in 4 units at 3 hospitals	Categories: Implementation and transition, work practice changes and BSHO, accessible and standardised patient information, accountability for information transfer, a central repository of patient information	Qual: 3/4, Quant: 4/4, MM: 1/3
Kerr et al., 2011, Aus	Quantitative	Nurses (n = 30) in 23 units at 1 hospital	Most nurses undertook verbal and written handover in staff rooms, provided by the nurse in charge and did not want this to change. Nurses disagreed that patients were involved in BSHO and disagreed that patients and significant others interrupted BSHO	3.5/4
Kerr et al., 2014, Aus	Qualitative	Nurses (n = 20) and midwives (n = 10) in 3 units at 1 hospital (56)	Themes: Enhanced care and documentation, discretion to protect confidentiality and privacy	
Klim et al., 2013, Kerr et al., 2014, Kerr et al., 2016, Aus	Mixed-methods (57), qualitative (58) and pre-post-test (59)	Nurses (n(survey) = 63 n (group interviews) = 41) in 1 unit at 1 hospital (57); Patients (n = 30) in 1 unit at 1 hospital (58); Nurses (n (pre) = 67 n(post) = 59) in 1 unit at 1 hospital (59)	Results from article 1 (57): Nurses preferred handover for their patients only, from the off going nurse who cares for the patient at the bedside. Nurses disagreed that patients were involved in BSHO and disagreed that patients and significant others interrupted BSHO. Categories: Patient details, presenting problem, the plan, treatment given, nursing observations (57)	Article 1: Qual: 3.5/4 Quant: 2/4

(*continued on next page*)

Table 1 (*continued*)

Study Country	Approach	Population	Outcomes	Quality score
			Themes from article 2 (58): Patients perceive that participating in BSHO enhances individual care, maintaining privacy and confidentiality during BSHO. Results from article 3 (35): Perceived increase in BSHO with patient presence and involvement. Improvement in arm band and documentation adherence	MM: 1/3 Article 2: 3/4; Article 3: 2.5/4
Köberich, 2014, Germany	Non- experimental, pre-post-test	Patients (n(pre) = 51, n(post) = 48) in 2 units at 1 hospital	No difference in patients' perceptions of participation in or style of decision-making. Patients perceived decision-making style as paternalistic. Patients report no undesired side effects of BSHO	2.5/4
Liu et al., 2012, Aus	Critical ethnography	Patients (n = 27) and nurses (n = 76) in 2 units at 1 hospital	Nurse coordinator's handover: constructing the order. Staff allocation: Hierarchical nursing power. BSHO: Being a discreet nurse. Handover across ward spaces: Disjunctions of medication communication	3.5/4
Lu et al., 2013, Aus	Qualitative[c]	Patients (n = 30) in 3 units at 1 hospital	Themes: A more effective and personalized approach, being empowered and contributing to error minimization, privacy, confidentiality and sensitive topics, training need and avoidance of using technical jargon	3.5/4
Lupieri et al., 2016, Italy	Qualitative	Patients (n = 14) in 1 unit at 1 hospital	Themes: Discovering a new nursing identity, being apparently engaged in a BSHO, experiencing the paradox of confidentiality, having the situation under control	4/4
Maxson et al., 2012, USA	Pre-post-test	Patients (n(pre) = 30 n(post) = 30) and nurses (n = 15) in 1 unit at 1 hospital	Patients perceived increased sense of feeling informed and better communication between clinicians. Nurses perceived better accountability, medication reconciliation, provision of adequate communication and ability to communicate with physicians	3/4
Sand-Jecklin and Sherman, 2013 [b]Sand-Jecklin and Sherman, 2014, USA	Quasi-experimental, pre-post-test	Patients (n = 154 13-months post implement) and nurses (n = 54 13-months post implement) in 7 units at 1 hospital	Patients perceived that they were more involved and they knew their nurse. Patients frequently gave positive comments indicating good and professional care. Nurses perceived handover increased accountability and patient participation. Nurses frequently perceived that safety checks were going well. Falls and medication errors decreased	3/4
Street et al., 2011, Aus	Quantitative	Nurses (n = 259) in 18 units at 1 hospital	Nurses received one or two handovers at shift commencement. BSHO occurred 21-47% of time, usually given by nurse caring for the patient. Most nurses disagreed that patients were involved in the process. Improvement in BSHO compliance over 5 months, including improved patient participation	3/4

USA = United States of America, Aus = Australia, BSHO = Bedside handover, MM = Mixed Methods, UK = United Kingdom.

[a] This study is linked to a QI project (Herbst et al., 2013).

[b] Articles reported together as 1 study, as article 1 (Sand-Jecklin and Sherman, 2013) is interim analysis.

[c] Studies included observations.

[d] Researchers did not specially label their studies as mixed-methods, thus no mixed-methods score provided.

Table 2
QI strategies used to change bedside handover.

Strategies	1) Assess current practice prior to implementation of BSHO	2) Have leading group to lead and design implementation and review failures	3) Investigation of BSHO literature and/or success of BSHO in other settings	4) Open communication sessions with staff to discuss the change, and get nurses to share concerns	5) Educate and/or train nurses	6) Inform patients	7) Reminder systems in place to enforce practice, such as standardised formats for handover (inclusive of patient participation)	8) Monitor and coach handover when it first occurs	9) Feedback effectiveness of BSHO with staff	10) Guided by change framework	11) Involvement of the end-user in the process
QI Projects											
Anderson and Mangino (2006)	√	√		√	√	√		√	√		
Burke and McLaughlin (2013)	√	√	√	√	√						√
Cairns et al. (2013)	√			√	√	√			√	√	√
Caruso (2007)		√	√	√	√	√		√		√	√
Chaboyer et al. (2009)	√	√	√	√	√	√	√			√	√
Chapman (2009)		√		√	√			√	√		
Dufault et al. (2010)	√	√	√	√			√			√	√
Evans et al. (2012)	√	√	√	√				√			
Frazier and Garrison (2014)	√	√	√	√	√			√	√		
Freitag and Carroll (2011)	√	√	√	√	√	√		√	√	√	
Givens et al (2016)	√	√	√	√	√						√
Grant and Colello (2009) and Grant and Colello (2010)		√	√	√	√					√	√
Herbst et al. (2013)	√	√		√	√	√	√	√			√
Kassean and Jagoo (2005)		√	√	√	√	√	√	√		√	√
Laws and Amato (2010)	√	√	√	√	√	√			√		√
Lin et al. (2015) and Lin et al. (2011)	√	√		√	√	√	√	√	√	√	√
Olson-Sitki et al. (2013)		√	√	√	√		√	√	√	√	√
Pearce and McCarry (2014)	√		√	√	√		√	√			√
Petersen et al. (2013)	√	√		√	√	√		√	√		√
Radtke (2013)	√	√	√	√	√		√	√	√	√	√
Rush (2012)	√	√	√	√	√		√	√			
Taylor (2015)	√		√	√							√
Thomas and Donohue-Porter (2012)	√	√	√	√	√	√	√	√	√	√	
Wakefield et al. (2012)	√		√	√	√	√	√	√	√		

