UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

School of Health Care Sciences

Department (Nursing)

EXPLORING AND DESCRIBING THE FACILITATORS AND BARRIERS DURING SHIFT HANDOVER BETWEEN CRITICAL CARE NURSES IN A PRIVATE HOSPITAL IN GAUTENG

by

Marlini Naidoo

Submitted in fulfilment of the requirements for the degree

MASTER OF NURSING SCIENCE

October 2024

Supervisor: Prof. IM Coetzee-Prinsloo

Co-Supervisor: Prof. R Leech

DECLARATION OF AUTHENTICITY

I, **MARLINI NAIDOO**, Student number: 22937146 declare that the study titled :
THE FACILITATORS AND BARRIERS DURING SHIFT HANDOVER BETWEEN CRITICAL CARE NURSES IN A PRIVATE HOSPITAL IN GAUTENG

is my work. All sources used or quoted have been indicated and acknowledged using complete references. This work has not been submitted for any other degree at any other institution.

MNaidoo

Marlini Naidoo

2024/12/18

Date

ACKNOWLEDGEMENTS

I am grateful to God for His blessings and the power and strength He has given me to pursue this study, achieve my goal and overcome many challenges.

I would also like to thank the following people and organisations:

- My family, my husband, and my children for their encouragement and support. Thank you to my spiritual family for your understanding and support.
- The University of Pretoria for the opportunity to further my studies, and to all the lecturers for their guidance and contribution to my journey.
- My supervisors, Prof. IM Coetzee and Prof. R Leech, for their tremendous support throughout this journey and for making this research a success.
- The hospital manager and the nursing manager for permission to conduct my research study.
- All the unit managers and ICU staff for their great support and participation in the study.
- Letitia Greenberg for editing this dissertation.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ANNEXURES

LIST OF ABBREVIATIONS / ACRONYMS

Abbreviation / acronym	Meaning
CARE	An acronym which is used for a specific method of handover.(Connect, Ask, Respond, Empathise)
CC	Critical care
CCN	Critical care nurse(s)
CoC	Continuity of care
CCU	Critical care unit(s)
EN	Enrolled nurse
IPASS	An acronym which is used for a specific method of handover. Illness Severity, Patient information, Action list, Situational awareness, and Synthesis)
IPT	Interprofessional team
ISBAR	An acronym which is used for a specific method of handover. Introduction and identification, Situation, Background, Assessment, and Recommendation
ISBARQ	An acronym which is used for a specific method of handover. Introduction and identification, Situation, Background, Assessment, and Recommendation, Questioning
SANC	South African Nursing Council
SBAR	An acronym which is used for a specific method of handover. Situation, Background, Assessment, and Recommendation
RN	Registered nurse
SHO	Shift handover
WHO	World Health Organization

DEFINITION OF KEY TERMS / CONCEPTS

Barrier – a barrier is regarded as anything that blocks, prevents, obstructs, or hinders the flow or passage of something (Merriam-Webster, 2023a). In this study, the term refers to anything that hinders or obstructs, causes a disturbance, or creates difficulty with the transfer of information during the handover process, or information flow, or messages during shift handover between critical care nurses.

Critical care nurse (CCN) – is a nurse who is assigned direct and comprehensive patient care responsibilities as directed in the scope of practice for a registered nurse (RN) or an enrolled nurse (EN). The RN holds a qualification that allows her to render comprehensive nursing care to patients. She is deemed competent to practice independently and can account for and take responsibility for such practice. The enrolled nurse (EN) practices basic nursing duties under the supervision of an RN (SANC 2005:25). In this study, the CCN works in a critical care unit, caring for and monitoring patients who are suffering from life-threatening illnesses or injuries using specialised technology. The study invited both categories of nurses as participants who render nursing care to critically ill patients in the CCU to explore and describe the facilitators and barriers during shift handover between them.

Critical care unit (CCU) – a physical unit/area within an advanced medical care facility (secondary or tertiary level) with the resources to admit, monitor, and treat patients with life-threatening illnesses, using specialised equipment and appropriately trained and/or experienced staff to provide 24-hour care (MedlinePlus 2020). The CCU is where constant, complex, detailed health care is rendered for acute and serious illness through collaboration with multiple healthcare professionals (World Health Organization, 2020:1; Dalky et al 2020:340). In this study, CCU refers to units with advanced life support and continuous monitoring facilities where patients who are critically ill may be admitted and cared for.

Facilitator – something that helps or makes something easier (Merriam-Webster 2023b). It means any factor that assists, enhances or makes something run or happen smoothly (Encyclopaedia Britannica, 2022). In this study, a facilitator of shift handover is any factor or element that makes handover practice in the designated CCU more effective or efficient.

Shift – is a change of one group of people (such as workers) for another in regular alternation to cover a scheduled period of work or duty. Shift also refers to a set period of work to ensure that there is always a group of people working (Cambridge 2023). In this study, shift will imply a period of work, usually 12 hours, for CCNs who render direct nursing care in a CCU.

Shift handover (SHO) – also known as handover process or information handover. This refers to the transfer of clinical information of a patient between healthcare workers. This process includes transfer of responsibility of care temporarily (change in shift) or permanently, for instance a change in unit or healthcare level (Khalaf 2023:166). Verbal or written reporting between healthcare professionals and further treatment plans may include reference to treatment plans or other written information concerning patient condition and care. SHO in this study refers to information transfer for the purpose of nurse-to-nurse handover at shift change. The SHO process refers to the transfer of relevant, current, valid information regarding patients' diagnosis, brief history, reason for admission, findings on investigations, treatments received, and response to therapies. The aim of the study is to explore and describe the facilitators and barriers that occur during SHO between CCNs in the CCU.

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 Introduction

The shift report or shift handover (SHO) is a crucial communication process in healthcare. How can healthcare professionals ensure continuity of care (CoC) for patients during the handover or shift report process? Despite years of research and efforts by healthcare professionals, the challenge of maintaining CoC during the handover or shift report process remains. The National Patients' Rights Charter recognises CoC as a fundamental right that demands that no patient should be abandoned by any healthcare professional or healthcare facility (Health Professions Council of South Africa (HPCSA) 2023:3). This raises the question of how to ensure CoC and patient safety during the SHO. Since the early 2000s, government departments internationally have been tasked with finding solutions to reduce handover-related events, due to the negative consequences for patient safety and CoC (Shahian 2021:769).

All healthcare personnel, including critical care nurses (CCNs), are obligated to promote CoC as a right that must be honoured. A professional handover must be done at any point of transition, whether between CCNs, departments or facilities (Department of Health 2023:3). The World Health Organization (WHO) globally seeks to enhance patient safety through improved coordination and CoC (WHO 2021:31).

Shahian (2021:769) argues that "a decade of evidence demands action." Despite numerous interventions and research being implemented to ensure that CCNs adhere to their responsibility of providing consistent, high-quality care, the problem of a lack of standardised handover procedures and protocols persists. The WHO recommends clear handover procedures and protocols (WHO 2021:10).

This chapter emphasises the need to reassess the evidence gathered and not assume it is sufficient or appropriate for all contexts. The shift report or handover in high-acuity areas is an essential communication between CCNs. Despite years of research, standardised handover protocols have not been developed for CCNs, and the current practices have not eliminated the negative consequences of handover-related problems (Alamrani 2022:1501; Mamalelala, Schmollgruber, Botes & Holzemer 2023:73).

The healthcare industry's complexities and changing environment have led to many challenges, with not one solution that works for all (Etemadifar, Sedighi, Sedehi & Masoudi 2021:1). This changing environment, including the economy, disease profile, education, health

practice, and statutes, may have resulted in newer or different needs in the health sector. Therefore, the SHO has evolved over the last few decades, but there are still many gaps and unanswered questions regarding what works and why, or what does not work (Etemadifar et al 2021:1).

1.2 Background

SHO between nurses is a routine, compulsory communicative process (Clari, Conti, Chiarini, Martin, Dimonte & Campagna 2021:e51). Essential patient care information is transferred between nurses when the shift ends (Alamrani 2022:1501). This process of transferring patient information at shift change is an essential activity and is necessary for the continuity of patient care and patient safety (Ghonem & El-Husany 2023:2). This report can be verbal, written, telephonic, or even via video calls; however, most CCNs prefer bedside SHO, which has been widely adopted according to recent studies, as it helps to correlate the patient's clinical picture and documentation with verbal information (Clari et al 2021:e51).

The purpose of SHO is to summarise important aspects of treatment to maintain a chain of information flow (Chien, Slade, Dahm, Brady, Roberts, Goncharov et al 2022:1417). The SHO practice prevents disruptions in care, even when a new shift nurse commences duty (Alamrani 2022:1501), as the nurse going off duty gives a report to the nurse coming on duty (Obaia Zahran & Obied, 2023:79). Transfer of care to the next shift nurse includes all the relevant information such as the patient's condition, diagnosis, treatment, and events affecting care, to ensure that treatment continues despite the shift change (Alamrani 2022:1502). Therefore, SHO is deemed an essential method of information transfer to promote safe and continuous patient care. When essential information is left out, information gaps result, leading to treatment omissions and errors (Mulfiyanti & Satriana 2022:377; Shahian 2021:770).

Handover has a direct effect on patient safety and quality of care (Kim, Lee and Kim 2021:58). Effective information transfer is essential for the continuation of care and patient safety, which directly affects safe and effective healthcare delivery through improved coordination and CoC (WHO 2021:31). Standardised, clear handover procedures and protocols within and between healthcare facilities are recommended (WHO 2021:10). Despite these protocols in place, the handover remains an international concern (Pun 2021:2).

Poor SHO practice is found in settings where patients' conditions change quickly and require swift intervention for effective care (Abou Hashish, Asiri & Alnajja 2023:189). The CCU is dynamic and requires constant and timely communication and feedback, to facilitate complex and urgent patient care activities, resulting in complex and obstacle-loaded information flow processes (Murthy 2022:1; Abou Hashish et al 2023:194).

Studies indicate that patient safety risks are higher when guidelines and protocols are not optimised. Despite studies and evidence, continuity management and minimising risk to patients remain a challenge (Alamrani 2022:1503; Shahian 2021:3030769). However, Alamrani (2022:1503) found that implementing a standardised method has not significantly improved SHO. A study conducted by Kim et al (2021:58) indicates that resource-rich countries still face handover-related patient safety issues. Poor handover practice has become one of the greatest contributors to disease burden. Ineffective SHO has severe consequences, such as handover-related adverse events at around 40% and loss of life at 22% of all sentinel events (Kim et al 2021:58).

1.3 Problem statement

In the CCU, brief, and often incomplete, verbal handover is common. Shahian (2021:770) states that missed information is a major contributor to uncertainties regarding care. Complaints of missed doses of medication, diagnostic tests not done, or missing information like diet, religious practices, and patient needs that influence the patient treatment regime have been reported (Chien et al 2022:1414; Pun 2021:1). Ghonem and El-Husany (2023:2) state that inaccurate information transferred during SHO may mean unclear, incomplete, or unreliable information, with resulting medical errors. Unreliable SHO content due to long stays (extensive history), poor record-keeping, and information not being verifiable, can lead to duplication and incorrect treatment (Shahian 2021:770).

Effective SHO promotes the smooth flow of information and seamless continuation of care (Chien et al 2022:1414) and is characterised by the complete, accurate, and timeous transmission of patient data that is accurate, valid, current, timeous, and sufficient (Pun 2021:1). This also means preventing interruption of the patient care continuum, delays in care and diagnosis, and incorrect treatment (Shahian 2021:770; WHO 2021:31). Conversely, relaying incomplete or inaccurate information leads to major implications for CoC and exposure to patient safety risks (Ghonem & El-Husany 2023:2). Incidents like forgetting to omit anticoagulation therapy because of poor SHO quality resulting from information overload can lead to the postponement of surgical procedures (Helal, Ghada & Mostafa 2022:28). Further consequences include delays in care for one to two hours, due to omissions and miscommunication, resulting in prolonged hospitalisation and even loss of life (Helal et al 2022:28; Mulfiyanti & Satriana 2022:377).

A busy critical care (CC) setting is prone to interruptions from alarms and staffing shortages with increased workload under serious time pressures. Alamrani (2022:1504) and other

researchers cite these and other factors as contributors to poor handover practices (Shahian, 2021:769).

The SHO report from the CCN should ideally be reliable, complete, timeous, and accurate, thereby minimising patient harm and optimising safe continuous patient care (Schiavi, Mershon, Gottschalk and Miller 2023:9). As indicated by the WHO, a lack of standardisation can bring confusion to the handover process (WHO 2021:10). However, according to this study, standardisation has not increased the effectiveness of SHO. Simply adopting a mnemonic like SBAR (Situation, Background, Assessment, Recommendations), on its own, does not bring clarity or reduce the complexity of the handover process (Shahian 2021:770). This demonstrates the complexity of the problem with SHO and requires further studies to bring about different solutions.

Few recent studies focus on facilitators of and barriers to bedside handover, which indicates the need for family and patient inclusion in care planning and information transfer (Clari et al 2021:e51). A recent study by Abou Hashish et al (2023:187) discusses the use of a handover tool and training as facilitators of SHO, while barriers included are staff fatigue, disruptions, technology, and time pressure. The Saudi study also emphasised the need for a safe psychological environment and indicates that staff relationships contribute to nurses' cognitive enhancement. In a study that considers handover in high-acuity areas, Liu, Ma, Qu, Liu and Yin (2023:8) discuss how giving support and encouragement can motivate staff to use a tool, engage with family and patients, and improve patient safety. These scholars state that nursing staff and students often lack communication abilities and clinical and analytical skills for giving clear and complete nursing reports. This study outlines the lack of a formal tool, sensitive information sharing, longer handover time, and poor engagement with patients and families as barriers to SHO.

In the experience of the researcher, as a CCU manager and clinical facilitator of CC staff and students, inconsistent SHO leads to time wastage, frustration, and stress for the incoming nurse, as there is increased pressure to double-check information, and it amplifies the high-stress environment of the CCN (Murthy 2022:1). Doctor and patient complaints regarding care are common but often stem from incomplete or erroneous information transfer during SHO. Patient care cannot be well coordinated without trustworthy information transfer through effective handover.

