ORIGINAL ARTICLE

Journal of Clinical Nursing WILEY

Bedside handover at the change of nursing shift: A mixed-methods study

Mary F. Forde DN, MComm, HDip Quality, Safety in Healthcare, BSc, RGN, RM Nurse Practice Development Co-ordinator[1] 🆔 | **Alice Coffey PhD, M.Ed., B.A. Health Management, RNT, RGN, RM, Professor**[2,3] | **Josephine Hegarty PhD, MSc, BSc RGN, Professor**[2] 🆔

[1]Bon Secours Hospital, Cork, Ireland

[2]Catherine McAuley School of Nursing and Midwifery, University College Cork, Cork, Ireland

[3]Department of Nursing & Midwifery, Health Science Building, Northbank Campus University of Limerick, Limerick, Ireland

Correspondence
Mary F. Forde, Bon Secours Hospital, Cork, Ireland.
Email: mforde@bonsecours.ie

Abstract

Aim: To describe the structures, processes and content of bedside handover at the change of nursing shift in an acute-care context.

Background: The handover of patient information and care at the change of nursing shift is an essential, albeit risk-laden, time-consuming activity in clinical practice.

Design: A convergent parallel mixed-methods design was used.

Methods: Thirty episodes of bedside handover were concurrently audio-recorded and observed using a researcher-developed tool modelled on the five domains of the British Medical Association's Safe Handover–Safe Patients framework. The audio recordings were analysed using content analysis. Quantitative and qualitative data generated were then triangulated to develop a more complete interpretation of the structure, process and content of information transferred at the patient's bedside during the change of nursing shift. This study followed Good Reporting of Mixed Methods Study guidelines.

Results: Bedside handover was observed to be mainly conducted at a fast pace. However, within these timeframe large volumes of complex information were shared and important nurse–patient interactions occurred. Analysis of the audio recordings provided evidence that the dialogue during handover was nurse-dominated and the outgoing nurse appeared to influence the degree of patient participation.

Conclusion: Bedside handover at the change of nursing shift involves three key stakeholders: outgoing nurse, incoming nurse and the patient. A combination of intricate communication skills both verbal and nonverbal facilitates the rapid sharing of large volumes of complex information which is necessary for the continuity and safety of patient care across nursing shifts.

Relevance to clinical practice: The comprehensive description of the complexities of bedside handover in this study provides an insight into this frequently occurring, important nursing practice and can be used to support nurse education and practice development.

KEYWORDS
bedside handover, handoff, handover, mixed method, nursing, nursing handover, shift handover, shift report

1 | INTRODUCTION

Bedside nursing handover is a method of clinical handover, whereby the transfer of patient information and the responsibility for patient care between oncoming and outgoing nurses in the presence of the patient at the change of nursing shift (Mardis et al., 2016). Nursing handover at the change of shift is a frequently occurring and high-risk activity, as work patterns require a minimum of two changes of nursing shift in the twenty-four-hour cycle. During these transitions, patient safety and continuity of care are dependent on the completeness and integrity of the information shared (JCI, 2006).

2 | BACKGROUND

The continuity of care and patient safety is dependent on the accuracy and completeness of information exchanged from one nursing shift to another which ultimately also facilitates the transfer of responsibility for patient care (Drach-Zahavy & Shilman, 2014). Handover at the patient's bedside is a communication process that occurs in the presence of the patient and seeks their contribution during the exchange of information. In a Cochrane review, Smeulers, Lucas, and Vermeulen (2014 p.2) defined a nursing handover as that which "occurs when one nurse hands over the responsibility of care for a patient to another nurse," for example, at the end of a nursing shift. O'Connell Ockerby, & Hawkins (2014) considered handover as "a process of communicating patient information to another group of healthcare professionals responsible for patient care," (p. 560). While both definitions of handover focus on the transfer of governance and responsibility for the care of the patient, neither really illustrate the complex communication process involved during a handover.

Nevertheless, international organisations tasked with responsibility for improving quality and safety in health care recognise clinical handover as a risk-laden activity, mainly due to its association with communication errors and or omissions in the transfer of information (Australian Commission on Safety & Quality in Healthcare, 2012; Health Information and Quality Authority (HIQA) ,2013). A landmark US report "To Err is Human: Building a Safer Health System" (Kohn, Corrigan, & Donaldson, 2000) highlighted the contribution of communication failures to adverse events resulting in patient morbidity and mortality. Furthermore, this report challenged healthcare organisations to focus on risk management and to redesign systems so that safety was engineered into the processes of how healthcare professionals work (Kohn et al., 2000). The Joint Commission International (JCI) estimated that 80% of healthcare errors were attributable to communication failures during clinical handover (JCI, 2012) and thus identified effective communication, including clinical handover, as one of its major International Patient Safety Goals (JCI, 2006). Although clinical handover, or the transfer of information and responsibility of the patient's care between healthcare professionals, occurs at numerous junctions along the patient care trajectory, the change of nursing shift is of particular

What does this paper contribute to the wider global clinical community?

- Bedside handover at the change of nursing shift is a method of clinical handover that involves three key stakeholders: the outgoing nurse; the incoming nurse and the patient.
- The content of the information shared during bedside handover predominantly focused on the patient's physical and physiological symptoms, with limited emphasis on a holistic care plan.
- During the handover nonverbal communication skills, convey important interpersonal messages such as care and compassion.

importance, as this signifies the official transfer of care and responsibility between oncoming and outgoing nurses.

While attempting to identify the most effective and efficient nursing shift handover style, a Cochrane review drew inconclusive results due to the lack of robust evidence (Smeulers et al., 2014). Such a paucity of evidence is disappointing given the amount of nursing time devoted to this clinical practice (Riesenberg, Leitzsch, & Little, 2009; Sherman, Sand-Jecklin, & Johnson, 2013; Smeulers et al., 2014; Staggers & Blaz, 2013). However, the authors of the review recommended that nursing shift handover should be: face to face, include the patient, follow a structured communication format and be supported by use of information technology (Smeulers et al., 2014).