(*continued on next page*)

Table 2 (*continued*)

Strategies	1) Assess current practice prior to implementation of BSHO	2) Have leading group to lead and design implementation and review failures	3) Investigation of BSHO literature and/or success of BSHO in other settings	4) Open communication sessions with staff to discuss the change, and get nurses to share concerns	5) Educate and/or train nurses	6) Inform patients	7) Reminder systems in place to enforce practice, such as standardised formats for handover (inclusive of patient participation)	8) Monitor and coach handover when it first occurs	9) Feedback effectiveness of BSHO with staff	10) Guided by change framework	11) Involvement of the end-user in the process
Wilson, (2011)				√	√		√	√	√		
Total QI strategies	19	20	18	25	22	12	12	17	13	11	16

Jecklin and Sherman, 2013; , 2014). In descriptive quantitative studies (n = 6) (Drach-Zahavy and Shilman, 2015; Ford et al., 2014; Friesen et al., 2013; Kerr et al., 2011; Klim et al., 2013; Street et al., 2011), four instruments lacked descriptions of validity or reliability (Friesen et al., 2013; Kerr et al., 2011; Klim et al., 2013; Street et al., 2011). Quantitative studies may be enhanced by explaining reasons for non-participation in surveys (n = 4) (Drach-Zahavy and Shilman, 2015; Friesen et al., 2013; Klim et al., 2013; Street et al., 2011) and reporting and/or enhancing response rates (n = 2) (Friesen et al., 2013; Klim et al., 2013).

Using the QI-MQCS allowed common QI project issues to be highlighted, which may be valuable for readers planning implementation of bedside handover. In terms of design, 88% (n = 22) of researchers did not explicitly report study design, even though pre-post-test methods were implied (Herbst et al., 2013; Anderson and Mangino, 2006; Burke and McLaughlin, 2013; Cairns et al., 2013; Caruso, 2007; Chaboyer et al., 2009; Chapman, 2009; Dufault et al., 2010; Frazier and Garrison, 2014; Freitag and Carroll, 2011; Grant and Colello, 2009; Kassean and Jagoo, 2005; Laws and Amato, 2010; Lin et al., 2015; Olson-Sitki et al., 2013; Pearce and McCarry, 2014; Petersen et al., 2013; Radtke, 2013; Rush, 2012; Taylor, 2015; Thomas and Donohue-Porter, 2012; Wilson, 2011). Six projects did not provide clear implementation timelines (Herbst et al., 2013; Burke and McLaughlin, 2013; Chapman, 2009; Freitag and Carroll, 2011; Grant and Colello, 2009, 2010). Patient and nurse perception surveys were used frequently, which were often created for the project, but were not tested (Evans et al., 2012; Frazier and Garrison, 2014; Givens et al., 2016; Laws and Amato, 2010; Lin et al., 2015, 2011; Pearce and McCarry, 2014; Radtke, 2013; Wakefield et al., 2012) or lacked details of content (n = 4, 16%) (Chaboyer et al., 2009; Chapman, 2009; Freitag and Carroll, 2011; Taylor, 2015). Some researchers used routinely collected patient satisfaction surveys, which were not specific to bedside handover (n = 10, 40%) (Anderson and Mangino, 2006; Burke and McLaughlin, 2013; Cairns et al., 2013; Chapman, 2009; Frazier and Garrison, 2014; Freitag and Carroll, 2011; Laws and Amato, 2010; Lin et al., 2015, 2011; Olson-Sitki et al., 2013; Rush, 2012; Thomas and Donohue-Porter, 2012), meaning any hospital communication experience could be considered when completing these surveys. No QI projects measured health outcomes.

About 70% (n = 18) of the QI projects detailed methods to monitor implementation and compliance (Herbst et al., 2013; Anderson and Mangino, 2006; Caruso, 2007; Chaboyer et al., 2009; Chapman, 2009; Evans et al., 2012; Frazier and Garrison, 2014; Freitag and Carroll, 2011; Kassean and Jagoo, 2005; Lin et al., 2015, 2011; Olson-Sitki et al., 2013; Pearce and McCarry, 2014; Petersen et al., 2013; Radtke, 2013; Rush, 2012; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012; Wilson, 2011). Discussions of sustainability strategies varied between projects with 40% (n = 10) lacking descriptions (Johnson and Cowin, 2013; Herbst et al., 2013; Anderson and Mangino, 2006; Givens et al., 2016; Grant and Colello, 2009, 2010; Kassean and Jagoo, 2005; Laws and Amato, 2010; Petersen et al., 2013; Radtke, 2013; Rush, 2012; Taylor, 2015). Sharing outcomes with staff to encourage practice was a common sustainability strategy; however, the frequency of this strategy was unclear. One project that addressed sustainability in-depth included annual visits by quality staff to assess sustainability and make action plans based on findings (Lin et al., 2015, 2011). Over half of the projects (n = 14) did not discuss limitations, placing them at risk of overstating implementation success (Herbst et al., 2013; Anderson and Mangino, 2006; Burke and McLaughlin, 2013; Caruso, 2007; Dufault et al., 2010; Evans et al., 2012; Grant and Colello, 2009, 2010; Kassean and Jagoo, 2005; Laws and Amato, 2010; Pearce and McCarry, 2014; Rush, 2012; Taylor, 2015; Thomas and Donohue-Porter, 2012; Wilson, 2011).

8. Segregated thematic synthesis

Research studies and QI projects were analysed separately. Table 3

Table 3
Results of segregated synthesis of research studies and QI projects.