Additional challenges have arisen from the disruptions in the training of both undergraduate and postgraduate CCNs, which have been changed to accommodate the new nursing qualification curricula and changes to the scope of practice R2127 (SANC, 2022). To date advanced midwifery has become mandatory for entry into any postgraduate program, leaving

staffing and qualifications contentiously interconnected, with no quick solutions in sight. Additionally, it has been observed that formal lectures on SHO were not included in the curriculum for legacy qualifications in South Africa and many other countries, making it an "on-the-job" skill often learned by trial and error in the clinical area (Seo et al 2022:3). Hence the impact of staffing shortages, skill variances and knowledge levels may have different effects on the structure of SHO and the quality of the data being transferred (Mamalelala et al 2023:73).

To improve SHO quality and maintain patient safety and CoC, ineffective handover practices must be addressed (Pun 2021:5). In the unique context of South African healthcare facilities, little is known about facilitators of and barriers to SHO between CCNs in CCU. This study may contribute to the knowledge and understanding of facilitators and barriers that influence SHO in the CCU.

1.4 Purpose of the study

Gaps in the SHO process can be identified by exploring and describing the facilitators and barriers during SHO between CCNs in the CCU. The researcher aims to raise awareness about current practices and barriers to effective shift handover, contributing to the knowledge needed to minimize handover-related adverse events in this context.

1.5 Research: Question, aim, and objectives/hypothesis

The research question that the researcher sought to answer was:

- What are the facilitators and barriers during SHO between critical care nurses in the critical care unit of a private hospital in Gauteng?

The aim was to explore and describe the facilitators and barriers during SHO between CCNs in the CCU of a private hospital in Gauteng.

Objectives:

The following objectives were formulated to answer the research question:

1. To explore and describe the facilitators during SHO between critical care nurses in the critical care unit of a private hospital in Gauteng.
2. To explore and describe the barriers during SHO between critical care nurses in the critical care unit of a private hospital in Gauteng.

1.6 Significance/Contribution

The study may be instrumental in exploring and describing facilitators and barriers during SHO between CCNs in a private hospital in Gauteng. The CCNs will directly benefit from the study because it will create awareness of the facilitators of and barriers to SHO, thus increasing nursing manager involvement so that resources and policies may be reviewed, improving and maintaining good handover practice. The patients will also benefit from reduced risk to their safety and CoC. Improved handover practice may optimise patient outcomes and patient satisfaction feedback survey results.

Nursing staff may experience satisfaction from the resolution of barriers, increased organisational support, and better interpersonal relationships. Sharing the findings will raise awareness among CCNs regarding their own handover practice and encourage openness to change, as well as participation in policy making and nursing education initiatives.

Findings will further inform management on improving handover practice policies. The findings may contribute to knowledge and benefit for all stakeholders, including nursing education for application by nurse practitioners, educators, and managers. It may also lead to the development of improved practical structures or formats to guide SHO between CCNs in the CCU.

1.7 Research methodology

This study followed an explorative, descriptive design to understand the facilitators and barriers during SHO between CCNs. It sought to explore ways to go deeper to uncover something more. When exploring a phenomenon, the participants' lived experiences, expressed in words and phrases from their accounts, help to extract a deeper meaning (Pope & Mays 2020:18; Gray & Grove 2021:75). The researcher aimed to get participants to describe what they experienced as facilitators and barriers during SHO.

1.8 Structure of the study

Chapter	Title	Outline
1	Overview of the study	Orientates and gives the reader an overview of the study. It provides an overview of the research, identifies the research question, and justifies the study's relevance with supporting data.

2	Literature review	The researcher conducted a comprehensive literature review to establish the study's significance. This review offers insight into the origins of the problem, or issues and the actions taken over time. It also clarifies the broader context and practical importance. The researcher established the project's context by clarifying concepts and the problem under investigation.
3	Research design and methodology	In this chapter, a detailed description and rationale for the research methodology used are provided. The researcher describes the study population, sampling, and data collection processes, as well as the data analysis methods in detail. The general goals for the project, including its aims and objectives, are also discussed.
4	Presentation of the findings	Presents the results of data analysis and any new information that was revealed and indicates any other ideas uncovered in the data analysis process, such as patterns and behaviours that are seen as facilitators or barriers to SHO. The limitations and strengths of the study are also identified in this chapter.
5	Conclusion	The summary describes the study's conclusions. It also recommends improvements to the study and further studies that need to be conducted. This chapter includes strengths and limitations.

1.9 Context

The study was done in a private hospital in Gauteng. To answer the research question, the study was conducted in the three adult CCUs where SHO between CCNs is done at least twice a day. There are three adult intensive care units with a total of 53 CC beds. The units and their staffing complement appear in Table 1.

Table 1: Critical care nurses working in critical care units

Unit	Number of beds	RN Diploma in CC	RN with CC certificate	RN experienced	EN
CCU 1	13	6	3	15	3
CCU 2	20	7	2	23	5
CCU 3	20	6	4	21	7
Total staff	102	19	9	59	15

Table 2 summarises the CCU disciplines and their bed capacities in the hospital.

Table 2: Disciplines and available beds

Reference name of CCU	Discipline	No. of beds
CCU 1	General medicine and surgery	13
CCU 2	Trauma and emergencies (Priority 1 – non-cardiac)	20
CCU 3	Coronary care, cardiothoracic surgery	20
Total		**53**

The three CCUs with their respective staffing complement and disciplines are the setting for this study.

1.10 Assumptions

A paradigm organizes thought and interpretation of experiences (Creswell & Creswell 2023:8). The positivist approach focuses on facts and scientific proof to understand cause-and-effect relationships, while post-positivism seeks deeper meanings derived from senses and emotions. Constructivism, which emphasizes building knowledge through experiences, guided this study.

The researcher collected data from CCNs who regularly performed handovers in the CCU, focusing on what they experienced as facilitators and barriers during the process. Each individual's perception is influenced by their emotions and personal history (Gray & Grove 2021:77). The study aimed to identify facilitators and barriers in the handover process, with CCNs providing insights into their experiences.

Assumptions are beliefs that may not reflect reality, which research helps clarify. Epistemology pertains to the acquisition of knowledge and its underlying structures (Pope & Mays 2020:17). Each participant’s unique philosophies and backgrounds influence their views, while factors like culture and geography can shape experiences.

Ontology asks about the nature of reality (Pope & Mays 2020:16). CCNs interpret their CCU environment based on their daily experiences, impacting their thoughts and attitudes. By exploring facilitators and barriers during SHO, the study aimed to describe the lived experiences of CCNs in a Gauteng private hospital's CCU.

1.11 Scope and delimitations of the study

Ineffective handover is a problem worldwide and remains unresolved. Although a minimum of 10 -12 participants was thought to adequately represent the CCN population, this qualitative study depended on data saturation being reached (Gray & Grove 2021:412). The scope of the study did not extend to more than one private hospital to avoid over-collection of data. The total population was adequate because the hospital had many CCNs distributed over three CCUs. However, due to the project size and time constraints, only a small sample size was necessary, as the participants were experienced CCNs who performed SHO daily. The narratives contained much detailed information, which was time-consuming to analyse. Data saturation determined the number of participants (Creswell & Creswell 2023:198).

Due to the above, the researcher chose to limit the study to these three units, as there may have been similarities experienced throughout the hospital. Each participant provided a rich description of their experience with the handover, and the choice of these units helped to limit the scope of the study. Including all units and departments with different handover needs would have been expensive and time-consuming.

Extending the study to other hospitals or provinces would not be manageable and would dilute the data, losing the depth of understanding the researcher sought by conducting this study. Hence, the scope was narrowed, but the distribution over three different CCUs provided a more diverse sample population, rather than focusing on one unit only. The study was limited to one hospital because its findings and significance would be generalisable to other hospitals with similar CCUs in the hospital group, provincially and possibly in other hospitals in South Africa. Ineffective handover is a widespread issue that remains unresolved. While a minimum of 10 to 12 participants was initially considered adequate to represent the CCN population, this qualitative study relied on reaching data saturation (Gray & Grove, 2021, p. 412). The study's scope was intentionally limited to one private hospital to avoid excessive data collection. The total sample size was deemed sufficient since the hospital had a significant number of CCNs distributed across three CCUs. Due to project size and time constraints, only a small sample was necessary, as the participants were experienced CCNs who performed SHO daily. The narratives provided rich and detailed information, which made analysis time-consuming. Data saturation ultimately determined the number of participants.

Given these considerations, the researcher opted to focus on the three CCUs, recognizing potential similarities among their experiences. Each participant offered in-depth insights regarding their handover experiences, and limiting the study to these units helped refine its

scope. Including all units and departments with differing handover needs would have been both expensive and time-consuming (Creswell & Creswell 2023:198).

Expanding the study to other hospitals or provinces would have been unmanageable and risked diluting the data, potentially undermining the depth of understanding the researcher aimed to achieve. Therefore, while the scope was narrowed, the distribution across three distinct CCUs created a more diverse sample population rather than concentrating on a single unit. The study was confined to one hospital, as its findings could be generalized to other hospitals with similar CCUs within the same hospital group and possibly to other hospitals across South Africa.

1.12 Research design

The research design is a plan that specifies the steps to complete the study (Creswell & Creswell 2023:17). It ensures that a rigorous process is followed for maximum benefit and minimal harm to stakeholders and participants. The researcher chose a qualitative design for this study as it fit well with the assumptions and would answer the research question with findings that were more conceptual and deeper in meaning, as opposed to statistical analysis.

The research question required a deeper understanding of the facilitators and barriers experienced by CCNs during SHO in the CCU. To explore and describe the facilitators and barriers experienced by CCNs during SHO in the CCU, the design and research question applied allowed for flexibility in the inquiry, using words and concepts to describe the experiences of CCNs with more than 6 months of CC experience. The data obtained was therefore more meaningful. It also allowed for inductive and/or deductive reasoning, thereby drawing meaning from the data as the patterns and themes emerged (Pope & Mays 2020:18; Gray & Grove 2021:75). The qualitative design is more flexible and, although less rigorous, allows for the exploration of the facilitators and barriers during SHO as experienced by the CCNs.

1.12.1 Population / Unit of analysis

A population in research refers to the entire group or target population that is considered for the study (Gray & Grove 2021:411). The total eligible population of 102 CCNs working in the CCUs at the hospital being studied were invited to participate in the study. Table 1 summarises this population according to ranks or categories, qualifications, and/or experience in CCU. The study participants were CCNs who rendered direct care to patients in the adult CCU, including CCU 1, CCU 2, and CCU 3, with a minimum of six months of experience in CC nursing.

1.12.2 Sampling method and sample size

The unit of analysis in this study was the participants. While the total population outlined in Table 1 was eligible, the research questions were addressed using a smaller, representative sample population (Gray & Grove 2021:412). Eligibility criteria were established to determine potential candidates from the total population.

Purposive sampling was employed to select participants from a specific subgroup—nurses with experience in CCUs to provide in-depth information relevant to the study (Gray & Grove 2021:429; Pope & Mays 2020:49). It was anticipated that at least 50% of the CCNs would participate to enhance data saturation, with an initial minimum sample size of 12 to avoid data overload. Each unit initially received four narrative guides, distributed randomly upon receiving signed consent and confirming understanding. A maximum of 15 to 25 narratives was considered sufficient, but the actual number could be lower if data saturation was achieved (Creswell & Creswell 2023:198).

1.12.2.1 Inclusion criteria

All RNs and ENs working full time in the three CCUs, responsible for providing direct nursing care to critically ill CC patients, with a minimum of 6 months CCU experience were eligible to participate. All participants were required to sign a consent form.

1.12.2.2 Exclusion criteria

Any RN or EN who did not meet the above criteria did not qualify as a participant.

1.13 Data collection and organisation

The data was collected using a written self-reporting narrative account **(Annexure C)**, designed by the researcher and had two sections. Section A comprised demographic data, and section B consisted of two semi-structured questions that formed the core data collected for this study. The data collected included the participants' demographics, experience, qualifications, and level of work. Participants needed 20 to 30 minutes to complete their responses.

The narrative guide allowed the flexibility needed for the responses to be completed by the CCN away from patient care areas, to prevent unnecessary patient care interruptions and CoC problems, and to eliminate the need for additional handovers. Therefore, all willing CCNs had an equal opportunity to be participants without leaving the patients' bedsides for an interview. Preventing disruption of nursing care and reducing stress on the participants during their working hours made this data collection method ideal and practical. The narrative guide could

be completed during tea or lunch breaks or in their homes if needed. It also eliminated the need for special training of researchers to collect data consistently. There was also no need to transcribe verbal recordings for analysis.

A pilot test is a dry run, or a mini test conducted before the full study commenced. This is done to check for problems or obstacles that could influence how the study is conducted and to identify the need for any deviation from the original design. A pilot test was conducted with two non-participating nurses – one RN and one EN. This was done to test participant interpretation of the questions and to prevent any leading questions, bias, or ambiguity. The pilot test was useful in assessing the amount of time required for completion of the guides. It also assisted in ensuring that potential queries regarding the questions could be dealt with before the actual data collection.

The researcher made appointments with unit managers and staff to raise awareness of the study at staff meetings. The CCU managers assisted with briefing all CCNs. Once a consent form was signed and handed in, an envelope containing the narrative guide was handed to the participant. The researcher coordinated the distribution and collection of the completed narrative guides.

The narrative guides and consent forms were handed out separately to each participant by the unit manager. Participants received information about the consent and risks and were informed that the responses to the questions were not discussed outside of the research team. Written responses were required on the narrative guides provided. Participants were allowed privacy and time to consider their responses to ensure trustworthy data. The guide could be completed in any neutral area available in the hospital or at home. To avoid contamination of the data collection process and researcher biases from influencing the data, the researcher was not available to the participants during completion of the questions.

Completed responses and consent forms were collected in two separate boxes in the unit manager's office and had to be retrieved on alternate days or as needed, until all forms and narrative guides were collected. The researcher tracked returned responses using a unique number.

The data collection, organisation, and analysis took place concurrently once the first four responses were retrieved. Data collection stopped when data saturation was reached, meaning when there were no new codes to capture.

Data was organised on a spreadsheet with a unique identification number per completed response, and all data was managed via the spreadsheet. Each completed narrative guide

was captured on the spreadsheet according to its unique number. The data was organised systematically for analysis according to words, phrases, and sentences that fit within the two main themes of facilitators and barriers.

1.14 Data analysis

Data analysis is the process of reducing large amounts of information into smaller, more manageable groups or patterns. Data analysis involves categorising words and expressions into meaningful concepts, themes, or patterns.

