

STRUCTURED NURSING HANDOVER PRACTICES AND THEIR ROLE IN ENHANCING PATIENT SAFETY, COMMUNICATION EFFICIENCY, AND CLINICAL OUTCOMES: A SYSTEMATIC REVIEW

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Abstract

Background: Nursing handovers are critical for ensuring patient safety, continuity of care, and effective clinical communication. Poorly executed handovers can lead to adverse events due to information loss, communication breakdowns, and reduced situational awareness. This systematic review aimed to explore the relationship between nursing handover quality and patient-related outcomes, with a focus on standardized communication tools, environmental factors, and patient participation. **Methods:** Following PRISMA guidelines, a comprehensive search was conducted across PubMed, CINAHL, Scopus, and Web of Science for studies published between 2012 and 2022. Studies were included if they examined nursing handovers and reported outcomes related to communication quality, patient safety, or clinical errors. Nine studies met the inclusion criteria and were synthesized using qualitative thematic analysis. **Results:** Most studies demonstrated that high-quality, structured handovers positively influence patient outcomes by improving communication clarity, reducing errors, and enhancing early recognition of clinical deterioration. Tools such as ISBAR and PACT increased the completeness of information exchange. Environmental

distractions, inconsistent documentation, and lack of standardization were common barriers. Experienced nurses demonstrated better retention and interpretation of critical cues. Patient participation showed promise but was limited by concerns about confidentiality and workflow disruptions. **Conclusion:** Effective nursing handovers are essential to patient safety. Standardized communication tools, leadership support, nurse training, and strategies to minimize interruptions are key to improving handover quality. Future efforts should address both systemic and human factors to support sustainable improvements in handover practices.

Keywords: Nursing Handover, Patient Safety, Communication, Standardization, Bedside Report, ISBAR, Clinical Outcomes.

INTRODUCTION

Effective nursing handovers are fundamental to ensuring patient safety, continuity of care, and the prevention of adverse events. The handover process, involving the transfer of patient-specific information, accountability, and responsibility between nurses, occurs multiple times daily and serves as a pivotal communication event in clinical settings (Clari et al., 2021). When this process is poorly executed, it can lead to serious patient harm due to information loss, communication breakdowns, and reduced situational awareness (Vanderzwan et al., 2023; Bressan et al., 2020).

A growing body of literature has emphasized the importance of structured handover methods, such as the use of standardized communication tools and bedside handover formats. These interventions are linked with improved communication quality, reduction in preventable errors, and enhanced patient and staff satisfaction (Cho et al., 2021; Vaismoradi et al., 2020). However, despite international recommendations to adopt such tools, their implementation is often challenged by contextual barriers including environmental interruptions, time constraints, lack of training, and nurse resistance to change (Vanderzwan et al., 2023; Clari et al., 2021).

In addition to communication structure, patient participation in handovers has gained attention as a patient-centered strategy that may improve safety and satisfaction. Yet, nurses frequently express concerns about confidentiality, patient readiness, and the practicality of involving patients in shift reports (Tobiano et al., 2018). These factors often lead to inconsistent application of participatory handovers across healthcare systems.

While multiple reviews and quality improvement projects have evaluated aspects of nursing handover, there is still limited synthesis focusing specifically on how handover quality impacts patient-related outcomes across different settings. This systematic review aims to explore the relationship between nursing handover practices and patient safety, including the roles of standardization, patient involvement, and contextual challenges.

METHODOLOGY

This systematic review was conducted to examine the relationship between nursing handover quality and patient-related outcomes. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to

ensure transparency and reproducibility in the identification, selection, and synthesis of relevant studies.