International healthcare policy has placed increased emphasis on patient participation, to improve patient safety and reduce healthcare-related risks (Bishop & Macdonald, 2017; Maxson, Derby, Wrobleski, & Foss, 2012). Bedside handover is associated with greater empowerment of patients, with patients feeling safer and having more confidence in staff; it also provides a space for developing personal connection, provided nurses use language that is appropriate for patients (Jeffs et al., 2013; Sand-Jecklin & Johnson, 2014; Sherman et al., 2013; Tobiano, Chaboyer, & McMurray, 2013). Even though the introduction of bedside handover is a move towards engaging with the patient as a person and care partner, it is also a complex organisational and clinical practice change (Anderson, Malone, Shanahan, & Manning, 2015; Bradley & Mott, 2014; Bressan et al., 2019; Kerr, Lu, & McKinlay, 2013). Nurses have reported varied experiences of bedside handover; for some, it was stressful (Schirm, Banz, Swartz, & Richmond, 2018; Small & Fitzpatrick, 2017), whereas others considered the more positive attributes such as the ability to assess the patient status visually, which also helped them to prioritise their workload (Maxson et al., 2012). For others handover at the patient's bedside increased their satisfaction and improved the nurse–patient connection (Bradley & Mott, 2014).

While the benefits of bedside handover are well recognised, the process of bedside handover is often not clearly described (Bradley & Mott, 2014; Cairns, Dudjak, Hoffman, & Lorenz, 2013; Kerr

et al., 2013; Maxson et al., 2012, Jeffs et al., 2014). A greater understanding of the content, structure and process underpinning bedside handover is therefore warranted, to inform, nurse education and to enhance the clinical practice of bedside handover.

3 | AIM

The aim of this study was to describe the structures, processes and content of bedside handover at the change of nursing shift. Structure is defined as the factors that affect the context of handover, the process refers to the actions and interactions that take place during the performance of handover, while outcome focuses on the effects of handover (Donabedian, 1980). Additionally, the handover content is the information that is exchanged between nurses at the change of nursing shift.

4 | METHODS

4.1 | Design

This study used a convergent triangulation design, which is the use of different albeit complimentary data on the same topic (Creswell, Klassen, Plano Clark, & Smith, 2013). Incorporating both quantitative and qualitative data, this mixed-methods study followed the procedural guidelines for the design and implementation and reporting of findings followed the good reporting of a mixed-methods study (GRAMMS) (O'Cathain, Murphy, & Nicholl, 2008). The GRAMMS checklist is uploaded as a supplementary file.

4.2 | Ethical considerations

Ethical approval was obtained from the relevant research ethics committees, and access was negotiated through key stakeholders. Study participants provided written informed consent and to protect participant confidentiality pseudonyms were used.

4.3 | Setting and sample

The study was conducted in Ireland, in a private acute-care 345 bedded hospital, and incorporated six diverse clinical areas, encompassing both medical and surgical wards. The practice of bedside handover had been introduced in the study site one year prior to the commencement of data collection. A purposeful sampling strategy was deemed most appropriate, as it facilitates the study of a sample that is rich in information on a particular topic, such as bedside handover. According to Guetterman (2015), sample size should consider both extensiveness and appropriateness. As this study sought to describe the structure, process and content of bedside handover rather than on testing hypothesis, a sample size of thirty episodes of handover was considered sufficient to adequately describe the phenomena.

Nursing staff (night-nurse handing over to the day nurse) were included if they were regularly engaged in bedside handover and were registered general nurses. Adult patients able to provide written consent with varied medical and surgical conditions were eligible for participation.

4.4 | Data collection

Data were collected simultaneously via observation and audio recording of 30 episodes of bedside handover. The duration of each handover was measured from the audio recording. A bedside Handover tool (HoW$_4$) was developed for this study based upon the five domains of the British Medical Association's Safe Handover—Safe Patients framework (BMA, 2004) [WHO should be involved; WHAT needs to be handed over; WHERE should it occur; WHEN should it take place; and HOW should it happen] and a comprehensive review of the literature to identify factors to be considered when evaluating bedside handover (Forde, Coffey, & Hegarty, 2018) (Table 1). The tool contains four separate sections, each designed to specifically capture distinct information. The HoW$_4$ Bedside Handover tool sections comprised of:

1. A short demographic survey completed by the night-nurse handing over the patient's care to the day nurse [Who].
2. Observational Schedule: Fourteen items composed of categorical discrete easily observed factors [When, Where, How]
3. Observational Schedule: Twelve items anchored with pairs of positive and negatively worded statements which captured the extent to which staff attended to specific aspects of care [How]. It comprised of a five-point semantic scale, to minimise the degree of subjectivity in interpreting these statements a number of descriptors or indicators were identified to specify the meaning for each statement
4. Data analysis tool: This section of the tool was designed to quantitatively analyse the manifest content of the transcribed audio-recorded handovers. It was framed around the ISBAR$_3$ structured communication tool; it contained thirty-five items and was designed to ascertain the frequency of which these items were shared within the handover [What].

To establish the validity of the HoW$_4$ bedside handover tool, a panel of eight experts including nurses in clinical practice and academics with expertise in communication and instrument design were consulted. They were requested to consider the relevance, clarity and consistency of each item, relative to the aim of the study (Lynn, 1986), and the content validity (CV) was calculated for each item on the tool. The formula used was CVI = [ne ÷ (n)], where ne = number of experts indicating the items were either "3 quite relevant" or "4 very relevant"; n = total number of experts on the panel (Polit & Beck, 2006). The CVI was calculated at 0.75 or above (supporting validity) for each of the items, with two exceptions, which scored a CVI 0.63. The two items were as follows: *the environment was optimised to enhance nurse well-being* and *the environment was*

TABLE 1 Description of the HoW$_4$ data collection tool, data collection and analysis methods