After the researcher read the narratives several times, codes derived from words and phrases that aligned with the facilitators and barriers to SHO were highlighted, directly on the completed guides. Different colours were used to differentiate the main codes and the unusual codes more clearly. Each code was then sorted into the facilitator or barrier theme. Notes were made as each data set was analysed. The notes indicated what had to be done next; for example, if there was a need to clarify what was written or what the participant meant, these issues were clarified at a meeting, held once or twice a week with the supervisors. Under these two main areas, other emerging patterns were drawn from each dataset. Each group of codes was then further studied for emerging patterns that may give rise to main categories and sub-categories.

Common patterns, ideas, and themes became evident from clarification, extension, and interpretation of the responses. The supervisor and co-supervisor also functioned as co-coders interpreting the data so that all emerging concepts, themes, and patterns were considered. Different interpretations of the data were resolved using meaningful discussions. Themes were checked by revisiting the raw data and through discussion with co-coders (Pope & Mays 2020:117). A reflexive journal was kept, avoiding data contamination by the researcher's own experiences.

The demographic profile of the participants is available and is illustrated using a table according to relevant groupings, such as years of experience in CCU, type of CCU the participant came from, age group, qualifications, and participant role in the CCU. This information helped the researcher to understand the sample population better and to draw inferences from the data gathered according to how it may or may not have influenced the results of the study (Gray & Grove 2021:429).

1.15 Rigour / Quality control

Rigour refers to the justification or motivation behind the maintenance and enhancement of study quality. One of the key characteristics that must be ensured is trustworthiness (Gray & Grove, 2021, p. 546). These qualities are essential for establishing a robust research design and ensuring that the research question is answered, contributing meaningfully to the body of knowledge and benefiting all stakeholders involved.

Lincoln and Guba's four criteria for trustworthiness serve as the gold standard for ensuring the rigour of a qualitative study (Creswell & Creswell, 2023:214). When these criteria (credibility, dependability, transferability and confirmability) are met, the research findings and the interpretation of the data provided by participants accurately reflect the study's aims. The researcher defines and explains how these 4 criteria were applied to this study in Chapter 3.

1.16 Ethical considerations

The researcher followed ethical guidelines to prevent harm to any participant. The application was sent to the Research Ethics Committee for the University of Pretoria: Faculty of Health Sciences. Ethical approval was also requested from the specific facility where the study was to be conducted – view **Annexure A – permission letter**.

This study was non-therapeutic and non-clinical. There were no risks to participants and no incentives for participation. The well-being of participants took precedence over the study. Health, privacy, and dignity of participants were protected through an anonymous written narrative, and it had no negative implications for the participants.

1.16.1 Autonomy / Respect and self-determination

Eligible participants had the right to decide whether to participate or not. In any research involving human subjects, ethical approval for the study can only be granted if the people's rights are respected and there are no repercussions for not participating (Creswell & Creswell 2023:99). This means that no human subject should be forced to participate in any study, whether experimental or not, as the researcher has not considered any possible threat or harm to the participants' well-being (Pope & Mays 2020:32).

The current researcher briefed the unit managers regarding the research and the method. Staff received information and had an opportunity to clarify the details of the topic, methods, and anything that may affect participants. The measures taken to ensure anonymity and questions were addressed during the briefing. Informed consent forms (Annexure B) were signed prior to participation. Each consent form was placed into a separate box to ensure that

there was no association between the consent and the narrative guides when handed in. Privacy and confidentiality were maintained using non-identified narrative guides. This means that no data could be associated with a participant even during the data organisation and analysis process, as each response was only tracked through a unique number. All participants were briefed regarding maintaining non-disclosure of dates; times; places, such as units; and identities when referring to incidents. If any detail was disclosed in any of the ways described above, the researcher was careful to use pseudonyms and titles, for instance, “nurse X”, “on another occasion”, and so on. In this instance, it was the deeper meaning that was sought and not the time, place, or person. Confidential comments were suitably anonymised in the final report to ensure that no participant could be singled out.

Ethical approval was obtained from the company before any data was collected – Annexure A was used to request permission to conduct the study. The ethics committee at the company head office also reviewed and discussed the study before approval was granted. This process considered the rights of participants and the responsibilities of the researcher to protect the personal information and participants’ rights (Creswell & Creswell 2023:99). No participant was affected in terms of employment, promotion, or any other way due to the decision to participate in the study or not. This ensured voluntary participation without obligation or coercion. No unauthorised person(s) had access to the data other than the researcher and the supervisors. The data was stored off-site under lock and key, as per the university’s policies and procedures (see Chapter 3 for specific procedures).

1.16.2 Beneficence / Non-maleficence

All the potential participants received the same information regarding the risks, benefits, and implications of the study with additional information to clarify any query from any individual. There were minimal or no risks to the participants due to anonymity. It also held benefits for participants who wanted to participate in research. All participants were nursing staff and would benefit through improved practice recommendations arising from the improvement of nursing practice, as this would benefit all stakeholders in CCU.

1.16.3 Justice

Every participant was treated fairly and allowed to participate according to the inclusion criteria and purpose of the study (Pope & Mays 2020:29). Non-discrimination is an important component of this study. Name, identification number, and unit details were not required. The data sheet was not collected in person but was placed in a collection box in a sealed envelope. Therefore, anonymity was possible. The quotations, words, or phrases in the data analysis were referenced to the random reference number assigned to the completed narrative guide

and could not be traced to any individual. The narrative approach maintains anonymity to ensure privacy and confidentiality of the responses (Pope & Mays 2020:34). There was no identification and only a unique number. The consent forms were placed in a separate box from the narrative guides. Only the researcher and supervisors may access the data. Should the participant no longer wish to continue, the blank guides could be returned to the unit manager without any negative consequences.

1.17 DISSEMINATION OF RESULTS

The findings of the study were shared with hospital management, all CCU nursing staff, hospital-based academic staff, unit managers, and participants. The study was also submitted for peer review within the university and possibly for publication in peer-reviewed journals. The results could be presented on a poster at national CC conferences. The study would also be accessible to other students once published on the university website library UP Space.

1.18 CONCLUSION

This chapter described the study clearly, giving the reader a bird's eye view of what the project was about, why it was important, and how the activities of each step of the protocol were implemented. It also describes the focus areas for each of the chapters that follow as the activities of the protocol unfold and what information was included in the project report.

CHAPTER 2 – LITERATURE REVIEW

2.1 Introduction

In Chapter 1, the researcher introduced the topic of nursing handover in the CCU and provided an overview of the study, as well as a clear understanding of its significance. The background section outlines the existing literature gaps and effectively justifies the importance of the research. It also outlined the research questions and aims, providing a comprehensive understanding of the study's purpose. In essence, Chapter 1 served as a crucial introduction to the research paper, establishing its significance.

Chapter 2 presents a descriptive review of the most relevant and recent studies about handover conducted in the context of CCUs, both internationally and locally. The literature review aims to gain more ideas and understanding, develop a broader knowledge base regarding handover-related ideas, and consider problems and solutions for evidence-based practice. Despite a growing body of research, problems and solutions only offer temporary shifts in outcomes.

Several interventional studies were consulted, as well as those that described factors affecting handover practices and the use of technology to improve the process. The literature search included key words such as handover, handoff, shift report, critical care, shift, nursing, facilitators, and barriers. Some older studies conducted by experts in handover studies in the last decade were also consulted for comparison. However, there is no single answer to the problem of ineffective handover practice, especially where patient care becomes more complex, and patient acuity contributes to this problem in the CCU.

2.2 Handover process

Handover is a routine but vital communication process of transferring patient information through verbal, written, or other reports. Kim et al. (2021:59) refer to this process as an exchange of information, with transfer of responsibility and accountability for patient care at the end of a shift. Handover is globally accepted as a process of communication used for the swift transfer and transition of care between healthcare professionals, departments, and facilities (Obaia et al 2023:80). The report should include details of all patient care rendered, making this process integral to critical information transfer and facilitating continuity of patient care (Chien et al 2022:1415).

Due to the need for shift change, CCNs must perform the high-risk task of transferring information about patients to the one who is relieving them. An effective handover report helps

to maintain patient safety during this vulnerable time (Paredes-Garza, Lázaro & Vázquez 2022:4315). Patients are admitted to the CCU due to the severity of their illness and the need for continuous monitoring. Therefore, the SHO requires more attention to detail than in other wards (Alamrani 2022:1501-2). Therefore, it has become a high-risk task due to the increased exposure to errors and adverse events in CCU. Interprofessional transfer of information and signing over of care responsibility and accountability are vital elements of nursing relationships, enabling healthcare professionals to end their shift to go off duty or change patient assignment, with minimal disruption to the patient care continuum (Obaia et al 2023:79).

CCNs switch between sender and receiver roles, especially due to shift change (Ghonem & El-Husany 2023:2). The process should remain interactive, as the person accepting responsibility can only do so after active listening, clarification to ensure the correctness of the information, and full understanding of the patient's condition, treatment, and own responsibilities in care delivery (Alamrani 2022:1502).

2.3 Importance of handover

The transfer of patients between multiple levels of care and CCNs increases the vulnerability of the patient. Handover serves as a very important means of bridging the gap and allowing for smooth transitions in care (Leigh, Brundin-Mather, Whalen-Browne, Kashyap, Sauro, Soo et al 2021:2). The handover provides sufficient information for both immediate and long-term CoC. Changes in level of care and CCNs, or even discharge to home, may require a serious review of treatment and medication prescriptions, which must be communicated clearly during handover to the person receiving the patient to prevent treatment and medication errors (Bourne, Jeffries, Phipps, Jennings, Boxall, Wilson et al 2023:2).

An interactive handover report between CCNs provides access to critical information about a patient. Routine sharing of information is necessary at the end of a shift to allow a chain of information to pass between primary nurses (Hashish et al 2023:8) Optimal patient outcomes depend on the prevention of harm to patients through effective handover information flow to promote a smooth workflow (Kim et al 2021:59). Transfer of responsibilities and essential patient information must take place to reduce harm to patients from any treatment errors (Alamrani 2022:1501).

Verbal handover allows for the elimination of uncertainties regarding care, and the written summary verifies the information communicated to the receiver (Mamalelala et al 2023:72). It is also intended to reduce time wasted in searching for patient information regarding treatment and its effect on the patient (Yetti, Dewi, Wigiarti & Warashati 2021:114). The importance and

urgency of handover vary according to the circumstances and environment, such as shift change, emergency care, location, and healthcare discipline (Liu et al 2023:7). Hence, handover can directly influence decision-making regarding treatment and, therefore, must be precise, accurate, and timely to be of value in care planning and coordination as well as preparation for the shift or CCN receiving the patient (Schiavi et al 2023:9).

Despite the consequences of ineffective handover, there are still major gaps in research on how to improve handover quality sustainably (Liu et al 2023:8). Without effective handover, patients are exposed to unintentional events, injury, and harm with a potential increase in morbidity and sentinel events (Mulfiyanti & Satriana 2022:376). The WHO has therefore prioritised handover as a safety priority for all healthcare facilities (WHO 2021:10). Increased risk to patient safety; increased length of stay in the hospital, with additional diagnostic tests; medical errors; and higher treatment costs inevitably add to the list of adverse effects of poor handover quality (Helal et al 2022:28). Malpractice claims from poor quality of handover tarnish the quality of care, as well as the reputation of the facility and the profession (Mulfiyanti & Satriana 2022:377). The value of handover is therefore dependent on timeliness and completeness, with the correct and relevant content, without which its purpose cannot be accomplished (Leigh et al 2021:2).

Shift handover is a key element for maintaining patient safety and high-quality care through seamless accurate communication of care needs during transitions (Alamrani 2022:1505). Therefore, handover is important because it facilitates decision-making, care planning, prediction, and prioritisation of treatment activities, and prevents safety risks to patients (Mamalelala et al 2023:72).

2.3.1 Origins of handover and structured reports

The handover report originated in military practice, with the SBAR structure of communication being the quickest format of information relayed when the situation becomes dire and decisions need to be made quickly with concise, clear-cut, timely, and relevant information (Liu et al 2023:7). This method has been adopted by doctors to quickly get an overview of all the patients entrusted to their care (Murthy 2022:1). The SBAR structure (Situation, Background, Assessment, Recommendations), specifically focuses on the current condition, and, according to Mulfiyanti and Satriana (2022:377), SBAR is imperative for prevention of adverse events.

However, in both private and public hospitals, the CCNs often use the SBAR method, which is better suited to emergencies so that the team can get a quick overview of the patient's condition. SBAR is explained as follows :

Situation: Name of the person calling or handing over or team leading and the patient's name and location. A description of the current situation, the reason for the call and the patient's diagnosis is given for example, "I am Nurse X calling from CCU 1. Mr. L in bed 24 who is admitted with pneumonia is experiencing shortness of breath."

Background: contextual data is given e.g. "The current saturation is 86% despite nebulization and is not improving.

Assessment: assessment findings are shared e.g. Mr L is showing signs of respiratory failure, and the blood gas is worsening.

Recommendation: What needs to be done is clearly stated, "I believe that his airway may soon be compromised and that he may require emergency intubation ."

According to Liu et al (2023:7), SBAR was accepted and has remained the most common structure adopted for handover in healthcare. While it is true that high-risk emergencies require concise, accurate information as illustrated above in the example, SBAR may not be sufficient for the high-risk patient in the CCU (Yetti et al 2021:114). The SBAR method is highly effective in extremely high turnover environments like the emergency department (ED), maternity labour units, and operating rooms (ORs), but it is neither sufficient nor recommended for specialised high-risk units where comprehensive detail is essential for the safe and accurate transfer of information (Liu et al 2023:8).

Liu et al (2023:7) and Mulfiyanti and Satriana (2022:378) explain that due to vast differences in specialised healthcare settings with more specific information needs, the interprofessional team's (IPT) involvement is necessary to gain a comprehensive clinical picture of patient treatment plans aimed at achieving better outcomes and patient satisfaction. These studies have indicated that SBAR is not an ideal framework for the medical setting, and more especially for nursing staff in CCUs and this could be a contributing factor to the current problem with the shift handover between CCNs. Murthy (2022:2) cites handover to be a quick 2-3 minute communication, which should be written before the handover process, with the emphasis being entirely on situational awareness and not on the details of an entire database of patient information. Therefore, the argument exists that the SBAR method is far better suited for doctor-to-doctor handover than for nursing SHO in a CCU (Murthy 2022:1). The I-PASS structure (illness severity, patient information, action list, situational awareness, and synthesis) is another format chosen and used by doctors to facilitate the handover of patients between colleagues when call hours end; however, its value for SHO in high-acuity environments has not been sufficiently investigated (Shahian 2021:771).