	Group	Categories	Subcategories
A	Research studies		
	Patient perceptions	Patient-centred handover	– Active listening – Contributing to, but not leading handover – Building the relationship – Discretion is important in handing over sensitive information
		Nurse-centred handover	– Impeding patient participation – It's the nurses job
	Nurse perceptions	Viewing the patient as an information resource	– Acting to enhance the accuracy and quality of handover – Evaluating the resourcefulness of patients
		Dealing with confidential and sensitive information	– Addressing confidential information – Addressing sensitive information
		Enabling patient participation	– Discouraging patient participation – Encouraging patient participation
B	QI projects		
		Nurse barriers to enacting patient participation in bedside handover	– Breaching confidentiality and sharing sensitive information – Uncertainty in encouraging patient participation
		Involving patients in bedside handover	– Ways to involve the patient – Making the patient's role explicit for patients – Training nurses

depicts the results of the segregated synthesis of both research studies (3A) and QI projects (3B).

8.1. Segregated synthesis of research: patient perceptions

Two categories were formed based on thematic synthesis of research focussing on patients' perspectives (

8.1.1. Patient-centred handover

Bedside handover was patient-centred because it allowed patient participation, built nurse-patient relationships, and ensured patients were respected through appropriate information disclosure. Overwhelmingly, patients wanted to actively participate in handover (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Drach-Zahavy and Shilman, 2015; Friesen et al., 2013; Lupieri et al., 2016), viewing it as their right (McMurray et al., 2011; Staggers et al., 2015; Lu et al., 2013). A common phrase amongst patients was their desire to "know what's going on" (Staggers et al., 2015; Bradley and Mott, 2014; Bruton et al., 2016; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013). Listening to handover content built patients' sense of security (Staggers et al., 2015; Bruton et al., 2016; Ford et al., 2014; Friesen et al., 2013; Jeffs et al., 2014; Lu et al., 2013; Lupieri et al., 2016) and confidence in nurses (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013; Lupieri et al., 2016). Patients had a range of preferences for their level of participation (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Friesen et al., 2013; Lupieri et al., 2016), which was dependent on patient factors (Staggers et al., 2015; Bruton et al., 2016; Drach-Zahavy and Shilman, 2015; Kerr et al., 2014b). Most frequently patients stated their role was to ask questions during handover (McMurray et al., 2011; Bradley and Mott, 2014; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013; Sand-Jecklin and Sherman, 2014), followed by adding information (Friesen et al., 2013; Kerr et al., 2014a; Liu et al., 2012; Lu et al., 2013) and preferences (Staggers et al., 2015; Bradley and Mott, 2014; Friesen et al., 2013; Jeffs et al., 2014), clarifying information (McMurray et al., 2011; Staggers et al., 2015; Drach-Zahavy and Shilman, 2015; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013; Lupieri et al., 2016), identifying erroneous information (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013), and responding to nurses' questions (McMurray et al., 2011; Staggers et al., 2015; Ford et al., 2014; Sand-Jecklin and Sherman, 2014). When listening to or contributing to information exchanges, content related to: 1) hearing about their condition/status/how they were progressing (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013); 2) plans for care on the upcoming and/or previous shift, including treatment plans (McMurray et al., 2011; Staggers et al., 2015; Bradley and Mott, 2014; Bruton et al., 2016; Drach-Zahavy and Shilman, 2015; Ford et al., 2014; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013; Maxson et al., 2012; Sand-Jecklin and Sherman, 2014); and 3) mistakes or missing information in nurses' dialogue (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013; Lupieri et al., 2016). There were mixed views about family members' contribution to handover; some patients valued it and it increased their involvement, others did not want family members to hear information (Staggers et al., 2015; Drach-Zahavy and Shilman, 2015; Kerr et al., 2014b).

Handover allowed patients to build relationships with the oncoming nurse to maintain some relational continuity (McMurray et al., 2011; Bradley and Mott, 2014; Jeffs et al., 2014; Kerr et al., 2014b; Liu et al., 2012) and feel involved in the nurse-patient relationship (McMurray et al., 2011; Bradley and Mott, 2014; Bruton et al., 2016; Jeffs et al., 2014; Kerr et al., 2014a; Lu et al., 2013; Sand-Jecklin and Sherman, 2014). Patients described handover as an opportunity to spend time with nurses and valued nurses who used personalised and humanistic approaches (McMurray et al., 2011; Bradley and Mott, 2014; Jeffs et al., 2014; Kerr et al., 2014b; Lu et al., 2013; Lupieri et al., 2016; Sand-Jecklin and Sherman, 2014). In many cases, formal introductions provided a foundation for relationship building (McMurray et al., 2011; Bradley and Mott, 2014; Bruton et al., 2016; Friesen et al., 2013; Jeffs et al., 2014; Lu et al., 2013; Sand-Jecklin and Sherman, 2013, 2014). In two studies, the social aspects of handover were valued, like having friendly and humorous dialogue (Bradley and Mott, 2014; Drach-Zahavy and Shilman, 2015). Patients desired respect during handover (Sand-Jecklin and Sherman, 2013, 2014), wanting discretion by handling sensitive information away from the bed, in a private and professional manner (McMurray et al., 2011; Staggers et al., 2015; Kerr et al., 2014b; Lu et al., 2013; Lupieri et al., 2016). Patients' preference was not to hear about information like drug and alcohol use (Kerr et al., 2014b), "bad news" (Staggers et al., 2015; Kerr et al., 2014b; Lupieri et al., 2016) and sexual health (Kerr et al., 2014b; Lu et al., 2013). Patients appeared less concerned about confidentiality per se, such as discussing medical information (McMurray et al., 2011; Staggers et al., 2015; Friesen et al., 2013; Jeffs et al., 2014; Kerr et al., 2014b; Köberich, 2014; Lu et al., 2013; Lupieri et al., 2016; Maxson et al., 2012). Those who were concerned about this suggested nurses stand

closer to the patient, rather than further away (Jeffs et al., 2014; Kerr et al., 2014b; Lupieri et al., 2016).