The HoW$_4$ data collection tool	Collection Method	Analysis
Section 1: Demographic characteristics of nurses: gender, educational level and years of nursing experience	HoW$_4$ demographic survey questions completed by the nurse	Quantitative data [Who]
Section 2: Prospective nonparticipant observation of handover: using a 14-item checklist: who was involved in the handover; when, where and how the handover took place; the type of patient accommodation; actions taken to protect confidentiality; the type of handover; the tools that are used during the handover, such as the patient's record or checklists	HoW$_4$ bedside handover observational tool	Quantitative data [When, Where, How]
Section 3: Twelve items anchored with pairs of positive and negatively worded statements which captured the extent to which staff attended to specific aspects of care. A five-point semantic scale ranging from 1 to 5 was used to assess these factors, with 1 = never evident, 2 = rarely evident, 3 = sometimes evident, 4 = often evident, 5 = very often evident. The items were as follows: the attentiveness or focus of the staff during the handover; optimisation of the environment to enhance nurse well-being and enhance patient participation; evidence of a caring connection between the nurse and the patient; inclusion of the patient by the nurse; evidence of active participation by the patient; the inclusion of family to question or clarify information; the occurrence of staff questioning or clarifying information; indications of staff were under pressure to complete the handover; clarity of information transmitted; and evidence of respectful listening. To minimise the degree of subjectivity in interpreting these statements, a number of descriptors or indicators were identified to specify the meaning for each set of statements	HoW$_4$ bedside handover observational tool	Quantitative data [How]
Section 4: This section was framed around the structured communication tool acronym ISBAR$_3$, which specifically concentrates on Identification, Situation, Background, Assessment, Recommendation, Risk, and Read back. The audio recording of the data was quantitatively analysed, and the frequency of the variables within the transcribed audio was calculated and inputted into section items relating to ISBAR$_3$. The duration of the handover was also captured from the audio recording	Quantitative content analysis of the audio-recorded data	Quantitative data [What]

optimised to enhance patient participation in the handover. On reviewing the aims of the study, the factors identified in the literature review, and in consultation with the expert panel, it was considered appropriate to retain these items but to specify the meaning more clearly by strengthening the descriptive indicators associated with them. Subsequently, two researchers independently observed and rated bedside handovers using the HoW$_4$ Bedside Handover tool, and the inter-rater reliability was calculated as 0.92 for Section 2 and 0.75 for Section 3 items, with values closer to one, indicating higher levels of reliability (Hallgren, 2012).

4.5 | Rigour

Creditability or truthfulness of the qualitative data was established through a process of analytic debriefing with experienced members of the research team. Dependability was achieved through describing the research process or methodology in sufficient detail to facilitate the research to be replicated (Polit & Beck, 2014). The concurrent collection of both quantitative and qualitative data enhanced the confirmability of this study as each episode of handover was concurrently observed and audio-recorded.

4.6 | Data analysis

The quantitative data analysis reflected the different types of data collected in four sections of the HoW$_4$ tool. First, the demographic data (Section 1 of the HoW$_4$) generated discrete items and these were analysed and presented as frequency and percentages. The second section involved the analysis of the observational data which were the discrete items such as who was involved in the handover, when and where the handover took place (Section 2 of the HoW$_4$) observed by the researcher during the handover, and these were analysed descriptively and presented numerically as frequency and percentages. The third section of the HoW$_4$ tool was the factors observed during the handover and was more specifically described using a semantic frequency scale, these included items such as evidence of a caring connection between the nurse and patient (Section 3 of the HoW$_4$), and the data were presented as frequency percentage, mean and standard deviation.

The final aspect of the quantitative analysis involved the transcribed audio recordings of the handovers. These transcripts were analysed using quantitative content analysis to ascertain the presence and frequency of items discussed during the handover (Section 4 of the HoW$_4$). During this process if an item was present on a transcript, a score of one was allocated, and a score of zero was given if the item was not present for the episode of handover. The number of occasions that each individual item was shared during the handovers was presented using discrete numbers and percentages.

Additionally, the transcripts were qualitatively analysed using content analysis. The audio recordings were transcribed verbatim and analysed using an inductive content analysis. Additionally, the transcripts were qualitatively analysed using content analysis. The audio recordings were transcribed verbatim and analysed using

an inductive content analysis. This was an iterative process using a framework of open coding to help organise words and phrases into headings. These headings were further condensed to develop higher order codes. While staying close to the data, the code was further organised into subcategories, categories and themes using content-characteristic words (Graneheim & Lundman, 2004). The purpose of this analysis was to describe the features of the narrative by examining who said what, to whom and with what effect. This targeted the "What" section of the BMA Framework.

The quantitative and qualitative data generated from observations and audio recording were initially described as discrete datasets. While both datasets were of equal weight, the overarching qualitative themes were used as a framework for a joint display to examine both data sets contiguously so that the degree of convergence and divergence of relevant factors could be explored. The findings from both datasets were woven together in the discussion section to develop a more complete interpretation of the structure, process and content of information transferred at the patient's bedside during the change of nursing shift.

5 | RESULTS

To comprehensively describe handover at the patient's bedside, findings are presented using the study framework [Who; Where; When; How; What] along with the three overarching themes identified from the analysis of the qualitative data. There are three key stakeholders [Who] involved in the handover process, the outgoing nurse, incoming nurse and the patient. All of the handovers took place at the patient's bedside [Where].

5.1 | The process of handover [How]

Handover took place at a fast pace; the duration of individual handovers was measured from the audio recordings ($n = 30$) and ranged from 20 to 331 s (mean = 72.8 s, SD = 58.4 s).

The outgoing nurse explained to the patient what was about to happen *we are just doing the handover*. Then, the patient was introduced to the nurse who was taking over his/her care. The medical information shared was limited, that is *is going for PCI* [Percutaneous coronary intervention] *today, OK so he is ready; everything is ready he is in his gown. No problems overnight*.

Nurses were observed conducting an environmental or patient safety scan in 96% of handovers, this involved scanning the environment for slip or trip hazards; looking at the proximity of the call bell in 96% of handovers or reviewing medical devices; however, these were never documented or articulated during the handover.

For all of the episodes, a handover summary document was used as a reference; this document contained pertinent information such as: the patient's name; date of birth; unique hospital identification number; details of the patient's primary consultant; the date and

reason for admission; past medical/surgical history; any alerts in place for the patient such as infection prevention and control status; falls risk; resuscitation status; access devices; implanted medical devices; telemetry or other monitoring devices. Nurses were observed to review the end-of-bed charts. Of these, the most frequently reviewed was the patient's physiological observations or National Early Warning Score (NEWS) chart ($n = 23$), while the fluid balance ($n = 4$) was least reviewed.