Chien et al (2022:1414) discussed the ISBAR and CARE protocols as follows: ISBAR (Introduce and Identify, Situation, Background, Assessment and Actions, Recommendations and readback) which is ideal for unresponsive and unstable patients, includes the introduction of the CCN and patient identification, while the “readback” was emphasized as a key element of two-way communication between CCN. The CARE protocol (Connect, Ask, Respond, Empathise) for bedside nursing handovers deemed suitable to improve patient inclusion during the handover is not practised widely due to its dependence on patient responsiveness and coherence.

While the above pneumonics are successful in ensuring that information gaps are eliminated, Shahian (2021:770) argued in his article that the IPASS method studied by Starmer and colleagues was proven to have the least gaps, with minimal changes in handover time. The I-PASS (“illness severity” categorises patient condition as stable, high risk, or unstable, “patient summary”: admission reason, patient presentation on arrival, clinical progression and plans for events; “action list” : outlines all activities with responsible persons and timelines; “situation awareness” : what is currently happening or could happen; “synthesis by the receiver”: summarise to verify data interpretation and ask questions regarding the actions and planned care). These studies indicate that there is a need for policies that guide what information should be included in the handover and when or where handover should be done, not just to complete a structured report based on such pneumonic.

The study by Leigh et al (2021:2) about handover between CCNs clearly shows that a checklist that includes all relevant details may assist in preventing loss of information**.** Handover structure should give meaning, rationale, depth, and relevance to the interaction and discussion, without which the purpose of handover would be thwarted, and patient care would not be person centred (Mulfiyanti & Satriana 2022:377).

2.3.2 Impact of handover on continuity of care

Handover is primarily intended to minimise disruptions and promote continuity of patient care (Ghonem& El-Husany 2023:2). Registrars and paramedical CCNs working as teams on a shift or rotational basis need to hand over patients so they can have a rest period to prevent errors arising from fatigue (Murthy 2022:1). Nursing staff are scheduled to work set shifts of up to 12 hours. The handover enables the staff change so that shift nurses can also have rest periods in between. A study done in a Nigerian hospital emphasised that effective SHO between nurses directly impacts patient safety and CoC, and has ethical, legal, and professional implications for nursing practice (Alberta, Idang & Jane 2018:2-4). Authority, accountability, and responsibility for patient monitoring, care, and treatment must be handed over between

CCNs (Helal et al 2022:28). All patient information is then transferred between nurses and other CCNs to maintain a communication chain (Pun 2023:1).

CCNs are responsible for ensuring a safe patient environment, optimising workflow and CoC, thereby maintaining a high quality of care through close monitoring and detection of any reaction to treatment and changes in condition, and for prompt response to these changes (Etemadifar et al 2021:1; Obaia et al 2023:80). It is evident that CCNs have a legal and ethical responsibility as well as a professional obligation to promote effective information flow, thereby maintaining efficient care continuity and preventing harm to patients (Etemadifar et al 2021:2; Pun 2023:2).

2.3.3 Patient safety linked to handover

Patient safety forms a vital part of quality assurance criteria (Etemadifar et al 2021:2). Handover is essentially communication between CCNs to optimise a safe environment and workflow (Pun 2023:2). Patient safety incidents have come under the spotlight due to increased occurrences globally over the last two decades. However, recent studies indicate that patient safety incidents are under-reported (WHO 2021:55). The WHO has focused on handover practice to ensure the safety of people seeking healthcare and to prevent mistrust in healthcare professionals and facilities (WHO 2021; Shahian 2021:770). Resource-rich countries are also combining resources with increased research and organisational support to curb the problem (Kim et al 2021:59; Hashish et al 2023:2).

According to Pun (2021:1), incomplete handover reports and failure to clarify information can disrupt the continuum of care, risking patient safety. The researcher opines that handover includes a wide range of important patient information, including diagnosis, clinical progression, and current treatment, which are usually the main areas of handover communication between CCNs (Pun 2021:2). A study by Paredes-Garza et al (2022:4317) indicated that effective handover communication reduces adverse events, such as falls, pressure ulcers, and medication errors due to bedside handover, which allows for direct observation of patients and comprehensive information transfer.

According to Etemadifar et al (2021:2), corporate culture is influenced by shared beliefs and values that are consistently prioritised by organisations. Patient safety culture should be an expectation of all CCNs, and, therefore, safe handover should be expected (Obaia et al 2023:80). However, a culture of patient safety culture must be established in each organisation to ensure that staff awareness of patient safety risks is congruent with vital practices like handover (Etemadifar et al 2021:2).

2.4 Principles of safe, effective handover

Safe, effective handover without omissions between CCNs includes forecasting / proactive prevention of problems and complications for the patient, with clear clinical information (Mamalelala et al 2023:72). The following are principles for safe, effective handover.

2.4.1 Standardisation

Structured handover practice provides clarity for smooth transition between nurses through complete information transmission, whether coming on duty or going off duty. The purpose of using a structured template is to ensure logical organisation of information according to its relevance and usefulness to the diagnosis, treatment plan, prognosis, and priorities of care for the patient (Seo, Jang & Ahn 2022:3). However, Pun (2021:2) argues that this alone is insufficient to improve handover quality. Mamalelala et al (2023:72) state that “in most African settings, there are no defined handover tools or procedures for nurses.” The current practice in many South African institutions is the SBAR method, which means a significantly detailed account of the patient’s clinical information (Alamrani 2022:1501). However, there is insufficient data to support any one solution due to the unique environment in South African public and private facilities, as well as the structures chosen like SBAR and I-PASS not providing adequate, appropriate detail for the nursing SHO. While protocols and structures like ISBAR help with the organisation of thoughts and information, a poor understanding of effective communication principles can nullify its value (Pun 2021:2).

2.4.2 Communication

Seo et al (2022:3) state that ‘communication ability’ is one of the prerequisites for a successful handover. Pun (2023:2) cites that collegial engagement and a formal process for communication are both central to maintaining consistent handover practice and preventing patient safety risks.

Cruchinho, Teixeira, Lucas and Gaspar (2023:1-2) discuss handover as a communicative interaction that may be verbal and non-verbal. While it may seem obvious that safe handover is only possible when there is an actual exchange of information, in some instances, handover does not happen at all, which leads to safety risks for patients (Bourne et al 2023:10). This process is an exchange that is focused on shared information to promote understanding and provide the context of the patient’s clinical condition. Effective handover requires sufficient communication (Dietl, Derksen, Keller, Schmiedhofer & Lippke 2023:3). The receiving nurse may validate the transmitted information for accuracy by clarifying and confirming understanding with questions (Cruchinho et al 2023:2).

Pun's (2021) Hong Kong study of nurses' perceptions emphasises the need for asking collaborative questions (ISBARQ method) during handover which adds the Q for "questioning" to clarify that the data received is accurately interpreted. Another study by Pun (2023:2) further explains that questioning by the receiver helps to clarify information, reducing the possibility of missing, incomplete, or incorrect information. This study concludes that handover is an interactive process that is influenced by communication skills and perceptions of nurses (Pun 2021:2). Communication is the cornerstone for reducing misunderstanding and enhancing teamwork for improved patient safety and prevention of handover-related adverse events in the CCU.

2.4.3 Completeness and accuracy

Handover is a cognitive, reflexive, and practical skill that allows CCNs to share information about patients using quick critical thinking and clinical judgement capabilities (Liu et al 2023:7). Successful communication during handover requires mutual understanding, information sharing, and collaboration between the two parties (Dietl et al 2023:114; Yetti et al 2021). Social processes of sharing perspectives allow for the creation of a shared reality and give meaning to the communication (Yetti et al 2021:114; Dietl et al 2023:2). Shared beliefs contribute to mutual understanding of critical situations; therefore, good interpersonal skills alone are insufficient to improve handover quality and interaction between CCNs (Dietl et al 2023:2-3). CCNs find common ground or a shared reality due to the environment they must work in. If there is a lack of mutual understanding, misunderstanding may occur. Therefore, handover must happen at the right time for the right reasons (Yetti et al 2021:114).

According to Seo et al (2022:3), communication, whether verbal or non-verbal, should be done with confidence and should take into account the reason for the communication. The researchers further explain that knowledge level is important, as problem-solving requires an understanding of the disease process and is based on data collection, analysis, and interpretation to result in sound clinical judgment and decisions about care (Seo et al 2022:3). As discussed by the latter and supported by a study conducted in South Africa, knowledge level has become a growing concern in specialised units and has similarly impacted the handover structure and quality (Mamalelala et al 2023:73).

All interpreted information collected during the shift should be validated during the communication so that accuracy and reliability of the handover process are maintained (Helal et al 2022:28). This means that the receiving CCN should check with non-verbal sources that there are no omissions of important details, and that all relevant information is given in a way that they understand and can verify. An example is the ISBARQ method of handover, which

requires speaking up, asking questions, and ensuring trustworthy information that is reliable, timely, and transferred successfully, thereby influencing life-saving treatment and preventing harm to patients (Dietl et al 2023:3; Yetti et al 2021:113).

Without explanations of the decisions made, omissions could lead to ambiguity and omissions of care (Chien et al 2022:1414-5). Therefore, CCNs must be given an opportunity to clarify, bringing meaningful interaction into the process and eliminating confusion. However, it may not be possible to do this unless staff perceive the environment safe to ask questions. In their study, Ghonem and El-Husany (2023:2) demonstrate that a "safe" environment, coupled with the use of the ISBAR method, provides an opportunity for structure and clarity in effective communication.

2.4.4 Continuity of care

The SHO report is a meeting between two CCNs at the end or beginning of the shift, to pass on the necessary information for a smooth transition of care between incoming and outgoing CCNs with minimal disruption of patient care (Obaia et al 2023:79). Shift change should not affect the quality of care due to handover-related errors, but this can only be ensured if the SHO meeting is carried out successfully (Alamrani 2022:1504). A chain of communication is necessary to maintain the smooth flow of information and CoC (Obaia et al 2023; Chien et al 2022:1415).

The CCN must have the ability to deliver a patient-centred handover effectively to facilitate a seamless shift change, especially in the CCU where patient acuity makes the process more complex (Alamrani 2022:1502). The CCN forms the constant in the CCU despite all the different IPT staff involved in the patient's care. The CCN is the golden thread that links a myriad of processes, interactions, decisions, and activities that make up the complex treatment of a CC patient.

2.4.5 Documentation

Ghonem and El-Husany (2023:1) cite that nurses are responsible for keeping complete and accurate records regarding patient care rendered and the responses to treatment, as well as any adverse reactions or emergency care given. High-quality records are essential to the success of the handover process (Schiavi et al 2023:10). Accuracy and completeness of documented and verbal reports are important for handover to be effective and to enable CCNs to provide high-quality, safe care (Ghonem & El-Husany 2023:2).

Verbal handover with written documentation allows for collaboration and interaction, questions for clarification, and mutual understanding which, in turn, promotes a healthy working environment (Mamalelala et al 2023:72). Verbal handover alone is insufficient to maintain a

reliable chain of communication and may be better supported by transfer documents and handover checklists in the specialised units (Alamrani 2022:1506; Leigh et al 2021:2).

2.4.6 Use of technology

In certain healthcare settings, real-time access to patient data through electronic health records (EHRs) and other digital tools supports the handover process (Leigh et al 2021:2). The safety of patient data is ensured and adherence to the Protection of Personal Information Act (Act No. 4 of 2013) (POPI Act) is maintained, as there are minimal to no hard-copy records that can be lost or fall into the wrong hands. Data tracking becomes much easier. Care providers can quickly access data on electronic devices to verify the accuracy of the verbal report while receiving the report.

Accuracy and completeness of documented and verbal reports are important for effective handover and to enable care providers to deliver high-quality, safe care (Ghonem & El-Husany et al 2023:2). The benefits of using an information system depend on robust implementation to ensure that documentation is complete, accurate, relevant, clear, and concise (Schiavi et al 2023:9). High-quality written documentation can contribute to improved handover. Ghonem and El-Husany (2023:1) emphasise that effective handover relies on communication, reporting, and record-keeping, especially in EHRs where hard copies are unavailable.

Documented nursing notes often cannot replace a high-quality handover, as the patients' condition or treatment plans may have changed and are no longer relevant at the time. Therefore, Leigh et al (2021:2) recommend a live document that can be progressively updated throughout the patient's stay to ensure that no detail is lost between handovers.

2.4.7 Location of handover

Location refers to the physical space or area in the unit where SHO takes place. Not all CCUs are built with a private area; therefore, these important processes often take place anywhere, at any time (Paredes-Garza et al 2022:4315). The POPI Act, as well as respect for privacy and confidentiality, requires that a comprehensive handover be conducted in a space that allows transfer without compromising the patient information. Private details, like reasons for admission, diagnosis, and other sensitive information should not be overheard by visitors, other patients, and other staff.

CCNs often face challenges in ensuring comprehensive SHO but do not have a choice. If the unit is open plan, SHO can be done at the duty station. A single duty station or office may not be conducive for all SHO reports to be conducted simultaneously (Helal et al 2022:37). Hence, the best location for handover depends on the unit layout. However, CCU patients require a more detailed handover, and the bedside is often the only space available for handover,

promoting correlation of the clinical data being transferred with clinical condition. This offers the opportunity for patient introduction and inclusion in handover. Recently, many healthcare organisations have advocated for bedside handover.

Paredes-Garza et al (2022:4317) deem it safer to remain within sight of the patient. Therefore, many CCNs prefer that the SHO be done at the bedside, especially where there are 'closed' rooms, cubicles, or boxes. These structures are often built and adapted for infection prevention but have been instrumental in improving handover (Paredes-Garza et al 2022:4315). The patient can be seen, and the data can be verified with the actual clinical findings where direct observation of confused, weak, and haemodynamically unstable patients is needed (Paredes-Garza et al 2022:4315).