8.1.2. Nurse-centred handover

Patients spoke about many nurse actions that hindered their involvement in bedside handover (McMurray et al., 2011; Bruton et al., 2016; Friesen et al., 2013; Kerr et al., 2014a; Lu et al., 2013; Sand-Jecklin and Sherman, 2013, 2014). Nurses were viewed as holding the power (McMurray et al., 2011; Lu et al., 2013). When nurses conducted handover away from the patient bedside, patients did not feel involved in handover (Staggers et al., 2015; Friesen et al., 2013) and felt their confidentiality could be breached (Jeffs et al., 2014; Kerr et al., 2014a, 2014b). Handover occurring on the other side of the curtain (Kerr et al., 2014a), in the hallway or another room (Staggers et al., 2015; Friesen et al., 2013) were not conducive with patient-centred handover. Further, nurse communication style hindered patient participation like when patients felt not listened to (Lupieri et al., 2016), when nurses spoke about the patient in third-person (McMurray et al., 2011) or used nursing terms (McMurray et al., 2011; Staggers et al., 2015; Drach-Zahavy and Shilman, 2015; Friesen et al., 2013; Kerr et al., 2014b; Lu et al., 2013; Lupieri et al., 2016), when introductions were the only form of nurse interaction (Sand-Jecklin and Sherman, 2014), no explicit invitations (McMurray et al., 2011; Staggers et al., 2015; Kerr et al., 2014b; Liu et al., 2012) or when decisions were solely determined by nurses (Köberich, 2014). Some patients preferred or perceived their role in handover as passive (McMurray et al., 2011; Staggers et al., 2015; Bruton et al., 2016), leaving information-exchanges to nurses (McMurray et al., 2011; Staggers et al., 2015; Jeffs et al., 2014; Kerr et al., 2014a), particularly if patients felt too unwell to be involved (Kerr et al., 2014b).

8.2. Segregated synthesis of research: nurse perceptions

Three categories emerged from the research studies regarding nurse perception data (Table 3A), which are now described.

8.2.1. Viewing the patient as an information resource

Nurses thought patients' involvement in handover could improve the quality and accuracy of communication (Chaboyer et al., 2010; Drach-Zahavy et al., 2015; Jeffs et al., 2013a, 2013b; Johnson and Cowin, 2013; Kerr et al., 2014a; Liu et al., 2012). Seeing the patient allowed nurses to cross-check information and enhance the quality of information at this transition (Chaboyer et al., 2010; Bruton et al., 2016; Drach-Zahavy et al., 2015; Drach-Zahavy and Shilman, 2015; Jeffs et al., 2013a, 2013b; Johnson et al., 2016; Kerr et al., 2014a; Sand-Jecklin and Sherman, 2013). However, nurses liked a more active role for patients (Klim et al., 2013), including answering their questions (Bruton et al., 2016; Drach-Zahavy and Shilman, 2015; Liu et al., 2012), asking questions (Chaboyer et al., 2010; Jeffs et al., 2013a), adding information (Drach-Zahavy and Shilman, 2015; Kerr et al., 2014a, 2016; Liu et al., 2012), especially missing information (Bruton et al., 2016; Jeffs et al., 2013a; Kerr et al., 2014a), and identifying any errors (Bruton et al., 2016; Drach-Zahavy et al., 2015; Jeffs et al., 2013a; Kerr et al., 2014a). These patient actions related to three main content areas including patient condition, nursing care plan and treatments. For condition, nurses wanted patients to share information on symptoms, how they were feeling and progressing and information related to their condition (Bruton et al., 2016; Jeffs et al., 2013a; Kerr et al., 2014a; Liu et al., 2012). For care content, this included nursing care to be done for the next shift, patient preferences for nursing activities, and setting priorities and plans for the upcoming shift and discharge (Bradley and Mott, 2014; Drach-Zahavy and Shilman, 2015; Jeffs et al., 2013a, 2013b; Kerr et al., 2014a; Sand-Jecklin and Sherman, 2014). Finally, treatment comments included upcoming procedures or tests and the effects of treatments like medications (Drach-Zahavy et al., 2015; Jeffs et al., 2013a; Liu et al., 2012). Nurses revealed that patients were not always involved in handover (Bruton et al., 2016; Kerr et al., 2011, 2014a; Klim et al., 2013; Street et al., 2011), although some saw benefits for this practice. Nurses could view patient input in a negative way, especially if their information was judged as not relevant, disruptive or time-intensive (Bruton et al., 2016; Drach-Zahavy et al., 2015; Drach-Zahavy and Shilman, 2015; Jeffs et al., 2013b; Johnson and Cowin, 2013; Klim et al., 2013; Kerr et al., 2016; Street et al., 2011). Further, patients who were non-English speaking (Johnson and Cowin, 2013; Kerr et al., 2014a), confused (Chaboyer et al., 2010; Johnson and Cowin, 2013; Kerr et al., 2014a), asleep (Chaboyer et al., 2010; Jeffs et al., 2013b) or unwell (Chaboyer et al., 2010; Jeffs et al., 2013b; Kerr et al., 2014a; Liu et al., 2012) were viewed as less capable of participating (Sand-Jecklin and Sherman, 2013). Family members were perceived as useful sources when patients could not participate (Chaboyer et al., 2010; Drach-Zahavy and Shilman, 2015; Kerr et al., 2014a).

8.2.2. Dealing with confidential and sensitive information

Nurses voiced concerns and outlined strategies in relation to dealing with confidential and sensitive issues, which influenced patient involvement. Many, but not all, nurses voiced concerns about confidentiality when patients shared rooms or had family members present (Chaboyer et al., 2010; Bruton et al., 2016; Jeffs et al., 2013b; Johnson and Cowin, 2013; Kerr et al., 2014a; Liu et al., 2012). To effectively share information with patients, nurses moved close to patients and other nurses, spoke quietly at the bedside (Kerr et al., 2014a), pointed at written information and pulled curtains closed in the room (Liu et al., 2012). Gaining consent for family members' presence was a strategy used to allow them to contribute (Chaboyer et al., 2010; Johnson and Cowin, 2013). Nurses were uncomfortable discussing sensitive information with patients (Bruton et al., 2016; Jeffs et al., 2013b; Johnson and Cowin, 2013; Kerr et al., 2014a), such as blood borne viruses (Johnson and Cowin, 2013), unknown prognoses and diagnoses (Johnson and Cowin, 2013; Kerr et al., 2014a) or errors in care (Liu et al., 2012). If disclosed near the bed, it was written down (Jeffs et al., 2013b); other nurses avoided patient participation and moved away from the bedside to hallways and nurses' stations to disclose this information (Chaboyer et al., 2010; Johnson and Cowin, 2013; Johnson et al., 2016; Kerr et al., 2014a; Liu et al., 2012).