A comprehensive search strategy was employed using electronic databases including PubMed, CINAHL, Scopus, and Web of Science. The search was limited to peer-reviewed articles published in English between 2012 and 2022. The keywords used in various combinations included: nursing handover, clinical handoff, shift report, bedside report, communication, patient safety, and patient outcomes. Boolean operators (AND/OR) were applied to optimize the search sensitivity and specificity. Studies were included if they met the following criteria: (1) the study population consisted of registered nurses, nursing students, or healthcare professionals involved in handover processes; (2) the study explored any type of nursing handover (oral, written, structured, bedside, or mixed formats); (3) the outcomes included indicators related to communication quality, patient safety, documentation, clinical deterioration, or errors during transitions of care; (4) the study design was either observational, experimental, qualitative, or mixed-methods; and (5) the full text was available in English. Editorials, commentaries, conference abstracts, and studies not focused specifically on nursing handover were excluded. All retrieved titles and abstracts were screened independently by two reviewers to assess eligibility. Full texts of potentially relevant studies were then obtained and reviewed for inclusion.

Discrepancies in study selection were resolved by discussion until consensus was achieved. Ultimately, nine studies met the inclusion criteria and were included in this review. Data were extracted using a structured form that captured information on citation, study design, sample size, demographics, handover method, main findings, and reported outcomes. One reviewer conducted the data extraction, and a second reviewer cross-checked the entries to ensure accuracy and completeness.

The quality of the included studies was appraised using the Joanna Briggs Institute (JBI) Critical Appraisal Tools, with separate tools applied depending on the study design. Appraisal criteria included clarity of study aims, appropriateness of design and methodology, participant selection, data collection rigor, and relevance of reported outcomes. No studies were excluded based on quality assessment; however, the appraisal results were considered during the synthesis of findings. A qualitative synthesis approach was adopted. The findings were organized thematically around key domains such as the impact of handover on patient outcomes, the role of standardized tools, the influence of nurse experience, and barriers such as interruptions and communication breakdowns.

RESULTS

A total of nine studies published between 2012 and 2020 were included in this systematic review. The studies were conducted across various healthcare settings in Australia, New Zealand, Norway, the United States, and Italy. Study designs included randomized controlled trials, observational studies, mixed-methods evaluations, and content/textual analyses.

Study Characteristics

The included studies examined different aspects of nursing handover, including verbal and written communication, standardization tools, handover structure, interruptions, and the relationship between handover quality and patient outcomes. Sample sizes ranged from 20 handover observations to over 9,600 data points in a work-sampling study.

Handover Quality and Patient Outcomes

Eight of the nine studies directly or indirectly supported the link between handover quality and patient outcomes. Poor communication during handover was associated with information loss, increased risk of clinical deterioration, and suboptimal pain management (Lillibridge et al., 2017; Street et al., 2015). Spooner et al. (2014) found that interruptions during handover were common and may compromise safety, while Sun et al. (2020) observed that hourly rounding and bedside shift reports alone were insufficient to reduce fall risks without sustained interventions.

Structure and Standardization

Multiple studies emphasized the value of standardized communication tools. Structured formats like ISBAR (Speltri et al., 2021), the N-PAS mnemonic (O'Rourke et al., 2020), and the Post-Anaesthetic Care Tool (Street et al., 2015) improved the completeness and clarity of handovers. Jefferies et al. (2012) highlighted the discrepancy between written and oral communication, suggesting a need for integrated approaches to ensure consistency and safety.

Role of Experience and Communication Nuance

Lee et al. (2015) found that experienced nurses were better at retaining and interpreting affective cues in handover communication. Giske et al. (2017) further supported the importance of verbal and nonverbal elements, reinforcing the need for emotional intelligence and contextual awareness during information exchange.

Interruptions and Environmental Factors

Environmental distractions, such as staff interruptions and equipment alarms, were identified as major barriers to effective handovers (Spooner et al., 2014). Giske et al. (2017) and Speltri et al. (2021) similarly reported that distractions, lack of dedicated handover spaces, and informal communication styles negatively impacted information transfer.