A study conducted during the Covid-19 pandemic demonstrated the benefits and necessity for handover reports to be conducted remotely to maintain infection control principles while minimising risks to doctors (Temsah, Ashry, Alhaboob, Almazyad, Alabdulhafid, Temsah et al 2022:1572). Appropriate restriction of visitors and staff in patients' rooms during this period appeared to reduce CCNs' stress due to better compliance and reduced interruptions of handover (Temsah et al 2022:1576). Specialised personal protective equipment (PPE) poses the same threats as interruptions and noise in the environment, making face-to-face handover more challenging (Helal et al 2022:28; Paredes-Garza et al 2022:4320). According to Temsah et al (2022:1578), the use of technology for handover has a place in the CCU and should be used more frequently. However, its value in CCN SHO has not been explored and does not seem practical, as the nurse should be present to correlate patient information with the observations at the bedside.

2.4.8 Teaching and learning the practice of handover skills

Being highly complex and busy environments, CCUs require nursing staff to be systematic through the use of a valid tool for effective handover. Ghonem and El-Husany (2023:3) attribute nurses' weak handover skills and inability to compile a report effectively to a lack of organised thinking and integration of information. While the study above was done on nurses' knowledge and the practice of SHO in non-critical departments, it also appears to be true for CCNs who are under intense pressure to think and act quickly, despite knowledge and experiential skills deficits (Liu et al 2023:7).

Schiavi et al (2023:10) state that training programmes with handover skills practice in a controlled environment indicated a reduction in handover errors – implying that high-pressure environments are not conducive to teaching and practising correct handover processes. This means that in a busy CCU, not much learning can take place, and therefore handover training

cannot be implemented on the job to effect the necessary changes due to resource constraints and environments remaining unconducive to learning. The study also acknowledges that while handover training programmes produce a positive response, the results of such interventions are not sustainable.

Handover is a compulsory task, but the knowledge and skill deficit due to inexperience, a lack of education, training, and practice, has led to further uncertainties regarding effective handover practice (Seo et al 2022:3). There is a lack of handover education, as nursing students often learn on the job and through observing senior nurses. Newly qualified nurses and students find it difficult to sift through large amounts of information regarding patient care, leading to uncertainty about the purpose of the handover (Liu et al 2023:7). Hence, no foundation is set through lectures, clinical learning, and practice applied under supervision in the clinical area. Seo et al (2022:3) suggest that formal lectures and guidelines for clinical handover should be included in the curriculum for all undergraduate professional nursing programmes.

2.4.9 Clarity and conciseness

Handover is complex because it often includes a wide range of many focus areas, depending on the situation (Yetti et al 2021:114). The nurse is therefore required to have critical thinking skills and should be able to apply her knowledge in deciding what information is relevant, accurate, and essential for the next 24 hours (Chien et al 2022:1415). While timing of essential information is imperative for decision-making under pressure, it does not exclude the need for anticipation of problems, which must be communicated during the handover process (Mamalelala et al 2023:72). Not all handover information is about here and now. There is a need to discuss assessment findings, medical and nursing diagnosis, possible causes, and the potential risks they pose for patient safety, prognosis, and recovery (Murthy 2022:2) .

The information itself must be correct and relevant, the significance of the handover being the need for the transfer of the information, meaning the significance of the handover may be to ensure that long-term information is known and transferred among multiple CCNs, whereas more urgent transfers of information will lead to quick decisions, diagnostic tests, and follow-up assessments (Bourne et al 2023:2). The SBAR structure is said to help eliminate all unnecessary detail, while the receiving nurse gets a complete, accurate clinical picture (Ghonem& El-Husany 2023:3). Information given, especially during emergencies, must be time specific to be useful in acute care settings (Murthy 2022:1). Therefore, the handover report must be brief, accurate, and timeous to ensure delivery of safe high-quality care.

2.5 Advantages of handover

SHO allows for interaction between outgoing and incoming nurses and for clarification of the information received (Yetti et al 2021:114). In the handover report, the nurse going off duty transfers responsibility and accountability for the patient and all aspects of care related to the patient, thereby increasing patient safety (Obaia et al 2023:79). This reduces the time taken to get to know the patients and keeps stress levels to a minimum. SHO assists nursing staff in starting their shift with as much information as possible, without having to look for all the data themselves (Yetti et al 2021:114). Hence, the handover process also reduces the time taken to find essential aspects necessary to care for the patient.

This structured communication also encourages interaction between nursing staff, increasing work satisfaction, and teamwork (Mulfiyanti & Satriana 2022:377). The nurse going off duty may also feel a sense of accomplishment when communicating improvement in the patient's mood or condition and treatment goals that were achieved during her shift. The nurse coming on duty has the opportunity to introduce herself to the patient and explain the treatment plan for the shift ahead (Yetti et al 2021:114). Patients also feel more secure knowing that the nurse can report about their condition, diagnosis, treatment, and effectiveness of the latter.

Severely ill patients in the CCU often do not get to interact with CCNs much, due to the severity of their illness and are especially vulnerable (Alamrani 2022:1501-1502). The patient inadvertently has to trust the CCNs' capabilities, which is why SHO done at the bedside is reassuring for most patients and families. Patients who can communicate may be included in the discussion, increasing patient satisfaction and awareness of any changes to the treatment plan. Other patients see the handover as a demonstration of the CCNs' expertise and/or skills in the discipline.

Junior and inexperienced CCNs may also benefit from being included in the handover process as an opportunity to gain exposure and to learn more about patient diagnoses and treatment, as well as how to handle sensitive information, and what needs to be communicated and to whom (Liu et al 2023:8).

2.6 Disadvantages of handover

SHO is performed several times a day, making it a critical task that requires attention to detail and accuracy. In the CCU, SHO carries much weight in words and actions, as the consequences of the said process may not be favourable and may result in adverse events when done ineffectively. The amount and accuracy of detail required depend on the acuity of

the patient. Omitted information may not be obvious, but can result in serious medical errors (Yetti et al 2021:113; Cruchinho et al 2023:2).

Ineffective SHO practice due to workload and staffing challenges may result in adverse consequences like treatment delays, duplication of diagnostic tests, medical errors, omissions in care, and readmissions to hospital (Mulfiyanti & Satriana 2022:377; Yetti et al 2021:113). Therefore, it may be difficult to perform under such constraints, defeating the purpose of the handover. Sometimes, the consequent increased burden on the healthcare facility becomes inevitable due to inadequate resources, information, or support. When SHO becomes a routine exercise but there is little understanding of the patient's condition, the purpose of this vitally important process is not achieved (Alamrani 2022:1502).

Verbal information can become second-hand information if it is not verifiable and may be harmful, because it has been interpreted by someone else. A lack of clinical reasoning, problem-solving, and critical thinking skills may render the handover process less beneficial and more time-consuming for the receiver, as the details may need to be verified using other means (Seo et al 2022:10).

2.7 Causes of ineffective handover

Transition of patients between different disciplines and different levels of care is often the most vulnerable point of care due to the handing over or receiving of patients between CCNs of varying experience and qualifications. However, information transfer between nursing staff during shift change also has its own challenges stemming from different factors (Yetti et al 2021:116).

2.7.1 Poor communication practice and skills

Some research findings indicate that ineffective communication between CCNs is the main reason for poor handover reports, while others deliberate other factors that play a role in handover disruptions (Helal et al 2022:28; Chien et al 2022:1414).

Studies conducted by Abou Hashish et al (2023:2) and Paredes-Garza et al (2022:4315) indicated that in a busy, high-risk environment like the CCU, handover has a greater influence on the patients' care continuum; therefore, it has a direct impact on patient safety. Both studies looked at the effectiveness of communication between CCNs in the CCU. They stated that handover efficiency is influenced by the attentiveness of the receiver. These studies also showed that to be effective, the content of the handover report is as critical as the manner of communication. They further explained that due to patient acuity and emergency situations, it may not be possible for the patient or family to relay adequate information. A study conducted

by Obaia et al (2023:80) found that disruptions during handover may originate from the CCNs themselves and need to be resolved. However, a study done by Alamrani (2022:1502) indicated that ineffective transfer of patient care responsibilities results from failure to understand what SHO is and its purpose.

2.7.2 Unconducive environment

Several environmental factors, namely distractions and interruptions from staff and alarms or telephones, inattentiveness of the staff, and parallel conversations during handover seemed to be a common problem, implying a lack of respect for the importance of the handover process or even a poor work culture (Paredes-Garza et al 2022:4315). Obaia et al (2023:80) concur that environmental conduciveness plays a role in ensuring safe, effective handover and that many of these distractions can be prevented.

A more recent article (Vanderzwan, Kilroy, Daniels & O'Rourke 2023:1) refers to disruptions like noise from equipment alarms, patient call-bell systems, and other environmental noise, which, unfortunately, are still accepted as the norm in many CCUs. These researchers also mention disruptions during handover from people. According to this study, nursing staff also complained about other CCNs and colleagues interrupting the handover to interject with irrelevant information or requests, causing a pause in the flow of information and often leading to missed information and errors (Vanderzwan et al 2023:1). Patients and family often see handover as an opportunity to ask questions or seek assistance, resulting in disruptions and privacy issues (Vanderzwan et al 2023:1).

In some facilities, error reporting is encouraged, while in others, the disciplinary measures to enforce policy are seen as punitive and therefore discourage incident or error reporting (WHO, 2021:55). Handover-related errors are mostly unreported, leading to missed opportunities to take corrective measures for patient treatment and to find working solutions to real and common patient safety risks. Therefore, a conducive environment is needed to correct handover errors and to maintain ethical practice (Ghonem& El-Husany 2023:2).

2.7.3 Complexity of handover and limited resources

The healthcare system has become more complex, as nurse practitioners are now responsible for the care of critically ill patients, leading to an increase in handovers and potential new problems (Schiavi et al 2023:9). High-risk environments such as CCUs, EDs, operating theatres, and maternity wards commonly use verbal communication to expedite the process. However, the complexities of the CCU environment and patient acuity can impact workflow, patient safety, and the transfer of information (Etemadifar et al 2021:2). Previously, the general and trauma units had to treat patients with multi-organ dysfunction while the other CCUs were

nursing patients with single organ dysfunction (Mamalelala et al 2023:73). This is no longer the case due to bed shortages and understaffing.

Bourne et al (2023:2) suggest that the key to effective handover practice in the CCU begins with understanding the complexity of this environment. In their study, Bourne et al (2023:2) state that the CCU is an integration of people, processes, and technology to achieve a very delicate balance between patient outcomes and safety. Therefore, prevention of errors in the CCU requires effective interprofessional teamwork and communication, as it depends on complex inter-relationships to deliver safe healthcare (Dietl et al 2023:4).

In South Africa, staff shortages are exacerbated by a lack of trained nurses with post-basic qualifications in the CCU, leading to a staff complement mainly comprised of newly qualified RNs and ENs (Mamalelala et al 2023:73). Obaia et al (2023:80) and Schiavi et al (2023:9) suggest that staff fatigue, job stress, and limited human resources can contribute to ineffective handover practices, which are often performed without adequate staffing or access to information. Sufficient working equipment, like infusion pumps and medication supplies, is essential and must be made available to prevent common challenges (WHO 2021:31). CCNs often make compromises to ensure that patient care tasks are prioritised over record-keeping and handover processes because South Africa is a resource-poor country (Mamalelala et al 2023:73). Hence the format of the SHO and the quality of the information may vary considerably depending on the knowledge levels, experiences and skills of the CCN.

Open CCUs without privacy can lead to noise and interruptions during handover. Additionally, patient confidentiality may be compromised, and the process may be cut short due to the discomfort of giving a report in an intimidating open space (Paredes-Garza et al 2022:4315). Given that the quality of handover has implications for patient safety and recovery, ineffective handover communication has been a major concern for over two decades (Vanderzwan et al 2023:1).

Handover within diverse cultural and organisational structures should include elements such as a conducive environment, sufficient working equipment, knowledgeable and skilled CCNs, sufficient uninterrupted time for handover, and more (Obaia et al 2023:80; Mamalelala et al 2023:73). Despite the presence of electronic medical records, an increase in handovers often results in greater information loss, complicating the communication of complex information and potentially compromising the integrity of handover. According to Schiavi et al (2023:10), handover failure is attributed to information degradation and loss, exacerbated by frequent handovers or, in some cases, the absence of handover within complex, busy CCUs.

2.7.4 Lack of guidelines for handover content

A lack of controls like standard operating procedures and infrastructure contributes to poor quality handover (Liu et al 2023:7). Many studies indicate that protocols for handover practice promote efficiency and coherence through structured information exchange (Ghonem & El-Husany 2023:2-3; Liu et al 2023:7). According to Pun (2021:2), inconsistency in handover practices is common, despite many available protocols, such as I-PASS and ISBAR.

Omission of significant details due to a lack of structure can interfere with clinical judgement and treatment decisions (Mulfiyanti & Satriana 2022:377). According to Liu et al (2023:7), the SBAR method has been used across the spectrum of clinical settings to provide a minimum data set to alleviate this problem. However, a more comprehensive structure is required for CCUs due to the acuity and detail required for the handover of CC patients (Alamrani 2022:1501-2; Pun 2021:2).

2.7.5 Record-keeping, accessibility, and completeness of information

Accuracy and completeness of documented and verbal reports are important for handover to be effective and to enable CCNs to provide high-quality, safe care. Ghonem and El-Husany (2023) state that nurses' ability to communicate, report, and record is a crucial responsibility that contributes to the effectiveness of handover. A lack of good quality written documentation can contribute to disruption of care (Chien et al 2022:1414). However, well-documented doctors' notes are not always available on CCU flow sheets. The information system used may have little to no effect on the quality of handover, as documentation of relevant, accurate information is key, irrespective of whether it is in digital or manual form (Schiavi et al 2023:9).

Verbal handover alone is insufficient to maintain a reliable chain of communication and may be better supported with transfer documents and handover checklists in specialised units (Leigh et al 2021:2). According to Alberta et al (2018:2), the failure to share patient information accurately at the right time may lead to patient safety risks and poor service delivery.

2.7.6 Bilingualism or multilingualism

In Hong Kong, where the CCNs' first language is not English, there is often some difficulty with communication of patient information without switching to vernacular (Pun 2023:2). In this article, Pun suggests that the handover guidelines should be made available in both Cantonese and English (Pun 2023:7). South African nurses often switch from English to African languages or Afrikaans. This creates difficulty for non-speakers of a language to follow the handover and gain a full understanding, causing misinterpretation and information loss (Hashish et al 2023:12). While it may be acceptable to expect bilingualism in the context of the Hong Kong study, it would be unrealistic with South Africa's diversity of languages and

foreign nationals that are part of our IPTs and patient complements. Therefore, English remains the official language in the Gauteng province. Abou Hashish et al (2023:12) concur that failing to keep to the official language of the institution and confirm understanding during handover is disrespectful to the receiving CCN and should not be overlooked.