8.2.3. Enabling patient participation

Nurses expressed a variety of perceptions for enabling patient participation. Some nurses had the ability and actions to encourage patient participation, while other nurses used impeding tactics (Bruton et al., 2016; Drach-Zahavy et al., 2015; Johnson and Cowin, 2013). Discouraging behaviours included talking over the patient (Bruton et al., 2016; Drach-Zahavy and Shilman, 2015; Liu et al., 2012), purposefully using medical jargon (Drach-Zahavy et al., 2015), not engaging with (Bruton et al., 2016; Drach-Zahavy and Shilman, 2015; Johnson and Cowin, 2013) or answering patient questions (Bruton et al., 2016; Drach-Zahavy and Shilman, 2015), or conducting handover away from the bedside (Bruton et al., 2016; Johnson and Cowin, 2013; Klim et al., 2013; Liu et al., 2012). On the other hand, close proximity to patients was emphasised as a way to engage them (Bradley and Mott, 2014; Klim et al., 2013), which was seen to heighten the nurse-patient relationship (Johnson and Cowin, 2013; Kerr et al., 2014a; Liu et al., 2012). Awareness of patients' preferences (Chaboyer et al., 2010; Jeffs et al., 2013b; Johnson and Cowin, 2013) and introductions (Bruton et al., 2016; Liu et al., 2012) helped enable patient participation. In few cases, rounding before handover or discussions on admission, were opportunities to elicit patient preferences and inform patients about handover (Chaboyer et al., 2010; Jeffs et al., 2013b; Kerr et al., 2014a).

8.3. Segregated synthesis of the QI projects

Synthesis of QI projects revealed two categories (Table 3B), as

detailed next:

8.3.1. Nurse barriers to enacting patient participation in bedside handover

In QI projects, many nurses perceived barriers to encouraging patient participation in bedside handover, but patients' views were rarely sought (Herbst et al., 2013; Lin et al., 2015). Barriers were identified through open discussions with nurses both prior to and throughout the change cycle (Burke and McLaughlin, 2013; Cairns et al., 2013; Caruso, 2007; Givens et al., 2016; Grant and Colello, 2009; Kassean and Jagoo, 2005; Lin et al., 2015, 2011; Olson-Sitki et al., 2013; Pearce and McCarry, 2014; Petersen et al., 2013; Radtke, 2013; Rush, 2012; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012; Wilson, 2011). This was commonly done in face-to-face encounters with nurses; however other approaches like story boards were used (Lin et al., 2015, 2011). Three barriers to patient participation in bedside handover were consistently identified. The first related to sharing confidential information. Nurses were concerned that sharing information in public places would legally breach confidentiality laws (Herbst et al., 2013; Anderson and Mangino, 2006; Burke and McLaughlin, 2013; Chaboyer et al., 2009; Evans et al., 2012; Givens et al., 2016; Kassean and Jagoo, 2005; Laws and Amato, 2010; Lin et al., 2015; Olson-Sitki et al., 2013; Radtke, 2013; Taylor, 2015; Wakefield et al., 2012; Wilson, 2011) and questioned how to manage family presence (Laws and Amato, 2010; Radtke, 2013; Wakefield et al., 2012). The second barrier related to sharing sensitive information with patients, which was viewed as challenging because nurses felt uncomfortable (Burke and McLaughlin, 2013; Chaboyer et al., 2009; Thomas and Donohue-Porter, 2012; Wilson, 2011). Finally, the third barrier related to encouraging patient participation, as nurses held fears of increased time (Anderson and Mangino, 2006; Burke and McLaughlin, 2013; Caruso, 2007; Givens et al., 2016; Grant and Colello, 2009; Laws and Amato, 2010; Lin et al., 2015; Olson-Sitki et al., 2013; Petersen et al., 2013; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012; Wilson, 2011), irrelevant or disruptive information/requests being given by patients (Burke and McLaughlin, 2013; Evans et al., 2012; Givens et al., 2016; Grant and Colello, 2009; Wakefield et al., 2012), waking patients (Herbst et al., 2013; Anderson and Mangino, 2006; Chaboyer et al., 2009; Grant and Colello, 2009, 2010; Olson-Sitki et al., 2013; Thomas and Donohue-Porter, 2012) and difficulty engaging patients in patient-centred discussions (Caruso, 2007; Evans et al., 2012; Givens et al., 2016; Grant and Colello, 2010; Lin et al., 2011; Wilson, 2011).

8.3.2. Involving patients in bedside handover

In this category, ways of involving patients in handover were identified, as well as strategies to achieve these roles. Four common roles of patients in handover were identified. First, participating in planning was most common, as patients were encouraged to contribute to their plan for the upcoming shift or discharge (Herbst et al., 2013; Chapman, 2009; Dufault et al., 2010; Grant and Colello, 2009; Kassean and Jagoo, 2005; Laws and Amato, 2010; Olson-Sitki et al., 2013; Radtke, 2013; Rush, 2012; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012), which was enhanced by patient whiteboards (Herbst et al., 2013; Evans et al., 2012; Lin et al., 2015; Olson-Sitki et al., 2013; Wakefield et al., 2012). Patients' role in planning also involved listening to the handover to find out what was going on with their care (Herbst et al., 2013; Anderson and Mangino, 2006; Chaboyer et al., 2009; Radtke, 2013; Rush, 2012). The second role for patients was asking questions. In many cases patients were encouraged to ask questions at a set time during handover (Herbst et al., 2013; Caruso, 2007; Chaboyer et al., 2009; Chapman, 2009; Grant and Colello, 2009; Kassean and Jagoo, 2005; Lin et al., 2011; Petersen et al., 2013; Radtke, 2013; Rush, 2012; Taylor, 2015; Wakefield et al., 2012; Wilson, 2011). In one instance, during rounding, patients were asked to write their questions down prior to handover to encourage their involvement (Wakefield et al., 2012). Third, patients were encouraged to voice concerns during handover (Chaboyer et al., 2009; Dufault et al., 2010; Lin et al., 2011; Olson-Sitki et al., 2013; Rush, 2012; Taylor, 2015; Thomas and Donohue-Porter, 2012). Finally, patients could identify any missed information and add information (Herbst et al., 2013; Grant and Colello, 2009; Petersen et al., 2013; Rush, 2012).