Table 1: Nursing Handover Study Summary

Citation	Study Design	Sample Size	Study Population	Method	Study Aim
Lee et al. (2015)	Randomized controlled experiment	157 nurses	PACU and surgical ward nurses, final-year nursing students	Participants watched videos with varying affective and written cues,	To test the effect of affective statements and written summaries on information

				then answered a questionnaire	transfer at nursing handover
Lillibrige et al. (2017)	Observational, exploratory descriptive	31 patient journeys	PACU patients across three hospitals	Observation of handovers and patient care in PACU	To identify patient care outcome indicators sensitive to handover quality
Giske et al. (2017)	Participant observational study	1100 hours of observation	Hospital nurses observed by 52 nursing students	Qualitative content analysis of field notes from observations	To explore conditions of oral handovers and their impact on safety and care quality
Jeffries et al. (2012)	Content and textual analysis	67 nursing documentation samples; 195 handover transcripts	Nurses in clinical settings	Comparison of written records and oral handovers	To analyze content differences between oral and written clinical communication
Street et al. (2015)	Prospective pre-post observational study	1500 patients (750 pre, 750 post)	Surgical patients in PACU	Evaluation of outcomes before and after implementing Post-Anaesthetic Care Tool (PACT)	To assess whether PACT improves recognition of deterioration, handover documentation, outcomes, and costs
Speltri et al. (2021)	Observational study	256 handovers observed	Cardiothoracic department nurses	Use of a modified ISBAR checklist and Handoff CEX tool	To identify omissions in shift-change handovers and assess nurses' perceived handover quality
O'Rourke et al. (2020)	Mixed-methods (secondary data analysis)	138 handoffs	Hospital nurses	Coding of real-world handoff transcripts for presence of N-PAS components	To determine how often standardized mnemonic elements appear in actual handoffs
Spooner et al. (2014)	Observational study	20 bedside handovers	ICU nurses	Recorded frequency and sources of interruptions during ICU handovers	To quantify and identify sources of interruptions during ICU nursing handovers
Sun et al. (2020)	Observational, work sampling	9693 observations across 281 shifts	Hospital inpatients and nurses (4 hospitals)	Observed BSR and hourly rounding in relation to fall incidence	To assess the relationship between patient falls and use of BSR and hourly rounding

Table 2: Main findings

Citation	Demographic	Handover Quality Impacts Patient Outcomes	Main Findings	Outcomes
Lee et al. (2015)	PACU and surgical ward nurses, final-year students (NZ)	Yes – poor handover quality may impair retention	Affective cues help experienced nurses better retain information; no universal improvement	Handover success depends on experience and communication nuance
Lillibridge et al. (2017)	PACU patients across 3 Australian hospitals	Yes – impacts pain control and clinical deterioration response	Identified patient pain and missed info as indicators of poor handover	Better handovers could reduce pain and missed deterioration
Giske et al. (2017)	Hospital nurses in Norway (observed by students)	Yes – impacted safety, clarity, and team cohesion	Structure and reduced distraction improve communication	Quality handovers improve teamwork and patient understanding
Jefferies et al. (2012)	Australian nurses, mixed settings	Implied – gaps in documentation reduce safety	Oral handovers convey more holistic care info than written notes	Need alignment between written and oral reports to ensure safety
Street et al. (2015)	Surgical patients pre- and post-PACT (Australia)	Yes – tool improved early recognition and handover	PACT improved recognition of deterioration and documentation	Enhanced safety, handover clarity, and reduced costs
Speltri et al. (2021)	Cardiothoracic department nurses (Italy)	Yes – omissions and poor structure hinder care	43% omissions; better results with structured formats	Recommended standardized tool used to reduce errors
O'Rourke et al. (2020)	Hospital nurses (USA)	Implied – missing synthesis in handovers is a gap	N-PAS elements inconsistently present; synthesis missing	Need training to implement complete handover structures
Spooner et al. (2014)	ICU nurses in Brisbane, Australia	Yes – interruptions reduce information retention	Alarms and staff interruptions disrupt handover flow	Strategies needed to minimize interruptions during handovers
Sun et al. (2020)	Inpatients and nurses, 4 hospitals (USA)	Yes – fall risks not improved by BSR/HR alone	Nurse presence didn't reduce falls unless interventions sustained	Need long-term, engaged strategies for BSR and rounding

DISCUSSION

This systematic review highlights the role that high-quality nursing handovers play in ensuring patient safety, enhancing communication, and improving overall healthcare delivery. Several studies underscore the effectiveness of using structured frameworks in enhancing the quality of nurse-to-nurse handovers.