2.8 Consequences of ineffective handover

Inefficient handover communication results from a lack of structure, interferes with exchange of relevant patient information, and may have moderate to severe consequences for patient safety and CoC, including miscommunication, errors, omissions of vital information, and consequent delays in patient care or life-threatening situations (Helal et al 2022:28). Handover protocols aim to reduce these dire consequences for patient safety through improvement of the quality of handover practices. (Pun 2021:2).

Ineffective handover communication can lead to disruption of patient information flow between shift nurses during handover (Vanderzwan et al 2023:3). Disruption of information transfer can compromise patient safety and raise medical costs due to errors and the need for additional corrective measures to prevent further complications and delayed recovery (Mulfiyanti & Satriana 2022:377; Vanderzwan et al 2023:1).

A lack of structure can result in haphazard reports that are inaccurate, incomplete, or irrelevant (Ghonem & El-Husany 2023:2-3). This can contribute to increased communication-related patient safety risk. Information loss, misinterpretation, duplication, ambiguity, or even wrong information being transmitted during handover can lead to multiple adverse events (Schiavi et al 2023:9). According to Obaia et al (2023:79), nurses often spend more time searching for information to prevent handover-related adverse events. Missed treatment, duplication, incorrect treatment, confusion about treatment, and even delays in rendering care reduce patient safety and cause harm to patients (Obaia et al 2023:80).

Ineffective handover does not maintain a smooth continuous flow of information, compromising both safety and CoC (Obaia et al 2023:79). The consequences of poor quality care may increase medico-legal risks and/or patient safety incidents, delayed treatment, mistakes, and, eventually, loss of trust in medical professionals (Temsah et al 2022:1572). Ineffective communication can cause any of several problems in the patient care pathway-treatment delays, omissions, mistakes, or duplication of care with the consequent wastage of resources and risk to patient safety (Alberta et al 2018:2; Chien et al 2022:1414).

Ineffective handover contributes to disruptions in patient care and increases risks to patient safety (Chien et al 2022:1414-5). Consequently, there may be misleading information that can influence treatment priorities like what to omit and what to continue doing (Alberta et al

2018:2). Hence, nurses' understanding of the patient care plan greatly influences the quality of the communicated content.

Ineffective handover may also lead to errors in assessment, diagnosis, and treatment due to communication of wrong information. Opinions, rather than facts and evidence, often cloud judgement, leading to wrong decisions being made and essential care being omitted (Alberta et al 2018:2). The opposite can also happen, where unnecessary treatment may be continued or recommenced, stemming from misleading information, with the consequent wastage of time and resources, with the burden of increased costs to the patient (Helal et al 2022:28).

2.9 Conclusion

After conducting a literature review, it became clear that despite numerous studies conducted over the last 20 years, there are still many gaps in research regarding handover. The CC nursing environment is constantly changing, and this presents new daily challenges for CCNs. Finding a solution to ineffective handover seems to raise more questions than answers, and due to differences in culture, economic status, and organisational structure within private and public services, there is no one-size-fits-all solution to the problem. As a result, this study aimed to uncover new insights and a deeper understanding of the facilitators of and barriers to handover practice.

Chapter 3 – Methodology

3.1 Introduction

This study was conducted to explore the factors that affect the SHO process for CCNs in the CCU. A specific research design was used to collect and analyse data to understand what influences the handover process positively or negatively (Gray & Grove 2021:314). To ensure the credibility and reliability of the research, a systematic approach was employed for data collection, analysis, and reporting of findings (Creswell & Creswell 2023:18).

This chapter describes the study plan used to collect the data and the measures taken to ensure the integrity of the research process. It includes a discussion of the research design, sample population selection, study location, data collection methods and techniques, and data analysis methods. The chapter outlines the steps taken to ensure the rigorous implementation of the study and the ethical considerations taken to protect the identities and interests of the participants and institutions involved (Gray & Grove 2021:315). This methodology chapter justifies the decisions made in the study and explains why alternative methods, approaches, or processes were not appropriate.

3.2 Philosophical assumptions

An assumption is a belief that may not be based on facts and therefore can be incorrect. Research helps to determine the accuracy of such beliefs (Creswell & Creswell 2021:4). Our worldview, or how we perceive the world, is shaped by our experiences and exposure to different cultures and societies (Creswell & Creswell 2023:6). Our life experiences and what we learn play a role in shaping our future and the decisions we make (Gray & Grove 2021:95). Other factors that influence our worldview include our geographical location and our cultural and social exposure (Creswell & Creswell 2023:10). Exposure to different situations encourages us to ask questions and seek answers (Gray & Grove 2021:95).

A worldview helps us organise our thoughts and interpret what we observe or experience (Creswell & Creswell 2023:8). It provides us with a way of thinking about how we learn and understand the world around us. Our experiences and interactions with people and the environment shape our perception of the world (Gray & Grove 2021:75).

The researcher used the constructivist paradigm for this study. The researcher believes that nurses' experiences can influence their thinking and actions, as they serve as a reference for future knowledge, skills, and attitudes. Caring for patients is considered a noble service to

those who are ill and vulnerable, and patients have the right to safe care. The handover process is crucial to maintaining patient safety in the CCU. Caring for critically ill patients requires a higher level of thinking and adherence to a set of ethical and moral values, and thus CCNs must follow the nurses' code of ethics to protect patients from harm through teamwork and effective handover practice. The researcher conducted this study to increase knowledge and understanding of the facilitators of and barriers to simple handover processes in an increasingly complex environment.

Epistemology is concerned with the process of knowing and acquiring knowledge (Pope & Mays 2020:17). It focuses on the structures and formats used to gain knowledge, rather than the actual information. Each person has their own unique philosophy, beliefs, and values that shape their thinking, attitudes, and actions (Creswell & Creswell 2023:9). At the same time, external factors such as culture, history, and geography can also influence their experiences (Pope & Mays 2020:20; Creswell & Creswell 2023:10). In this study, participants were asked to share their experiences of the handover process. The study aimed to explore and describe the facilitators and barriers during SHO in the CCU. Participants were asked to reflect on their handover experiences that met this aim.

Ontology, on the other hand, allows us to ask questions about what is real (Pope & Mays 2020:16). It refers to the nature of the world and how it is experienced (Creswell & Creswell 2023:8). Constructivists gather experiential knowledge by assigning meanings and interpretations to reality (Creswell & Creswell 2023:9). In the case of CCNs, they must interact with each other in a specific environment, such as the CCU. Therefore, much of the data collected were based on their interactions and experiences within this environment, which shape their knowledge base. This study aimed to explore and describe the facilitators and barriers during SHO between CCNs, using their reflections, meanings, and viewpoints about handover in the CCU. Without data from the CCNs who described the facilitators and barriers experienced by the CCNs, we could not gain knowledge about the reality of their experiences during SHO.

The positivist approach to understanding the world relies on scientific proof and facts to test cause-and-effect relationships (Creswell & Creswell 2023:8). It acknowledges that there are no absolute truths, and that knowledge can only be gained through studies based on data, evidence and rationale when studying human behaviour and actions.

In contrast, the constructivist worldview is commonly used in qualitative research because it values the subjective meanings and complex nature of the human experience (Creswell & Creswell 2023:7). Constructivism helps to explore and describe phenomena, events, or situations as experienced in the natural environment (Creswell & Creswell 2023:9). People

gain knowledge through exposure to experiences, which is why constructivism is appropriate for studying the subjective nature of human experiences (Gray & Grove 2021:77).

In this study, the researcher used the constructivist paradigm. According to this paradigm, people shape knowledge, meaning, or truth from their intelligence, interaction with the world and through their own experiences to construct meaning related to the situation, event, or phenomenon (Gray & Grove 2021:77). Each person has their own unique experience of the world, through emotions and thoughts that originate in physical sensation experience (Creswell & Creswell 2023:7). The personal experience of an event or situation is internalised to build new knowledge from previous experiences (Creswell & Creswell 2023:9).

The researcher considered the deeper meaning derived from emotions, feelings, and beliefs about the handover experience, and collected data from the CCN participants who performed handover in the CCU environment daily because their experiences of the handover process became relevant. The CCNs gave an account of their handover experiences and what they perceived as facilitators of or barriers to the process. Therefore, the constructivist approach was appropriate for this study.

3.3 Research design

A research design was necessary to conduct the study. The purpose was to clearly explain the idea, concept, theory, or assumption behind the project, as well as to justify its necessity (Creswell & Creswell 2023:17). The design served as a blueprint for the steps that were taken to ensure that the research question was answered and how this aim was achieved. The plan determined the requirements, such as the expected outcome type, necessary process, and budget, stakeholders involved, and potential risks (Gray & Grove 2021:75).

The type of question determined the type of data required to answer it, which helped to determine the appropriate design or approach needed for the study (Creswell & Creswell 2023:18). The research design clarified each step, ensuring that the process was systematic, organised, and logical. It also allowed for appropriate controls needed for data collection and analysis (Creswell & Creswell 2023:192).

Furthermore, the research design served as a map of comparison to explain whether the study process was followed as intended by the researcher. The data collection process was clearly described so that the study could be duplicated with a similar population, in a similar context. The researcher followed a rigorous process to prevent external factors from influencing the results and to avoid biases. This approach also helped to maintain credibility (Creswell &

Creswell 2023:103). The researcher used a systematic research approach to strengthen the data and find the answers to the research question (Creswell & Creswell 2023:192).

For this study, a qualitative approach was chosen. The design used was exploratory and descriptive. It aimed to explore and describe the facilitators of and barriers to SHO as experienced by CCNs in CCUs. The qualitative approach and exploratory and descriptive design are described further in the subsections below.

3.3.1 Qualitative design

A qualitative design is necessary when researching subjective data, such as human experiences, phenomena, or events (Gray & Grove 2021:75). It provides new insights and knowledge where little research has been done in an area (Creswell & Creswell 2023:116).

The researcher aimed to understand the facilitators and barriers experienced by CCNs during SHO in the CCU. Statistical analysis and objective design alone could not answer the research question, as they lacked the human element of experience. Exploratory research considers the subjective experiences of participants, building an understanding of their thinking around a phenomenon (Gray & Grove 2021:75,80). This study required participants to share their experiences of SHO in the CCU. The study depended on the wealth of experience of CCNs, and, therefore, a written, semi-structured question guide was used to allow CCNs to reflect on and tell the researcher about the facilitators of and barriers to SHO as they had experienced it during their shifts in the CCU. This approach provides detailed and descriptive information that is used to solve real-life and process-related problems, in this study, the CCU as experienced by CCNs during the handover process. Understanding the environment, patient needs, and healthcare-related factors is necessary for ensuring effective healthcare delivery (Gray & Grove 2021:75).

This type of qualitative design was appropriate because the research was conducted to understand the problem better for the benefit of patients and healthcare (Gray & Grove 2021:80). It required an exploratory descriptive type of study to answer the research question and meet the study's objectives (Gray & Grove 2021:75).

3.3.1.1 Exploratory research

Exploratory research conducted to delve deeper into subjective matters may bring new insights into answering the “how” and “why” questions that help increase knowledge within a specific field or discipline (Gray & Grove 2021:95). This type of qualitative approach enables researchers to familiarise themselves with a phenomenon and gain a deeper understanding of it (Gray & Grove 2023:80).

As a result, it is possible to uncover relationships between concepts and consider all aspects of the problem. The researcher set out to explore CCNs' experiences during SHO that may be unique to this context and that could enable the researcher to uncover new ideas and thoughts about what they experienced in the CCU. Due to the flexibility and adaptability of the exploratory research method, the written questions were semi-structured. This method allowed the researcher to explore and analyse the experiences of CCNs using semi-structured questions about the facilitators of and barriers to SHO they have experienced. In the CCU, the subjectivity and uniqueness of the experiences written by CCNs about their handover experiences in CCU assisted in exploring the questions relating to what helps or does not help with receiving or handing over the patient.

3.3.1.2 Descriptive research

Descriptions convey meaningful, detailed information like functions, attributes, and characteristics about people, groups, or situations. It helps to provide a detailed account of relationships and variables. In this study, the CCNs described factors that affect the handover function (Creswell & Creswell 2023:15).

Descriptive research is more structured and requires planning for analysis because it relates the facts and has some direction as to the outcome (Creswell & Creswell 2023:75). This method is appropriate when identifying problems, making judgements, and formulating theories. The descriptive method was adopted in this study, as the researcher collected data about the CCNs' experiences of a phenomenon in the clinical environment.

This study adopted the exploratory descriptive research approach, a term used to describe qualitative research that did not follow a specific method (Gray & Grove 2021:93). This approach allowed the researcher to gather information without using a predetermined measuring tool.

The participants were asked semi-structured questions that allowed them to describe their experiences. Primary data was collected and was written by the participants in their own words.

The combined approach helped to gain a deeper understanding of the facilitators of and barriers to the handover process in the CCU. As a result, the data was interpreted more meaningfully, and the findings were presented descriptively and comprehensively (Gray & Grove 2021:93).

3.4 Context

The study was conducted in a private hospital located in Gauteng. It focused on three CCU for adult admissions. These units were the primary areas of interest as their bed capacity and staff numbers were large enough, with a staff complement of more than 100. CCN were asked to relate their experiences of events or incidents which contributed to facilitators and barriers during SHO that caused disruption of care or possibly compromised patient safety.

3.5 Population

The study was conducted among the full-time staff of three units who had at least six months of experience in the CCU and were directly involved in the care of critically ill patients (Gray & Grove 2021:411). This meant that the study was open to all CCNs, including shift leaders and unit managers, as they also provided direct care to patients in the CCU. ENs in the CCU also satisfied these criteria due to their job description in the CCU, which enabled them to provide direct nursing care to ill but stable patients under the direct supervision of the RN, or the shift leader. ENs also take and give bedside handover, while shift leader to shift leader handover is performed at a supervisory level. To ensure heterogeneity in the study, all nursing staff who provided direct care to patients during their 12-hour shifts, according to their scope of practice as legislated by the SANC, were included. Hence, EN were included, but auxiliary nurses and care workers were excluded from the study. The study was not restricted to senior staff in terms of experience, training, or expertise. This approach was considered suitable for maintaining heterogeneity and ensuring that the data collected reflected the diverse experiences of the participating CCNs.