Ensuring patients knew their role in handover was a strategy used to encourage patient participation. For instance, rounding before handover was used to make sure patients' needs were addressed (Herbst et al., 2013; Burke and McLaughlin, 2013; Caruso, 2007; Chaboyer et al., 2009; Freitag and Carroll, 2011; Lin et al., 2015, 2011; Wakefield et al., 2012). This strategy ensured patients would not participate in an 'irrelevant' way or make care requests when bedside handover occurred (Burke and McLaughlin, 2013; Caruso, 2007; Lin et al., 2015, 2011). Further, rounding (Chaboyer et al., 2009; Lin et al., 2011) and discussions on admission (Anderson and Mangino, 2006; Caruso, 2007; Freitag and Carroll, 2011; Laws and Amato, 2010; Petersen et al., 2013; Wakefield et al., 2012) were opportunities to prepare patients by informing them of their role in handover. Discussions on admission were enhanced by printed letters that explicitly invited patient participation in handover (Anderson and Mangino, 2006; Laws and Amato, 2010), and in one case their preference for handover was sought (Caruso, 2007). In addition, guidelines or standardised scripts, often supported by pneumonics, were sometimes used to make patients' role explicit (Herbst et al., 2013; Chaboyer et al., 2009; Dufault et al., 2010; Kassean and Jagoo, 2005; Lin et al., 2015, 2011; Olson-Sitki et al., 2013; Pearce and McCarry, 2014; Radtke, 2013; Rush, 2012; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012; Wilson, 2011). The standardised format detailed comments for nurses to use to initiate patient involvement in handover. Patient participation was scripted at a set time in standardised guidelines/scripts (Herbst et al., 2013; Chaboyer et al., 2009; Lin et al., 2015; Olson-Sitki et al., 2013; Thomas and Donohue-Porter, 2012; Wilson, 2011), often at the end of handover (Dufault et al., 2010; Kassean and Jagoo, 2005; Radtke, 2013; Wakefield et al., 2012). Part of these guidelines/scripts was instructions for patient introductions and ways to finish the encounter (Herbst et al., 2013; Dufault et al., 2010; Kassean and Jagoo, 2005; Pearce and McCarry, 2014; Radtke, 2013; Rush, 2012; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012), enhancing patient engagement. Pocket guides (Anderson and Mangino, 2006; Lin et al., 2011; Olson-Sitki et al., 2013) and reminders in rooms (Caruso, 2007; Olson-Sitki et al., 2013; Wilson, 2011) enhanced this step.

A common educational strategy used to encourage patient engagement, was heightening nurses' confidence dealing with confidential or sensitive information. Nurses were trained in strategies to deal with confidential or sensitive information such as standing outside of patient rooms (Chaboyer et al., 2009; Evans et al., 2012; Grant and Colello, 2009, 2010; Kassean and Jagoo, 2005; Laws and Amato, 2010; Pearce and McCarry, 2014; Wilson, 2011), closing the patient's door (Caruso, 2007), writing down information (Chaboyer et al., 2009) and gaining patient consent prior to handover (Burke and McLaughlin, 2013; Chaboyer et al., 2009; Chapman, 2009), including whether family members could remain present (Burke and McLaughlin, 2013; Grant and Colello, 2010). Further, nurses were educated on relevant privacy acts and hospital risk management committees were contacted (Evans et al., 2012; Lin et al., 2015), so nurses understood their scope and what they were allowed to communicate with patients about their care (Herbst et al., 2013; Burke and McLaughlin, 2013; Laws and Amato, 2010; Radtke, 2013; Wilson, 2011).

In addition, videos and role play were used for learning. These methods were used to address barriers like dealing with confidential information (Cairns et al., 2013), but most commonly addressed nurses' uncertainty in encouraging patient participation (Herbst et al., 2013; Grant and Colello, 2009, 2010; Lin et al., 2015, 2011; Olson-Sitki et al., 2013; Petersen et al., 2013; Wakefield et al., 2012). Role playing was commonly used to teach nurses the process for handover, and showed nurses how to communicate with patients during handover, in a time-manageable and patient-centred way (Herbst et al., 2013; Anderson and

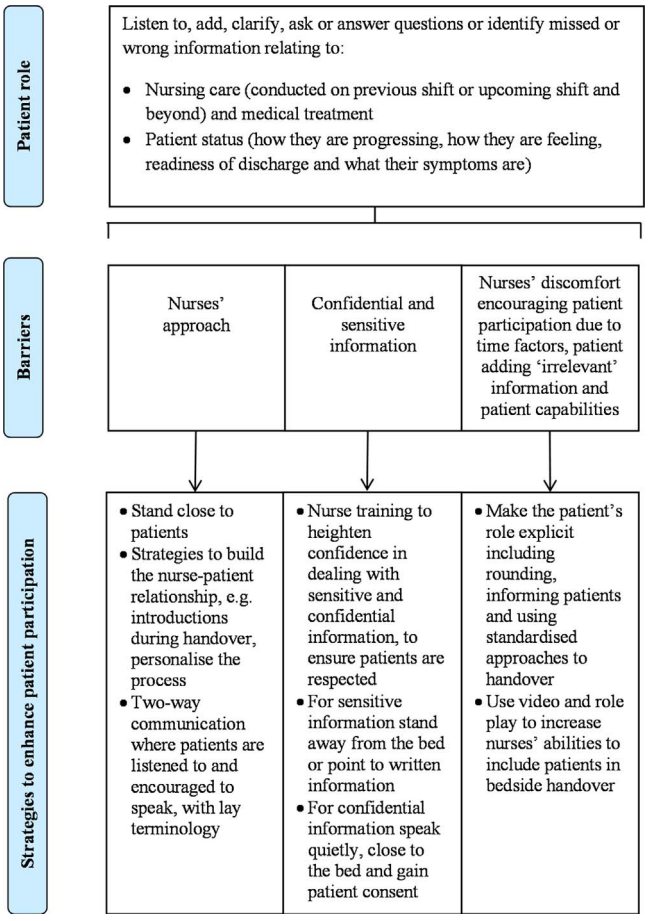

Fig. 2. Research and QI configured synthesis.

Mangino, 2006; Burke and McLaughlin, 2013; Cairns et al., 2013; Caruso, 2007; Chapman, 2009; Freitag and Carroll, 2011; Kassean and Jagoo, 2005; Lin et al., 2011; Petersen et al., 2013; Rush, 2012; Thomas and Donohue-Porter, 2012; Wakefield et al., 2012). There were some suggestions that involving nurses in these activities built their enthusiasm for change (Herbst et al., 2013; Grant and Colello, 2009, 2010; Lin et al., 2015, 2011).