The most frequently evident process [How] items observed were as follows: *staff were attentive and focused* (mean 4.97, SD 0.183) and *evidence of a caring connection between nurse and patient* (mean 4.73, SD 0.691). Possible scores ranged from a low of 1 to a high of 5. While the least evident process items were as follows: *Staff questioned or clarified information* (mean 2.13, SD 1.717). It is interesting to note that *Respectful listening* was more often observed during nurse-to-nurse communications (mean 4.97, SD 0.183) than it was during nurse-to-patient communications (mean 4.53, SD 0.819). The frequency at which items were observed during handover episodes is presented in Table 2.

5.2 | The content of handover audio recordings [What]

The quantitative analysis of the handover audio recordings revealed that the most commonly mentioned items during the handover related to the patient's name (96.6%); pain assessment (80%); reason for admission (76.6%); and an introduction to the nurse allocated to the patient's care (73.3%). In contrast, the least often mentioned items during the handover related; to the patient's psychological (3.3%) or spiritual welfare (3.3%). The frequency at which these items were mentioned during the handover is presented in Table 3.

5.3 | Qualitative analysis of the audio recordings of the handovers

Three overarching themes emerged from the qualitative content analysis of the audio recordings of the handovers. The development of themes is outlined in Table 4.

5.4 | The style of delivery [How the information was handed over]

The format of the handover was short face-to-face, verbal exchanges, where nurses shared large volumes of data at a fast pace. The use of medical terminology, abbreviations and coded language such as *NEWS* [National Early Warning Score] *is zero*, denoting that the patient's physiological observations were within normal parameters, enhanced the pace at which complex information was shared.

5.5 | The type of information exchanged during bedside handover [What was handed over]

The type of the information shared was operational and focused mainly on the care process. The handover was structured and presented as a series of sequential data comprising of the patients' name, age, the name of the consultant responsible for their care, the reason for admission, diagnosis and or treatment, the results of assessments performed and the plan of care. Identified risks and deviations from normal pathways were discussed during the handover. The patients sometimes shared their experience of issues such as pain or sleep, while on occasions, the nurse articulated their perception of the patient's experience of pain or sleep. The overt focus on medical details in the sharing of information during the handover contextualised the patient within a disease paradigm which is exemplified in the following data extract:

> Good morning, this is Sheila, 84, with an acute exacerbation of colitis, history as per sheet there. She got her IV hydrocortisone am and pm, her cannula is day three it went in on the 7th. She is for a flexible sigmoidoscopy. Sheila knows she is fasting and she is for a

phosphate enema as charted and basically her consent and ASA [The American Society of Anaesthesiologists Classification] is done. Pain wise she was good overnight. Her bowels did open overnight - it was type five and it's gone to the lab and I told her she doesn't need to send any more so I've taken out the bedpan. Cannula there was fine and NEWS [National Early Warning Score] overnight was grade 0.

> (R28#)

5.6 | Interactions during bedside handover [Who was interacting during the handover and how they completed the handover]

There were three key stakeholders involved in bedside handover, namely the outgoing nurse, the oncoming nurse and the patient, with each stakeholder observed to have a distinct role. The outgoing nurse was responsible for the care of the patient during the previous shift and therefore focused on the transmission of patient information, assessments and plan of care. Therefore, latent within the handover is a validation of the care provided during the shift

TABLE 2 The frequency at which "**How**" factors were observed during handover score[a]

Factors observed during handover	Not evident		Rarely evident		Sometimes evident		Often evident		Very Often evident		Mean	SD
	n	%	*n*	%	*n*	%	*n*	%	*n*	%		
Staff were attentive and focused	0	0	0	0	0	0	1	3.3	29	96.6	4.97	0.183
Respectful listening was evident (nurse–nurse)	0	0	0	0	0	0	1	3.3	29	96.6	4.97	0.183
Communication was clear	0	0	0	0	0	0	2	6.6	28	93.3	4.93	0.254
Staff not under pressure to complete the handover	0	0	0	0	0	0	5	16.6	25	83.3	4.83	0.379
Evidence of caring connection between nurse and patient	0	0	1	3.3	1	3.3	3	10.0	25	83.3	4.73	0.691
Respectful listening was evident (nurse–patient)	0	0	1	3.3	3	10.0	5	16.6	21	70.0	4.53	0.819
Environment was optimised to enhance nurse well-being	0	0	0	0	0	0	21	70.0	9	30.0	4.30	0.466
Environment was optimised to enhance patient participation	0	0	2	6.6	3	10.0	11	36.6	14	46.6	4.23	0.898
Nurse included the patient throughout the handover	1	3.3	4	13.3	2	6.6	7	23.3	16	53.3	4.10	1.213
The patient actively participated throughout	4	13.3	3	10.0	3	10.0	6	20.0	14	46.6	3.77	1.478
Staff questioned or clarified information	20	66.6	1	3.3	0	0	3	10	6	20	2.13	1.717

Abbreviation: *SD* = standard deviation.

[a]n = 30 individual episodes of handover were observed; data are presented as %=percentage. Items are presented in ascending order from the highest to the lowest mean.

TABLE 3 Results of quantitative analysis of handover audio recordings outlining the "**What**" components communicated during the handover presented using ISBAR$_3$ framework

		n = 30	%
Identification	The patient was identified by name	29	96.6
	Allocated nurse introduced to patient	22	73.3
	The patient was identified by date of birth/ MRN	0	0
Situation	The situation or reason for admission was shared	23	76.6
Background	Background: Past medical history	9	30.0
	Background: Medications	9	30.0
	"What matters most now" The patients most urgent need was shared	1	3.3
	Background: Social history	0	0
Assessment	Pain	24	80.0
	Physiological	20	66.6
	The patient was given information/ educated	15	50.0
	Laboratory results	7	23.3
	Actions taken based on assessments	7	23.3
	Discharge plan discussed	6	20.0
	Radiology results	2	6.6
	Psychological	1	3.3
	Spiritual/ existential issues	1	3.3
R$_3$	The transfer of responsibility was articulated	21	70.0
	The staff were given information/ educated	12	40.0
	Risk Assessment Cannula	9	30.0
	Recommendations Cannula	1	3.3
Risk/Recommendation/ Read back	Risk Assessment of Pressure Area	5	16.6
	Recommendations on Pressure Area Care	0	0.0
	Risk Assessment for Falls Shared	2	6.6
	Recommendations on Falls Prevention	2	6.6
	Risk Assessment Infection Control	2	6.6
	Recommendations on Infection Control	1	3.3
	Risk Allergy Status	2	6.6
	Risk Assessment Nutrition	1	3.3
	Recommendations Nutrition	1	3.3
	Risk Assessment Oral Care	1	3.3
	Recommendations Oral Care	1	3.3
	Risk Assessment Hydration—Fluid Balance	0	0.0
	Recommendations Hydration—Fluid Balance	1	3.3
	Risk Resuscitation Status	0	0.0

[a]n = 30 individual episodes of handover were observed; %=percentage. Handover audio recordings analysis using quantitative content analysis.