3.6 Selection of participants

The sample size selected for the qualitative study represented the total population of interest and was chosen from those who were eligible to participate (Gray & Grove 2021:412). In this case, the sampling method used was purposive sampling, due to the suitability and accessibility of the participants (Gray & Grove 2021:429). To adequately explore the facilitators and barriers to SHO in the CCU, a sufficiently large sample size was necessary. To prevent the collection of excessive data, we established a minimum of 12 participants, and additional data collection was conducted until saturation was reached. The maximum number of participants could not be decided in advance. In this study, consent forms and narrative guides were distributed to unit managers for at least three days, on a first-come, first-served basis, with three to four narrative guides per unit. Completed consent forms indicated that the participant was aware of and understood the research process and influenced the distribution

of narrative guides. The researcher was available for questions during the day and conducted rounds in the units to avoid disrupting nursing care. The number of participants was determined based on the data collected on the first day, as data analysis began immediately.

3.6.1 Inclusion criteria

Specific criteria must be met for participant eligibility (Gray & Grove 2021:413). The CCNs possessed valuable experience and insights regarding the handover process. These experiences were shared while answering questions from the narrative guides. The CCNs had to meet the following inclusion criteria:

- They should have had at least six months of working experience in a CCU.
- They had to have been directly involved in providing nursing care to CCU patients, such as being an RN or EN.
- They had to have been working exclusively at the hospital as full-time staff.
- The candidate could only participate after attending the briefing and signing a consent form, with all doubts and questions addressed.

3.6.2 Exclusion criteria

Any staff who did not provide direct patient care were not eligible to participate, as they would not be required to do a SHO. Further exclusion criteria are listed below:

- CCU staff who were not RNs or ENs, did not render direct care to patients and were not eligible to participate.
- CCNs with less than six months of experience in the CCU were not eligible to participate due to a lack of experience with the handover process and the nursing process in the CCU.
- CCNs working in non-adult CCUs were not included due to differences in the patient cohorts, which influenced acuities and other aspects related to SHO.

These exclusion criteria were necessary to ensure that data was collected from the right participants with the required expertise to answer the research question.

3.7 Data collection method

The researcher wanted to explore and describe the facilitators and barriers experienced by CCNs during SHO. Qualitative data was required to answer the research question and to find depth and meaning in the participant responses. The researcher designed and used a two-

section narrative guide (Annexure C). The narrative guide was designed to maintain a high degree of privacy and anonymity for the participants, as it did not require any form of identification. Section A comprised demographic data, which provided a better understanding of the participants concerning their roles and qualifications related to the work in the CCUs (Annexure C – Section A).

The research question was formulated based on the problems experienced by CCNs, and the core study questions were designed to explore and describe the facilitators of and barriers to SHO in the CCU. Section B consisted of two semi-structured questions that formed the core data required for this study. Participants were asked to write about one or more events that were helpful for or a hindrance to the SHO process. The questions were designed to separate the events into positive and negative experiences, which provided the researcher with more insight into the facilitators and barriers to SHO in the CCUs.

Participants were asked to provide details about their own experiences related to their work, including their qualifications and experience. They were also asked to reflect on specific incidents or events related to handovers in the CCUs. This allowed the participants to share their experiences and provided a voice to the people who experienced the SHO in the CCU daily. The narrative guides were designed to eliminate any observer bias and allowed the participants to provide written responses, giving them time to reflect on their experiences. This helped encourage honest feedback and reduced the pressure of spontaneous face-to-face interviews.

3.8 Data collection process

The researcher obtained permission from the unit managers for a briefing session(s) in each unit. Consent forms and narrative guides were made available from the unit manager, to reduce researcher bias. Awareness of the research to be conducted was raised in the three units through briefing sessions with each unit manager before approaching staff. This was done over two days to ensure that all unit managers or shift leaders of the three units could be consulted as needed. Interest in participation was assessed at regular intervals during the day for the day staff and early in the morning for the night staff.

The discussion did not cover the actual questions in the narrative guides. However, the researcher discussed the title of the study, the purpose, aim, and objectives of the study, and all ethical principles considered. The data collection process was explained. Issues of confidentiality, handwriting recognition, use of words that could identify participants, and more were addressed so that participants would be at ease and answer the questions openly and honestly.

The participants were informed that the data must not be identifiable. Therefore, no names, dates, units, or any other identifying information was to be written anywhere on the narrative guides or the envelopes. A second briefing was arranged for staff with concerns and questions about the research. After all the questions and misconceptions regarding the study were clarified, the interested CCN obtained a consent form from the unit manager.

Voluntary participants were given a consent form to complete and sign. Once there were no further questions or concerns, the participants were handed an unmarked envelope containing narrative guides that could be completed anywhere and at any time. Completed narrative guides were then placed in a box at the unit manager's office for collection by the researcher on alternate days. Online responses were not a feasible option as many staff experienced power cuts, had no data connection or email addresses, or were not computer-literate. Typing on smart devices would have been time-consuming and a hindrance to the data collection process. Therefore, completing narrative guides was the simplest, quickest method for data collection that would be cost-effective with a higher return rate.

The researcher did unit rounds to deliver consent forms and written response guides according to the number of willing participants. To ensure diversification across disciplines and ranks, each unit was given four consent forms and four narrative guides to maintain the minimum target dataset of 10-15 participants (Gray & Grove 2021:412). This was done to ensure that all eligible CCNs had a fair chance of participating in the study.

The narrative guides allowed privacy and confidentiality for the participants, as the facility had spatial constraints. Remote interviews were not possible due to network problems, power outages, and a lack of skills or access to technology. It also took into account the problem of time constraints and the shortage of staff in CCUs.

The narrative guides were opened and read by the researcher upon collection. This helped to determine whether the amount of data collected was sufficient or if more participants should respond, as data collection and analysis were done concurrently.

3.9 Data organisation

The researcher kept an account of the number of narrative guides received, and their unique ID codes on a spreadsheet. As each narrative guide was accessed and read, it was given a random code for association of the data, without compromising participant anonymity and confidentiality. The codes were allocated according to the CCNs' ranks so that their level of accountability and responsibility could be considered, such as RN 001, EN 002, and so on.

3.10 Data analysis

Collection, organisation, and analysis of the data were carried out concurrently until data saturation was reached (Creswell and Creswell 2023:198). Data collection was stopped once the data became repetitive, and no new keywords or phrases were retrieved. Immersion in the data was achieved through reading the data multiple times.

The following steps were taken by the researcher during Tesch's thematic analysis process, as illustrated in Creswell and Creswell (2023:210):

1. Data immersion: The researcher read through the written responses multiple times to allow full immersion in the data to become familiar with the dataset and gain context. Keywords and phrases in the data were highlighted, and any comments or notes were recorded on sticky notes attached to the narrative guides.
2. Generating initial codes: Once the process of step 1 had been completed for several data sets, initial codes were derived. The codes represented meaningful words and phrases or patterns in the data. Each theme was clearly defined and given a descriptive name that related to the underlying meaning of the data.
3. Finding themes: Recurrent patterns, concepts, or topics were grouped, and similar codes were grouped to form themes.
4. Review of themes: The relevance of the themes and subthemes were evaluated for their importance to the study's purpose. Each theme was reviewed to capture the essence of the data. Themes were then refined by merging or separating them into new themes.
5. Defining themes: Each theme was given a clear definition and a descriptive name relating to the underlying meanings of the data. To eliminate ambiguity and repetition a mind-mapping approach was used to indicate the relationships between themes.
6. Review of themes: The relevance of the themes and subthemes were evaluated for their importance to the study's purpose. Each theme was reviewed to capture the essence of the data. Themes were then refined to be merged or separated into new themes.
7. Preliminary analysis: The list of subthemes, with codes under each main theme was finalised. Outlying data was also considered to determine any limitations of the study, new concepts, experiences, or ideas relevant to the study's aim. The main themes explored and described were facilitators and barriers during SHO between CCNs. Four facilitator subthemes identified were effective teamwork, effective communication, detailed handover, and comprehensive handover notes. The six barrier subthemes

identified were ineffective communication, lack of comprehensive handover, incomplete handover notes, negative attitudes and late coming.

8. Writing the findings: A descriptive passage was created to describe the data and its relationship with the relevant themes and subthemes. The findings were then written into a report with supporting evidence from the data. A descriptive passage was written to describe the emergent themes and subthemes, and their relationships. This passage included a detailed discussion of how events unfolded, according to the participants' experiences. The emergent themes and subthemes were identified as facilitators of or barriers to SHO as experienced by CCNs in the CCU.

3.11 Research rigour

Rigour is the justification or motivation for how the study quality was maintained or enhanced. The characteristic that must be ensured is trustworthiness (Gray & Grove 2021:546). These qualities are essential for a strong research design and to ensure that the research question is answered with the desired contributions to the body of knowledge and the benefits for all the stakeholders. According to Creswell and Creswell (2023:214), Lincoln and Guba's four criteria for trustworthiness are the golden standard for ensuring the rigour of a qualitative study. If these criteria are satisfied, the research findings and interpretation of the data provided by participants closely reflect the aims of the study.

3.11.1 Credibility

Refers to the strength of the study based on the truth of data interpretations. The researcher should carry out the study in a believable manner, in terms of the findings. The researcher should also ensure that external readers will find the study credible (Creswell & Creswell 2023:546). Peer debriefing is a form of triangulation that allows the researcher to verify the interpretations with the supervisor and co-supervisor. During the data analysis process, weekly debriefing sessions were held, according to need, to ensure that the researcher interpreted the data accurately and that the emerging themes and categories elicited from the data were the same or similar. Notes of all the data read and interpreted had to be kept so they could be clarified (Creswell & Creswell 2023:213). The original written responses were used to check that the interpretations were accurate.

3.11.2 Dependability

Dependability looks at the reliability or stability of data over time (Gray & Grove 2021:546). Credibility cannot be attained without dependability. It is a parallel to validity in quantitative studies. This means that the design must be clear so that the study can be repeated within a

similar context or with similar participants and still yield findings that are not very different (Creswell & Creswell 2023:218). The stability of the data and its meaning can be established through meticulous record-keeping of the data collection and analysis processes. These may be audited by the university or the facility, if required, to provide a means of gaining confidence in the data. All the materials for the data collection and the data itself will be assembled for the audit process should it be required by the university.

3.11.3 Confirmability

Confirmability is an essential research criterion that states that the meaning of the data provided should be agreed upon by at least two people (Gray & Grove 2021:546). This ensures that the data interpretation is accurate and truly reflects what the participants have said. Data triangulation, which is the use of multiple sources of data, allowed for increased confidence in the data, as it was obtained from more than one participant (Creswell & Creswell 2023:213). Literature was used to further strengthen the accuracy of the findings in this study (Creswell & Creswell 2023:213). As a CCN and a clinical facilitator, the researcher was careful not to impose her thoughts, opinions, or experiences on the data (Creswell & Creswell 2023:99). To prevent this, a reflexive journal was maintained. Investigator triangulation, which involved interpretation by the researcher and supervisors, verified that the meanings derived from the transcripts were accurate by reducing the researcher's bias (Gray & Grove 2021:546). An audit trail was maintained throughout the data collection process, which included the original data provided by the participants, as well as notes on the data organisation and analysis process (Creswell & Creswell 2023:214). The pilot study was documented and traceable to ensure the accuracy of the data collection process. Drafts of the final report were included as part of the data trail.

3.11.4 Transferability

Transferability is comparable to generalisability and the research can be applied to more than one setting or group (Gray & Grove 2021:548). The researcher must therefore provide sufficient descriptive data so that the readers can evaluate the study for its transferability to another similar setting. The researcher must ensure that the discussion and findings contain thick descriptions so that important information is not omitted and to give the reader a clear understanding of the process followed, and the experiences of the participants according to the data they provided (Creswell & Creswell 2023:223). Direct quotes from the participants also give a vivid explanation and strengthen the authenticity of the study.

3.12 Ethical considerations

All ethical considerations are a statement by the researcher of all possible effects of the research on people and the environment (Pope & Mays 2020:29). This is to ensure that any potential risks are counteracted with some intervention by the researcher so that the benefits of performing the study outweigh the risks (Pope & Mays 2020:28). Any research conducted requires ethical approval from the relevant institutions and governing bodies to ensure that there are minimal risks to both living and non-living entities that may be impacted by the study (Pope & Mays 2020:29).

In nursing, ethical values of privacy, confidentiality, beneficence, non-maleficence, and others form the foundation of the trust relationship between nurses and patients. In research, the ethical value of the researcher has a subtle influence on the type of study the researcher is more likely to lean towards (Gray & Grove 2021:76). Qualitative researchers value the description of the participants' experiences rather than objective data such as facts and figures (Creswell & Creswell 2023:67). Outliers in the data can yield a new concept or phenomenon that was not previously noticed, and this may lead to other areas of interest that may require new studies (Creswell & Creswell 2023:210). The researcher remained unbiased and open-minded to all possible information given by the CCNs, valuing the information provided.

The researcher was committed to upholding ethical guidelines to ensure the safety and well-being of all participants involved. To this end, the application was submitted to the Research Ethics Committee of the University of Pretoria's Faculty of Health Sciences. The permission letter was submitted to the nursing manager at the facility. Additionally, ethical approval was sought from the company research ethics committee, specifying where the study would be conducted, and all required documents were submitted per the standard operating procedure, including approval from the facility manager. It was also important to the researcher that no stakeholders were harmed in any way by the activities of the study but benefited in some way from the findings and recommendations (Creswell & Creswell 2023:99). 0020

Throughout the study, the participants' well-being remained a priority. The response guides, completed anonymously, were assigned codes by the researcher for data tracking to safeguard participants' health, privacy, and dignity. The study had no associated risks or incentives for participation (Creswell & Creswell 2023:99).

The Faculty of Health Sciences approved the study at the University of Pretoria with ethics reference no. 576/2023. Approval of data collection for a non-experimental study at the hospital was granted by the research ethics committee – number UNIV-2024-0017. The nursing services manager and the unit managers permitted the staff to be briefed.

3.12.1 Role of the researcher

The responsibility of a researcher is to maintain integrity during data collection and analysis, as their values, perceptions, and assumptions can influence the process (Gray & Grove 2021:76). In this study, the researcher was a trained and experienced CCN, who has worked in the CCU for many years. Therefore, qualitative researchers clarify their position concerning the study, to ensure transparency (Creswell and Creswell 2023:4). In this case, the researcher's own experiences of ineffective handover between CCNs in the CCU became a growing concern, which led to the need for conducting this study. The researcher identified with some of the experiences relayed by the participants, which could influence the data analysis and reporting process (Gray & Grove 2021:76).