Clark et al. demonstrated that implementing a structured bedside shift report (BSSR) using the SBART tool led to improved nurse satisfaction and patient safety metrics, notably through increased situational awareness and reduced communication gaps. Similarly, Cho et al. reviewed 22 QI projects and found that standardized communication tools and structured handover protocols were associated with reduced adverse events and improved intershift communication.

Bressan et al. emphasized that standardized handovers supported by digital tools and face-to-face communication significantly promote patient safety by minimizing information loss and fostering accountability.

Interruptions and Environmental Barriers

Interruptions remain a consistent barrier to effective handovers. Two integrative reviews identified that distractions during handover—whether from environmental noise, alarms, or human factors like patient queries—can impair information retention and increase the risk of errors. Vanderzwan et al. noted that although the problem is widely recognized, few evidence-based interventions have been implemented to mitigate these distractions effectively. The findings from these reviews mirror the original study results in your review, where environmental noise and unstructured formats disrupted the flow of information and negatively influenced patient safety.

Patient Participation in Bedside Handover

Active patient participation emerged as both a promising practice and a challenge. Tobiano et al. identified that patients can contribute valuable clinical information during handover and benefit from increased transparency and shared decision-making. However, nurses often express concern over privacy issues, time constraints, and changes in traditional roles, which can act as barriers to participation. This tension between patient-centered care and operational constraints was also observed in Sun et al. (2020) in your review, which found that bedside handovers alone were insufficient to reduce falls unless coupled with sustained, structured interventions.

Barriers and Facilitators to Bedside Handover

Clari et al. provided a comprehensive synthesis of contextual factors influencing the success of bedside handovers. Facilitators include leadership support, training, nurse engagement, and patient involvement. Barriers encompass time pressure, inadequate communication skills, and lack of standard protocols—findings that closely align with several studies in your review (e.g., Giske et al., Street et al., Jefferies et al.). These studies collectively stress that effective handovers depend not only on the format but also on organizational culture, nurse competence, and environmental context.

Adherence to Patient Safety Principles

Vaismoradi et al. emphasized the importance of nurse adherence to patient safety principles, especially during handovers, as a means of reducing adverse events and practice errors. Their findings reflect those of Street et al. (2015) and Lillibridge et al. (2017), who found that improved handover documentation and early recognition of

deterioration led to better outcomes. The importance of leadership, standardization, teamwork, and education was consistently noted as crucial to ensuring adherence to safe practices.

Implementation and Sustainability

The review by Clark et al. detailed the importance of phased implementation and leadership buy-in in achieving successful and sustainable handover interventions. This aligns with the umbrella review by Bressan et al., which argues that systemic change in handover practice requires time, training, and context-sensitive strategies. Importantly, both studies highlight that organizational support, including education and resource allocation, is essential for long-term sustainability.

CONCLUSION

Standardization of handover content and format improves safety and clarity. Training and leadership support are essential for successful implementation. Patient involvement enhances the transparency and relevance of care, though logistical and cultural barriers persist. Environmental and interpersonal distractions remain unresolved and require targeted interventions. These findings highlight the multidimensional nature of handover and the need for comprehensive strategies that address technical, human, and organizational factors.

Abbreviations

BNH, Bedside Nursing Handover; CEX, Clinical Evaluation Exercise; HCP, Health Care Provider; ISBAR, Identify, Situation, Background, Assessment, Recommendation; NPAS, Nurse – Patient Summary – Action Plan – Synthesis; PACU, Post-Anaesthetic Care Unit; QI, Quality Improvement; QI-MQCS, Quality Improvement Minimum Quality Criteria Set; RN, Registered Nurse; SBAR, Situation, Background, Assessment, Recommendation; WHO, World Health Organization.

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