(Milesky, Baptiste, & Shelton, 2017). The oncoming nurses were observed to receive and process information with little verification or clarification of the information. The patient's role in the handover process was not clear, and there was limited evidence of patient dialogue during any of the observed episodes.

The dominance of the communication was nurse to nurse, with limited attempts to meaningfully engage the patient in the dialogue. The use of the third person further illustrated the inequality in the relationship between the patient and nurse. Although the conversation took place in the presence of the patient, the nurse used both

the words *he* and *you* in reference to the patient. The nurse referred to the patient as *he* when giving information directly to the oncoming nurse but switched to *you* when inviting the patient to contribute to the handover or when discussing topics that the patient was best placed to confirm or describe their personal experiences, such as comfort and sleep.

In general, communication during the handover was observed to be initiated and controlled by the outgoing nurse. There was a focus on physical symptoms and physiological observations with limited discussion on other aspects of the patients care such as

social, psychological, emotional or spiritual well-being. The oncoming nurses engaged in multiple actions including listening to the data being transferred and conducting a visual scan of the patient, the handover summary sheet and on occasion the end-of-bed notes.

TABLE 4 Themes, categories and subcategories

Themes	Categories	Subcategories
Style of Delivery (**How** the information was handed over)	Format	Face to face
		Verbal
	Fast Pace	Supported by handover summary sheet
		Making own notes
		Reviewing the end-of-bed notes
		Short duration
		Speed
		Large volume of information
		Coded language, abbreviations
Type of information exchanged during the handover (**What** was handed over)	Introduction by outgoing nurse	Identification, reason for admission
	Medical assessment and results	Scoring systems relative to medical condition
		Past medical and surgical history
		Physiological observations
		Results of investigations (blood, radiological etc.)
		Infection prevention and control
	Defined care pathways	Procedures planned with associated care pathway
		Plan for the nursing shift
		Medications
	Risk	Risks identified and structured risk reduction pathways, for example pressure area care
		Alerts to deviations from normal pathway
	Patient experiences of pain/ sleep	Nurses description of the patients pain
		Patients description of their pain
		Nurses description of how the patients slept
		Patients description of their sleep

(Continues)

TABLE 4 (Continued)

Themes	Categories	Subcategories
Interactions during bedside handover (**Who** was interacting during the handover and how they completed the handover)	Nurse-dominated dialogue	Nurse initiated/controlled dialogue
		Limited attempt by the nurse to engage patient
		Switching from talking about the person to speaking with the person
		Brief direct conversation with the patient
		Closed questions
	Limited patient dialogue	No direct patient questioning of what matters most
		Affirming the nurses version of the handover
		Clarification of information
		Appreciation for the nurses
		Hope for the future
	Connections made	Touch
		Eye contact: facial expression
		Body language and proximity to the patient

Note: Handover audio recordings analysis using qualitative content analysis.

While some nurses occasionally used questions to engage the patient or invite them to contribute information, these tended to be closed or rhetorical in nature, representing a gesture rather than a real intent to facilitate active dialogue or participation. The following extract exemplifies this observation when a nurse offered an opinion on how the patient (David) was feeling and then made what was observed to be a pseudo attempt to engage him in the discussion:

> He is feeling OK … You are feeling comfortable there are you?
>
> (R. 24#)

The nonverbal communication was observed during handover episodes to convey important and meaningful messages between the nurse and patient such as kindness, care and compassion. In the following excerpt, the oncoming nurse greeted the patient saying:

> Good morning my name is Jane I met you briefly yesterday, I'll be looking after you today
>
> (R. 07#)

During this exchange, the nurse was observed to stand close to the top of the patient's bed and made good eye contact with him and smiled. The patient, an older gentleman acknowledged the greeting and responded by saying *good* (R.07#).

6 | DISCUSSION

This mixed-methods study both observed and audio-recorded 30 episodes of bedside handover. Using the BMA framework (Who; Where; When; When; How; What) to guide the collection of data collection and analysis, this study described the structures, processes and content of bedside handover at the change of nursing shift. The concurrent collection of both audio-recorded and observed data facilitated a more comprehensive understanding of this complex nursing practice.

The fastest handover had a duration of twenty seconds yet, the intricacies of what took place, gives some insight into the fast pace and complexities of bedside handover at the change of nursing shift. However, it is unlikely that the efficiency of this handover could have been achieved without a number of facilitating factors. First, the patient was known to the oncoming nurse from the previous day. Second, the nurse had a paper copy of the electronic handover summary which contained additional relevant information. Third, the patient was admitted to a specialist cardiology ward and there was a defined care pathway in place for those admitted for elective procedures, such as a percutaneous coronary intervention. The duration of the handover does not describe the content of the information shared or the human interaction between the nurses or the nurse and the patient. Therefore, the use of time as a means of measuring the quality of bedside handover has to be interpreted with caution.

A desire to improve patient participation is frequently the impetus for the introduction of bedside handover (Evans, Grunawait, McClish, Wood, & Friese, 2012; Jeffs et al., 2013). According to linguistic experts, Slade and Eggins (2016), the language that nurses use during the handover can either encourage or inhibit patient participation. Our results highlight the importance of how language is used, as this can make a difference to the patient's ability to meaningfully interpret the content and potentially promote participation. Words such as *okay* or *alright* were frequently used during the handovers, while these words may appear to be an open or meaningful invitation to the patient to participate in the handover process, in reality the context in which they were used frequently terminated the conversation.