9. Configured synthesis of research studies and QI projects

By undertaking a configurative approach, research and QI syntheses were combined to provide recommendations for strategies to enhance patient participation and overcome barriers (Fig. 2).

10. Discussion

By including both research studies and QI projects, we have identified patient roles in the bedside handover process, the most frequent barriers to enabling these roles, and strategies to promote patient participation in bedside handover, as perceived by patients, nurses and in some cases as supported by observational data. Our configured synthesis findings resonate with reviews of patient participation in care in general (Angel et al., 2015; Snyder and Engström, 2016; Thórarinsdóttir and Kristjánsson, 2014; Tobiano et al., 2015a). For instance, Tobiano et al., (2015a) identified patient roles in handover. In addition, our findings resonate with barriers identified in review, relating to nurses' approach and patient characteristics for participation. Strategies identified in our review are similar to other reviews where nurse training (Snyder and Engström, 2016), informing patients (Snyder and Engström, 2016; Thórarinsdóttir and Kristjánsson,2014) and building relationships (Thórarinsdóttir and Kristjánsson, 2014) are some strategies to enhance patient participation.

We have framed our discussion around Thórarinsdóttir and Kristjánsson's (2014) review of patient participation. These authors developed a framework for person-centred participation in healthcare, which requires patients and nurses to pass through three phases in the patient participation process. Our findings are discussed in relation to these three phases 1) the human connection phase; 2) the phase of information processing; and 3) the action phase (Thórarinsdóttir and Kristjánsson, 2014). Patients may pass through these phases in order, or in an iterative manner (Thórarinsdóttir and Kristjánsson, 2014). We perceived that other reviews of patient participation (Angel et al., 2015; Snyder and Engström, 2016; Tobiano et al., 2015a) have similar findings to Thórarinsdóttir and Kristjánsson's (2014) review, thus we will frame our discussion around their framework. Discussing our findings in relation to all of the previous reviews identified highlights how bedside handover is one process that enables patient participation in care.

11. The human-connection phase

Reviews of patient participation in care all show evidence of Thórarinsdóttir and Kristjánsson's (2014) 'human-connection phase'; highlighted as a requirement for patient participation (Angel et al., 2015; Tobiano et al., 2015a; Sahlsten et al., 2008). Consistent with our review, reviewers have demonstrated that 'the human-connection phase' involves creating an inviting atmosphere, genuine interest and attention from nurses and building relationships, which may influence patients' confidence (Tobiano et al., 2015c, 2015b; Thórarinsdóttir and Kristjánsson, 2014) and enable patient participation (Angel et al., 2015; Snyder and Engström, 2016; Tobiano et al., 2015a; Sahlsten et al., 2008). Like our review, Anderson et al's (2015) review of bedside handover showed patient involvement is hindered when nurses do not embrace this phase; strategies like talking over patients, using clinical language, and dictating interactions all impede this phase of patient participation.

On the other hand, our findings related to dealing with sensitive and confidential information demonstrate nurses' and patients' understanding of 'the human-connection phase'. Strategies identified in our review like gaining consent and speaking quietly to maintain confidentiality or moving away from patients to disclose sensitive topics, demonstrate patient-centred qualities like respect for patients (Scholl et al., 2014). Nurses who undertake these strategies would assist in establishing 'the human-connection phase' and enabling patient involvement. Overall, our review further solidifies the importance of approaching patients in a meaningful, respectful and welcoming manner to ensure genuine engagement in handover.

12. The information-processing phase

In the information-processing phase, patients seek and receive information (Thórarinsdóttir and Kristjánsson, 2014). Reviews of patient participation consistently highlight the importance of communication and information sharing between patients and health-care professionals (Angel et al., 2015; Snyder and Engström, 2016; Thórarinsdóttir and Kristjánsson, 2014; Tobiano et al., 2015a). Evidenced in our review, bedside handover is an opportunity for patients to have an active role in information processing. Like other studies, patients were kept up to date and verbally assured their own safety (Australian Commission on Safety and Quality in Health Care, 2015; Vaismoradi et al., 2015). Our findings are consistent with extensive work done by Eldh and her team (2015), highlighting two types of dialogue that patients can engage in; either meaningful dialogue that builds 'the human-connection phase', or clinical dialogue that enables 'the information-processing phase' and builds patient understanding.

However, further investigation of the patient's role in handover is

required. In research studies, there was good representation of both patient and nurse views of the patient's role in handover. Yet, findings suggest some nurses perceived patient participation in a non-constructive way. However, nurses' opinions may be overstated. Nurses were frequently given the opportunity to share barriers to bedside handover and suggest implementation strategies during QI projects, whereas patients were not. Similar to another review (Australian Commission on Safety and Quality in Health Care, 2015), our research findings revealed a small number of patients valued sharing social/non-clinical information during handover; information that nurses may view as irrelevant. More investigation is required to see if this role perception is consistent across other patient populations. A strategy identified in our review was to make handover standardised and predictable to enable patient participation, a finding more evident in QI projects. Gregory et al. (2014) showed that improvements from standardising handover are mixed. Thus, further research is required to determine the benefit of standardised approaches for patient involvement.

13. The action phase

In the final action phase, patients have the confidence and responsibility to participate in care (Thórarinsdóttir and Kristjánsson, 2014). Reviewers have highlighted activities like decision-making and self-care as ways patients may participate in care (Snyder and Engström, 2016; Thórarinsdóttir and Kristjánsson, 2014; Tobiano et al., 2015a). Ultimately, achieving the action phase is dependent on the thoroughness of the preceding 'information-processing phase' (Angel et al., 2015); highlighting the importance of active patient participation in information-sharing activities. Other information-sharing activities that could promote patient participation include discussions around medication plans, transition care plans and hospital discharge communication (Australian Commission on Safety and Quality in Health Care, 2015). Researchers state, when patients perceive themselves as informed, it enhances their capacity to participate in nursing care (Nygårdh et al., 2012; Rise et al., 2013). This is also the case in bedside handover, which may empower patients and enable patient participation in decision-making (Gregory et al., 2014) and nursing care (Tobiano et al., 2015a). Overall, our review highlighted that bedside handover facilitates patient participation in information-sharing, which may enable them to undertake some nursing activities collaboratively.