6.1 | Limited patient dialogue

A recurring feature of nursing handovers observed in this study was the switch in conversation from talking with the patient, to talking about the patient or referring to them in the third person while in their presence. Although not observed to be done in a disrespectful manner, alternating between talking with and about the patient was observed to change the dynamic of the communication process. It was clear that this form of communication placed patients in a passive role, the object of the conversation, thus impeding them from being active participants in the conversation. Slade and Eggins (2016) have previously reported this conversation style, in relation to how nurses use language. Although the format of the handover was a face-to-face, verbal exchange between the outgoing nurse to

incoming nurse at the patient's bedside, our study illustrated that simply performing handover in the presence of the patient is not enough to achieve active patient participation. In fact, reflecting on the findings of an earlier study of handover practice on surgical wards nurses needs to be both willing and skilled to facilitate the patient to participate in the handover (Drach-Zahavy & Shilman, 2014).

Both quantitative and qualitative results of this study reiterated that the interactions between the key stakeholders during the handover are important. Similarly, Tobiano, Bucknall, Sladdin, Whitty, and Chaboyer (2018) suggest that the nurses' attitude to person-centred care and the way they approach patients influence the patients' level of participation in handover. Nurses need to value patient participation as an important antecedent to person-centred care and understand that the handover is the patient's story. Similarly, if patient-centred care is an attribute that a healthcare organisation wishes to foster then, meaningful patient participation needs to be part of its culture and endorsed by the organisation's mission, values and strategy. A values-based leadership approach, where the organisation values and ethical culture are clearly identified and operationalised may help balance the competing values of efficiency and person-centred, compassionate care (Tsai et al., 2015).

6.2 | Connection

It is well recognised that patients judge the quality and safety of health care by the processes of care, staff behaviours and interpersonal dynamics (Rathert, Brandt, & Williams, 2012). Much of the compassionate and caring connections observed in this study was demonstrated through nonverbal communication. Body language, for example eye contact, facial expression and touch, has the potential to express important meaning such as care, understanding and empathy (Gillespie, Kelly, Duggan, & Dornan, 2017). Even the most minor of actions and interactions can convey compassion (Bramley & Matiti, 2014). Nurses need to be mindful that nonverbal communication can convey important messages without the use of words (Kourkouta & Papathanasiou, 2014).

6.3 | Medical assessments and results

Although the handover took place in the presence of the patient, much of the language that was used could not be easily understood by a lay audience. The focus of much of the information shared related to; physical symptoms and physiological observations with limited attention being afforded to the patient's psychological, emotional and spiritual care. Technological, abbreviated and coded medical language facilitated the rapid sharing of large volumes of complex information. While this style of delivery created efficiency, it did not enable the patient to fully understand what was shared, as the technical abbreviated language for example *NEWS score* (physiological early warning score) is not be easily understood by a lay audience and equally it did not enable the

patient to participate in the process. To encourage patient participation, nurses need to consider the language they use during the handover.

6.4 | Risk reduction

Patients have a vested interest in ensuring that information shared about them is accurate and complete (SahlstrÖm, Partanen, Rathert, & Turunen, 2016). Hence, inviting the patient to verify or validate the information shared during handover is an opportunity for patient participation and risk reduction. While both the patients and their allocated nurse were introduced by their first name, a formal positive patient identification checking process was not observed during any of the handover episodes. Clarification of information was observed in only 30% of the handovers in this study. While applying a "read back" verification step in the handover process might be a solution, Abraham et al. (2016) contend that there is insufficient evidence to instigate a strategy for confirmation as part of the handover process. Nonetheless, given the high-risk nature of clinical handover, the omission of a "read back" or some equivalent verification process is a concern and requires further research. For many organisations, a cultural change is required whereby the patient is encouraged or allowed to be a safety partner highlighting risks or errors and nurses need to be supported to view such contributions as positive rather than feeling threatened or diminished (Vaismoradi, Jordan, & Kangasniemi, 2015). The introduction of bedside handover is such a significant change in practice and culture. To help patients and nurses understand how and why bedside handover is being introduced, an organisational change theory should be incorporated in the implementation plan (Bressan et al., 2019).

While protocols for bedside handover have included the performance of safety scan (Chaboyer, McMurray, Wallis, & Chang, 2008), this study has identified that the presence of the nurse at the patient's bedside facilitated the performance of a safety scan as instinctive, albeit informal silent acts. The nurses were observed to assess the patient and their environment by performing a scan of the area, for example, for the proximity of the call bell; however, this safety scan was neither articulated nor documented. The unstructured nature of how this safety activity was performed does not diminish its importance although formalising it may have benefits in terms of role modelling and confidence building for patients (Lupieri, Creatti, & Palese, 2016).

6.5 | Limitation

The study site was a private hospital which may be considered a limitation in terms of generalisability and transferability to the public sector. Nevertheless, six different wards were included representing medical and surgical health care; thus, the patient profile was reflective of the configuration of wards within public hospitals.

It is possible that the use of video recording may expose additional insights. However, the dual perspectives of observations and audio recordings in this mixed-methods design facilitated the identification of conflicting verbal and nonverbal messages transmitted during the handover which may not have been evident using a single method design.

7 | CONCLUSION

This study has provided an insight into the structure, process and content of bedside handover. Bringing the nurse to the patient's bedside for the handover is a positive move in terms of the goals of increasing effective communication and patient participation and reducing risk. To further enhance effective communication during bedside handover nurses needs to understand that nonverbal communication in addition to the language and the context in which language is used can convey important messages. Healthcare organisations need to support both patients and nurses to understand their distinct roles in the process as there appears to be a tension for nurses between sharing large volumes of complex information in an efficient manner and facilitating the patient to participate in the process. To unify the goals of achieving the greatest efficiency, while promoting patient participation and enhancing safety, healthcare organisations need to pay attention to systems that support the introduction of bedside handover, such as integrated care pathways, protocols and information technology.

7.1 | Relevance to clinical practice

Bedside handover at the change of nursing shift is a complex multifaceted phenomenon in clinical nursing practice; therefore, consideration needs to be given to its structure, process and content. Although bedside handover is essentially a communication process that facilitates the transfer of responsibility and accountability for patients care from outgoing nurses to the oncoming nurses at the change of shift, it is also potentially an opportunity to demonstrate care and compassion and to promote patient participation and enhance safety. To fully participate in the handover process, patients need to understand the information that is being shared about them, so that they can enhance and validate it and thereby meaningfully contribute to their own care and safety. Similarly, there is a need for nurses to develop skills that enable patient participation and to understand the patient's role in bedside handover so that they view it as a positive partnership rather than feeling threatened by it.

To fully realise the benefits of effective communication and patient participation and risk reduction, bedside handover at the change of nursing shift needs to be embedded in the organisational culture. Developing a structure to formalise some of the instinctive but unseen work done by nurses such as the performance of a safety scan as part of the bedside handover may validate this important patient safety role. Healthcare organisations need to endorse bedside handover as a strategic initiative and support both patients and nurses to understand their distinct roles, so that the potential benefits of bedside handover can be maximised.

Increasing the understanding of the structure, process and content of bedside handover at the change of nursing shift will facilitate quality improvement and practice development for this approach to clinical nursing handover.

ORCID

Mary F. Forde https://orcid.org/0000-0002-5395-0750
Josephine Hegarty https://orcid.org/0000-0002-1663-4820

REFERENCES

Abraham, J., Kannampallil, T., Brenner, C., Lopez, K. D., Almoosa, K. F., Patel, B., & Patel, V. L. (2016). Characterizing the structure and content of nurse handoffs: A sequential conversational analysis approach. *Journal of Biomedical Informatics*, *59*, 76–88. https://doi.org/10.1016/j.jbi.2015.11.009

Anderson, J., Malone, L., Shanahan, K., & Manning, J. (2015). Nursing bedside clinical handover – An integrated review of issues and tools. *Journal of Clinical Nursing*, *24*(5–6), 662–671. https://doi.org/10.1111/jocn.12706

Australian Commission on Safety and Quality in Health Care. (2012). *National safety and quality health service standards*. Sydney: ACSQHC.

Bishop, A. C., & Macdonald, M. (2017). Patient involvement in patient safety: A qualitative study of nursing staff and patient perceptions. *Journal of Patient Safety*, *13*(2), 82–87. https://doi.org/10.1097/PTS.0000000000000123

Bradley, S., & Mott, S. (2014). Adopting a patient-centred approach: An investigation into the introduction of bedside handover to three rural hospitals. *Journal of Clinical Nursing*, *23*(13/14), 1927–1936. https://doi.org/10.1111/jocn.12403

Bramley, L., & Matiti, M. (2014). How does it really feel to be in my shoes? Patients' experiences of compassion within nursing care and their perceptions of developing compassionate nurses. *Journal of Clinical Nursing*, *23*(19–20), 2790–2799. https://doi.org/10.1111/jocn.12537

Bressan, V., Cadorin, L., Pellegrinet, D., Bulfone, G., Stevanin, S., & Palese, A. (2019). Bedside shift handover implementation quantitative evidence: Findings from a scoping review. *Journal of Nursing Management*, *27*(4), 815–832. https://doi.org/10.1111/jonm.12746

British Medical Association. (2004). *Safe handover: Safe patients*. BMA, London: Guidance on Clinical Handover for Clinicians and Managers.

Cairns, L. L., Dudjak, L. A., Hoffman, R. L., & Lorenz, H. L. (2013). Utilizing bedside shift report to improve the effectiveness of shift handoff. *Journal of Nursing Administration*, *43*(3), 160–165. https://doi.org/10.1097/NNA.0b013e318283dc02

Creswell, J. W., Klassen, A. C., Plano Clark, V. L. & Smith, K. C., (2013) *Best practices for mixed methods research in the health sciences*. Bethesda (Maryland): National Institute of Health, 541-545.

Chaboyer, W., McMurray, A., Wallis, M., & Chang, H. Y. (2008). Standard operating protocol for implementing bedside handover in nursing. Research Centre for Clinical and Community Practice Innovation.

Donabedian, A. (1983) Quality assessment and monitoring: retrospect and prospect. *Evaluation & the health professions*, *6*(3), 363-75.

Drach-Zahavy, A., & Shilman, O. (2014). Patients' participation during a nursing handover: The role of hanover characteristics and patients' personal traits. *Journal of Advanced Nursing*, *71*(1), 136–147.

Evans, D., Grunawait, J., McClish, D., Wood, W., & Friese, C. R. (2012). Bedside shift-to-shift nursing report: Implementation and outcomes. *MEDSURG Nursing*, *21*(5), 281–292.

Forde, M. F., Coffey, A., & Hegarty, J. (2018). The factors to be considered when evaluating bedside handover. *Journal of Nursing Management*, *26*(7), 757–768. https://doi.org/10.1111/jonm.12598

Gillespie, H., Kelly, M., Duggan, S., & Dornan, T. (2017). How do patients experience caring? Scoping Review. *Patient Education and Counselling*, *100*(9), 1622–1633. https://doi.org/10.1016/j.pec.2017.03.029

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse education today*, *24*(2), 105-112.

Guetterman, T. C. (2015). Descriptions of sampling practices within five approaches to qualitative research in education and the health sciences. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, *16*(2).

Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: An overview and tutorial. *Tutorials in Quantitative Methods for Psychology*, *8*(1), 23. https://doi.org/10.20982/tqmp.08.1.p023

Health Information and Quality Authority (HIQA). (2013). *Investigation into the safety, quality and standards of services provided by the Health Service Executive to patients, including pregnant women, at risk of clinical deterioration, including those provided in University Hospital Galway, and as reflected in the care and treatment provided to Savita Halappanavar*. Dublin: HIQA.

Jeffs, L., Acott, A., Simpson, E., Campbell, H., Irwin, T., Lo, J., & Cardoso, R. (2013). The value of bedside shift reporting. *Journal of Nursing Care Quality*, *28*(3), 226–232. https://doi.org/10.1097/NCQ.0b013e3182852f46

Jeffs, L., Beswick, S., Acott, A., Simpson, E., Cardoso, R., Campbell, H. & Irwin, T., 2014. Patients' views on bedside nursing handover: creating a space to connect. *Journal of Nursing Care Quality*, *29*(2), 149-154.

Joint Commission International (JCI). (2006). *International Patient Safety Goals*. Retrieved from https://www.jointcommissioninternational.org/improve/international-patient-safety-goals/ Accessed 12 January 2018.