14. Influencing factors

Although not explicitly identified in Thórarinsdóttir and Kristjánsson's framework (2014), there are many influencing factors that may determine how patients pass through phases required for participation. Findings from our review suggest that making bedside handover predictable and understandable for patient may heighten their involvement. Reviewers suggest when informing patients, passive and active approaches need to be undertaken (Schipper et al., 2016). A passive approach suggested in our review was informing patients about their role in bedside handover through written materials on admission. To maximise the effectiveness of these materials, patients should be involved in creating them, to ensure their role is described in lay terms and is comprehensive (Schipper et al., 2016). However, there needs to be active informing approaches too, where patient information is seen and heard often (Schipper et al., 2016). Standardised scripts and rounding were recommendations we identified that could contribute to actively informing patients.

A standardised and predictable approach to handover can clarify handover purpose and reduce confusion, however handover needs to be flexible and responsive to each situation (Jorm et al., 2009). We found patients have differing capabilities, preferences and expectations for handover. A consistent approach to determine patients' desired level of participation was not evident in our review, thus further understanding of how to tailor bedside handover is required. Patients have previously described their desired level of participation in health care consultations, which can range from passive to autonomous (Thompson, 2007). The level of participation an individual patient desires for handover is not static and is influenced by various factors such as their current health status and their trust in health care professionals (Tobiano et al., 2015b). Thus, to empower patients, nurses should regularly assess patients' preferences and tailor their handover practices according to these preferences (Thompson, 2007). Further, we found patients' preferences for family member involvement varied. In a recent study, it was demonstrated that patients ranked family involvement in bedside handover as important (Whitty et al., 2016). There can be many barriers to family involvement in handover, including patients' preferences, as well as visiting times and unpredictable handover approaches for family engagement (Australian Commission on Safety and Quality in Health Care, 2015). It may be that patient and family participation varies across shifts, as nurses in our review did not want to wake patients. Afternoon handover has been shown as appropriate for patient (Whitty et al., 2016) and family participation (Tobiano et al., 2013). Patient participation across different shift changes is relatively unexplored, and necessary given varying start times between contexts. Flexibile approaches to handover, may be context specific. Different units have different models of nursing, with team nursing suggested to improve patient engagement, while allocation of individual patients decreases nurses' knowledge of patients and ability to engage (Australian Commission on Safety and Quality in Health Care, 2015).

15. Limitations

Four main limitations are outlined for this review. First, thematic synthesis and configuration are interpretive approaches, which can be viewed as a limitation. To address this, reviewers adopted a reflective approach, noting analytic memos throughout the analysis process to ensure decisions were explicit. Further, the main reviewer worked within a larger team, who assessed the analysis at each step of data analysis, questioning or confirming findings. Second, research and QI projects were included irrespective of their quality. The research included was largely of high quality. We identified frequent quality issues with QI projects relating to focus on design, evaluative measures and discussions around sustainability, which could limit the usability of our findings. Utilising two independent reviewers to appraise QI projects against QI criteria was intended to identify these limitations, providing considerations for future implementation efforts. It was promising that our configurative approach, matching research and QI projects, showed similarities across these bodies of work. However, it also highlighted differences, like the lack of patient involvement in QI projects. Without patient input, findings identified are at risk of being nurse-focused. The QI findings provided a different type of knowledge, identifying some real-life feasible strategies and local contextual issues, which can potentially inform ideas for research to understand why and how strategies work. Third, Gough et al. (2012) advocates stakeholder involvement in the review process. Unfortunately, we were unable to complete this in our set time. Thus, strategies arising from this review could be further developed by capturing and including patients' viewpoints in future research. Finally, although we attempted to create an exhaustive search strategy, with health librarian input, we recognise that some research studies and QI projects could have been missed.

16. Conclusions

In conclusion, using both research and QI projects has enhanced the usability of this review, as these diverse sources expanded each other, providing us with further depth on the topic and identifed areas for future investigation. A clearer indication of the patient's role in bedside handover was gained. Seemingly, patients can contribute information about their care and progress during bedside handover, which may improve the quality and safety of content and build the nurse-patient

relationship. Our combined synthesis allowed identification of the most frequent barriers as well as practical strategies for addressing these barriers. We identified that barriers to patient participation in bedside handover are largely stated by nurses and further investigation of patients' perceived barriers are required. One common barrier between patients and nurses was whether nurses had apatient-centred manner. Our review highlights the complexity between standardised yet flexible handovers. Standardising handover may create predictability for patients; however, training nurses to be flexible in their approach towards confidentiality/sensitivity and each patients' situation and preferences may be required. To note, many of the strategies provided in this review, largely came from QI projects and must be interpreted with caution, as QI projects were mostly conducted at single sites and the strategies may only be appropriate to the local context.

The strategies we uncovered suggest many approaches for individual patients and nurses, leaders improving bedside handover and future research. For patients, our review shows strategies that make patient roles explicit, could heighten their participation. For nurses, training may be required to build their capacity to enable patient participation. Both research and QI projects highlighted the importance of heightening nurses' confidence in communicating with patients, tailoring handover and dealing with sensitive and confidential information during bedside handover. For leaders improving handover, implementing and improving bedside handover locally requires consideration of many quality points, to ensure rigorous and successful improvement projects. Local and organisational leaders need to promote local expectations for handover, such as choosing standardised content tools that include explicit patient participation, while encouraging flexible approaches, and setting expectations of what constitutes confidential and sensitive scenarios. Further, leaders have a crucial role in monitoring handover and coaching staff accordingly, to show their active support for patient involvement in handover. As supported by (2014) review, being guided by a change framework such as 'Lewin's Change Management Model' can be beneficial as it promotes open communication between organisational leaders and nurses in all stages of change, which helps promote enthusiasm for change (Jeffs et al., 2013b; McMurray et al., 2010). Leaders should consider involving patients in the change process, a step often overlooked in our review of QI projects. Additionally, when reporting QI projects, consideration should be given to evaluation and sustainability, an area identified as requiring improvement in published QI projects. For research, patients' roles in bedside handover identified in the present review should be further investigated for effectiveness and acceptability from patients' perspectives. Most notably, strategies described to make the patient's role explicit and prepare patients for handover, are largely from QI projects, which lacked patient input. Using research methods to investigate these locally applied strategies would help determine if these interventions work, and in what context the intervention is effective. Investigating strategies identified in QI projects using research methods could enhance confidence for others when using these to improve or implement bedside handover in their workplace.

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Conflicts of interest

none.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.ijnurstu.2017.10.014.

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