Joint Commission. (2012) Targeted Solutions Tool for Hand-Off Communications, *Joint Commission Perspectives*, *32*(8), 1-3. Joint

Kerr, D., Lu, S., & McKinlay, L. (2013). Bedside handover enhances completion of nursing care and documentation. *Journal of Nursing Care Quality*, *28*(3), 217–225. https://doi.org/10.1097/NCQ.0b013e31828aa6e0

Kohn, L. T., Corrigan, J., & Donaldson, M. S. (2000). To err is human: Building a safer health system. Washington D.C.: National Academy Press.

Kourkouta, L., & Papathanasiou, I. V. (2014). Communication in nursing practice. *Materia socio-medica*, *26*(1), 65. https://doi.org/10.5455/msm.2014.26.65-67

Lupieri, G., Creatti, C., & Palese, A. (2016). Cardio-thoracic surgical patients' experience on bedside nursing handovers: Findings from a qualitative study. *Intensive and Critical Care Nursing*, *35*, 28–37. https://doi.org/10.1016/j.iccn.2015.12.001

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, *35*(6), 382–386. https://doi.org/10.1097/00006199-198611000-00017

Mardis, T., Mardis, M., Davis, J., Justice, E. M., Riley Holdinsky, S., Donnelly, J., … Riesenberg, L. A. (2016). Bedside shift-to-shift handoffs: A systematic review of the literature. *Journal of Nursing Care Quality*, *31*(1), 54–60. https://doi.org/10.1097/NCQ.0000000000000142

Maxson, P. M., Derby, K. M., Wrobleski, D. M., & Foss, D. M. (2012). Bedside nurse-to-nurse handoff promotes patient safety. *Medsurg Nursing*, *21*(3), 140.

Milesky, J. L., Baptiste, D. L., & Shelton, B. K. (2017). An observational study of patient handover communications among nurses on an

oncology critical care unit. *Contemporary Nurse*, *54*(1), 77–87. https://doi.org/10.1080/10376178.2017.1416306

O'cathain, A., Murphy, E., & Nicholl, J. (2008). The quality of mixed methods studies in health services research. *Journal of Health Services Research & Policy*, *13*(2), 92–98. https://doi.org/10.1258/jhsrp.2007.007074

O'Connell, B., Ockerby, C., & Hawkins, M. (2014). Construct validity and reliability of the handover evaluation scale. *Journal of Clinical Nursing*, *23*(3/4), 560–570. https://doi.org/10.1111/jocn.12189

Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, *29*(5), 489–497. https://doi.org/10.1002/nur.20147

Polit, D. F., & Beck, C. T. (2014). Essentials of nursing research: Appraising evidence for nursing practice.

Rathert, C., Brandt, J., & Williams, E. S. (2012). Putting the 'patient' in patient safety: A qualitative study of consumer experiences. *Health Expectations*, *15*(3), 327–336. https://doi.org/10.1111/j.1369-7625.2011.00685.x

Riesenberg, L. A., Leitzsch, J., & Little, B. W. (2009). Systematic review of handoff mnemonics literature. *American Journal of Medical Quality*, *24*(3), 196–204. https://doi.org/10.1177/1062860609332512

Sahlström, M., Partanen, P., Rathert, C., & Turunen, H. (2016). Patient participation in patient safety still missing: Patient safety experts' views. *International Journal of Nursing Practice*, *22*(5), 461–469. https://doi.org/10.1111/ijn.12476

Sand-Jecklin, K., & Sherman, J. (2014). A quantitative assessment of patient and nurse outcomes of bedside nursing report implementation. *Journal of Clinical Nursing*, *23*(19/20), 2854–2863. https://doi.org/10.1111/jocn.12575

Schirm, V., Banz, G., Swartz, C., & Richmond, M. (2018). Evaluation of bedside shift report: A research and evidence-based practice initiative. *Applied Nursing Research*, *40*, 20–25. https://doi.org/10.1016/j.apnr.2017.12.004

Sherman, J., Sand-Jecklin, K., & Johnson, J. (2013). Investigating bedside nursing report: A synthesis of the literature. *MEDSURG Nursing*, *22*(5), 308.

Slade, D. M., & Eggins, S. (2016). Contrasting discourse styles and barriers to patient participation in bedside nursing handovers. *Communication and Medicine*, *13*(1), 71–83. https://doi.org/10.1558/cam.28467

Small, D. C., & Fitzpatrick, J. J. (2017). Nurse perceptions of traditional and bedside shift report. *Nursing Management*, *48*(2), 44–49. https://doi.org/10.1097/01.NUMA.0000511921.67645.47

Smeulers, M., Lucas, C., & Vermeulen, H. (2014). Effectiveness of different nursing handover styles for ensuring continuity of information in hospitalised patients. *Cochrane Database of Systematic Reviews*, *6*. https://doi.org/10.1002/14651858.CD009979.pub2

Staggers, N., & Blaz, J. W. (2013). Research on nursing handoffs for medical and surgical settings: An integrative review. *Journal of Advanced Nursing*, *69*(2), 247–262. https://doi.org/10.1111/j.1365-2648.2012.06087.x

Tobiano, G., Bucknall, T., Sladdin, I., Whitty, J. A., & Chaboyer, W. (2018). Patient participation in nursing bedside handover: A systematic mixed-methods review. *International Journal of Nursing Studies*, *77*, 243–258. https://doi.org/10.1016/j.ijnurstu.2017.10.014

Tobiano, G., Chaboyer, W., & McMurray, A. (2013). Family members' perceptions of the nursing bedside handover. *Journal of Clinical Nursing*, *22*(1–2), 192–200. https://doi.org/10.1111/j.1365-2702.2012.04212.x

Tsai, T. C., Jha, A. K., Gawande, A. A., Huckman, R. S., Bloom, N., & Sadun, R. (2015). Hospital board and management practices are strongly related to hospital performance on clinical quality metrics. *Health Affairs*, *34*(8), 1304–1311. https://doi.org/10.1377/hlthaff.2014.1282

Vaismoradi, M., Jordan, S., & Kangasniemi, M. (2015). Patient participation in patient safety and nursing input–a systematic review. *Journal of Clinical Nursing*, *24*(5–6), 627–639. https://doi.org/10.1111/jocn.12664

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

How to cite this article: Forde MF, Coffey A, Hegarty J. Bedside handover at the change of nursing shift: A mixed-methods study. *J Clin Nurs*. 2020;29:3731–3742. https://doi.org/10.1111/jocn.15403