Positioning helps the reader understand what characteristics or experiences have influenced the researcher (Gray & Grove 2021:76). Therefore, the researcher must reflect on their own experiences and knowledge, which may contaminate the data collection, analysis, or reporting process (Creswell & Creswell 2023:4,72). Self-awareness, through journaling and research team discussions, can assist in identifying how a study and participants affect the thinking of the researcher and vice versa. Reflexivity during each step of the research can bring to light researcher values and biases, so they can be known and separated from what the participants are saying in their accounts of the handover process in the CCU (Creswell & Creswell 2023:4,72).

The term "authenticity" refers to the researcher's ability to accurately reflect the interpretations of the participant data without altering its meaning (Creswell & Creswell 2023:215). This was ensured by accurately interpreting the data and verifying the discussions and findings through peer debriefing. To convey the participants' feelings and experiences more vividly, direct quotes of their words and phrases were used in this study. Participants were briefed on confidentiality and anonymity to ensure the authenticity of the data they provided. The written narrative guide was designed to allow participants to share their handover experiences in as much detail as possible. Participants completed the guide in privacy to give them time to reflect on their unique experiences. The researcher found the responses to be authentic during the data analysis process.

3.12.2 Privacy and confidentiality

To maintain privacy and confidentiality, no personal identification information was required, including name, ID number, and unit details (Pope & Mays 2020:34). The data sheet was not collected in person but was placed in a sealed envelope and deposited into a collection box, ensuring anonymity. To further ensure privacy, the quotations, words, and/or phrases used in

the data analysis were only traceable to the random reference code assigned to the narrative guide, and no individual's identity could be traced. The self-reported written approach was adopted to ensure the confidentiality of the participants' responses (Pope & Mays 2020:34). The written narrative guide had only a unique number, and no identification information was collected. Consent forms were placed in a separate box from the narrative guides. Only the researcher and supervisors had access to the data. If a participant chose to withdraw from the study, they could return the blank narrative guide to the unit manager without any negative consequences.

To ensure that no data could be associated with any participant, each narrative guides was only recognised through a unique number during the data organisation and analysis process. All participants were briefed regarding non-disclosure of dates and times, places, such as units, and identities when referring to incidents. If any detail was disclosed in any of the ways described, the researcher used pseudonyms and titles, such as “nurse X” or “on another occasion,” etc. The deeper meaning was sought, not the time, place, or person. Confidential comments were suitably anonymised in the final report to ensure that no participant could be singled out (Pope & Mays 2020:35).

3.12.3 Respect for human dignity

It was important to maintain respect for human rights. Non-discrimination was a crucial component of this study, and every participant was treated fairly, according to the inclusion criteria and the purpose of the study (Pope & Mays 2020:29).

Autonomy refers to the right to participate or not (Pope & Mays 2020:34). Participants were fully briefed on all relevant details regarding the study, including the study title, aims and objectives, participants' rights, and what the study required from them. The risks and benefits of the study were also discussed during the briefing session. No human was forced to participate in this study, The researcher considered any potential threat or harm to the participant’s well-being (Pope & Mays 2020:32). There were no negative consequences for non-participation.

The researcher briefed the unit managers on the research and the methods used. Staff received information and had an opportunity to clarify details of the topic, methods, and anything that might affect participants. The measures taken to ensure anonymity were explained to the participants, and questions were answered during the briefing. Informed consent forms (Annexure B) were signed by all participants before participation. Each consent form was placed in a separate box to eliminate the association between the consent and the completed written narrative guides when handed in.

Ethical approval was granted by the university's research ethics committee. The process for ethical approval was followed and the company's head office also reviewed and discussed the study before approval was granted. This process considered the rights of participants and the responsibilities of the researcher to protect personal information and participants' rights (Creswell & Creswell 2023:99). No participant could be affected in terms of employment, promotion, and so on, due to their decision to participate in the study or not. This promoted voluntary participation without obligation or coercion.

The data was managed and stored before, during, and after use, following the University of Pretoria's Research Policy (S5102/23), Research Data Management Policy (S 4417/17), and the Research Compliance Regulation S5103/23, all of which could be accessed on the website at https://library.up.ac.za/c.php?g=356288&p=2420390. The researcher may reuse the data for any subsequent studies, if applicable. This means all physical data (paper – originals) and/or any data was stored on a hard drive or memory stick for the duration of the study.

No unauthorised person(s) had access to the data other than the researcher and the supervisors. The data was stored safely as per the university's policies and procedures at the University of Pretoria, Department of Nursing Science, HW Snyman Building, room 8-38, 31 Bophelo Road Gezina, Pretoria. The researcher was required to share the findings of the study with the facility management and the university's research ethics committee.

3.12.4 Beneficence and non-maleficence

Research is conducted to benefit as many people as possible with minimal risk to people, entities, the environment, animals, and others (Pope & Mays 2020: 38). All the potential participants received the same information regarding the risks, benefits, and implications of the study with additional information to clarify any query from any individual. There were minimal risks, if any, to the participants due to the design ensuring a high degree of anonymity. It also held benefits for participants who wanted to participate in the research. Raising awareness about handover practices encouraged CCNs to reflect on their own experiences of SHO and, in turn, think about how they may contribute to improving handover practices. Recommendations arising from the improvement of nursing practice are expected to positively influence stakeholders in the CCU, including patients and management.

3.12.5 Informed consent

Informed consent is a means of ensuring that human rights are respected when research is conducted (Pope & Mays 2020:34). Ethical principles were maintained by requesting the CCNs to participate voluntarily. All participants were required to return a signed consent form, which was also a declaration that the participant decided to participate willingly. All the details

regarding the study title, aims, objectives, data collection process, and risks were revealed to the participants. They were also informed about the measures taken to protect their identity, as the data collection narrative guides did not require any form of identification. Any participant could withdraw from the study without any negative consequences.

3.13 Conclusion

The researcher described all the design and methodology aspects of qualitative research that were specifically applicable to this study. The measures taken to ensure that rigour strengthened the study design, and the findings were expected to benefit the stakeholders. The well-being of participants and institutional integrity were maintained within all reasonable expectations by the researcher and supervisors. The study aims and objectives were met with no repercussions for CCNs, including participants.

CHAPTER 4 – DISCUSSION

Exploring and Describing the Facilitators and Barriers during Shift Handover between Critical Care Nurses in a Private Hospital in Gauteng

Marlini Naidoo (MNur)[a], Isabel Coetzee-Prinsloo (PhD)[a], Ronell Leech (PhD)[a]

a) Department of Nursing Science, Faculty of Health Sciences, University of Pretoria, South Africa

Corresponding author: M Naidoo Email: marlini007@gmail.com

Abstract

Introduction: Nurses conduct shift handover to exchange vital patient care information at the beginning, during, and at the end of each shift. This can be done verbally, in writing, or via phone or video calls. Critical care nurses often prefer bedside handovers for better correlation with the patients' clinical condition and records.

Objective: To explore and describe the facilitators and barriers during shift handover between critical care nurses in a critical care unit.

Method: The researcher used an exploratory descriptive qualitative design to study critical care nurses with more than six months of experience in direct nursing care of critically ill/injured patients at a private hospital in the Gauteng province. Nurses completed a self-reported narrative guide, which was collected on alternate days from a sealed container in the unit manager's office.

Participants: The participants were registered and enrolled nurses working in the adult critical care unit with a minimum of six months of critical care experience.

Results: The study identified four facilitators and six barriers during the shift handover process between critical care nurses (CCN). The facilitators that enhanced and streamlined the shift handover (SHO) included effective teamwork, clear communication, detailed handover procedures, and comprehensive handover notes.

Conversely, the barriers that hindered or obstructed the flow of information during the SHO process were identified as ineffective communication, lack of comprehensive handover, incomplete handover notes, negative attitudes, unrealistic workload and tardiness.

Conclusion: The study aimed to explore facilitators and barriers that influence handover practices, with recommendations to address the barriers for the benefit of the organisation and

patients. Additionally, optimal handover practices may lead to improved patient feedback and higher nursing staff satisfaction and provide valuable insights for management.

Keywords: barriers, continuity of care, critical care nurse, critical care unit, facilitators, shift handover, patient safety

4.1 Background

The SHO process between nurses is a standard and compulsory procedure where vital patient care information is exchanged at the beginning, during, and at the end of each shift (Clari et al 2021:e51). This process can take on various forms, such as verbal, written, telephonic, or video calls, and is crucial for patients in CCUs who are at higher risk for handover-related adverse events due to complex illness and treatment regimens (Alamrani 2022:1504). Greater accuracy is essential for a successful SHO (Ghonem & El-Husany 2023:2; Mahran, Mekkawy, Ibrahim, Saber, Ali, Abbas et al 2024:42). CCNs prefer bedside SHO, as it promotes better correlation of the information provided with the patient's clinical condition and patient records (Clari et al 2021:e51).

Due to the shift change, SHO is required to ensure continuous information and workflow to ensure CCNs are in agreement regarding the care and management of critically ill/injured patients (Mahran et al 2024:42). Without SHO, there will be disruption of care and management (Alamrani 2022:1502). Hence, a verbal handover is the preferred method to bridge the gap and ensure continuation of care between shifts (Chien et al 2022:1414). Handover frequency increases with assignment or delegation changes and CCN movements for breaks and diagnostic tests outside the CCU (Mahran et al 2024).

The purpose of the SHO is to transfer a vast amount of information quickly and accurately. The receiving nurse can then assess the patient accurately, prioritise needs and implement care without unjustifiable omission (Chien et al 2022:1417). According to Ghonem and El-Husany (2023:2), the SHO is often rushed, inaccurate, or lacking essential detail, causing errors or delays in care. This leads to failure to prioritise patient needs, with the subsequent deterioration in patient condition, increased cost of medical care, and increased length of stay (Helal et al 2022:28; Mulfiyanti and Satriana 2022:377).

To maintain the purpose of SHO, it needs to be effectively communicated and must contain all the necessary current details and, most importantly, data relevant to the treatment regime (Pun 2021:1). Failing to maintain the purpose of SHO can result in adverse events, which may increase morbidity and/or mortality for some patients.

The shortage of trained registered nurses is becoming increasingly apparent in South African CCUs, leading to staff shortages and a lack of skilled nursing staff who are qualified for intensive care (Mamalelala et al 2023:73). Additional reasons for handover failure in CCUs include complaints about noise, time pressures, and a lack of equipment (Alamrani 2022:1504). Ghonem and El-Husany (2023:3) attribute poor SHO practice to a lack of training and supervision during handover, while Liu et al (2023:7) cite a lack of structure, format, and frameworks as the main reasons for this critical task.

4.2 Methods

4.2.1 Design

An explorative descriptive qualitative design was used for this study. The aim was to explore and describe the facilitators and barriers during SHO between CCNs. The design allowed participants to relate the practices that facilitated or hindered the handover process.

4.2.2 Setting

The study was conducted in a private hospital in Gauteng involving three adult CCUs with a bed capacity of 53 beds. The disciplines included CCNs from the general medical and surgery, neurology, neurosurgery, trauma, cardiology, vascular, and cardiothoracic surgery units.

4.2.3 Participants

CCNs currently providing direct care to CCU patients were required to have at least six months of CC experience to be eligible for participation. The participants were chosen through voluntary purposive sampling. Thirty narrative guides were distributed to participants who volunteered to participate in the study. Completed responses were returned by 22 participants. Data saturation was achieved with the analysis of 20 participants' feedback. The demographic data of the participants is summarised in Table 3.

4.2.4 Ethical considerations

The Faculty of Health Sciences approved the study at the University of Pretoria with ethics reference no. 576/2023. The research ethics committee granted approval for data collection for non-experimental research at the hospital (number UNIV-2024-0017). The hospital manager and nursing managers permitted the staff briefings. Table 3 below summarises participant data.

Table 3: Demographic data of the critical care nurses who participated in this qualitative study

Ref. no.	Undergraduate education	CCU years	Age	CCN education	Bed-side	Shift leader	Unit
RN 001	Diploma	>10	>50	Diploma		Yes	General
RN 002	Diploma	>2	30-40	Degree	Yes		Trauma
RN 003	Degree	>0.5	20-30	Experienced	Yes		Cardiology
RN004	Diploma	>10	40-50	Diploma		Yes	Cardiology
RN005	Diploma	>10	40-50	Diploma	Yes		Cardiology
RN006	Diploma	>0.5	40-50	Experienced	Yes		Cardiology
RN007	Degree	>10	>50	Diploma	Yes	Yes	General
RN008	Diploma	>10	40-50	Diploma		Yes	Cardiology
RN009	Diploma	>2	20-30	Certificate	Yes		Cardiology
RN010	Diploma	>10	>50	Experienced	Yes		General
RN011	degree	>10	30-40	Degree		Yes	Trauma
RN012	degree	>1	>50	Diploma		Yes	General
RN013	Diploma	>5	30-40	Certificate		Yes	All
RN 014	Diploma	>10	>50	Diploma	Yes		General/ Trauma
RN015	Diploma	>1	40-50	Certificate	Yes		Cardiology
RN016	Diploma	>2	30-40	Experienced	Yes		Trauma
RN017	Diploma	>10	>50	Experienced		Yes	General
RN 018	Diploma	>10	>50	Diploma	Yes	Yes	Cardiology/ General
RN019	Diploma	>10	>50	Experienced	Yes	Yes	Cardiology
RN020	Diploma	> 5	30-40	Certificate	Yes	Yes	Trauma
EN001	Certificate	>0.5	40-50	experienced	Yes		All
EN002	Certificate	>5	30-40	experience	Yes		Trauma

Participant reference numbers were based on RN or EN rank. Two participants were younger than 30 years. Ten participants had post-basic qualifications, four had a certificate in CC nursing, and seven were experienced. Eleven participants had more than 10 years of experience, one had more than five years of experience, and nine participants had six to 24 months of experience. More than 50% of participants fulfilled shift leader roles.

4.2.5 Data collection

Participants were briefed about the study at the staff meeting and in the units. Volunteers signed informed consent. Written responses were obtained from CCNs by handing out a self-reported interview guide with a unique number, which was returned once completed in a sealed envelope placed into a box in the unit manager's office. The time needed for completion was approximately 20-30 minutes. Envelopes were collected from the box on alternate days. The data collection process occurred from 13 June 2024 to 20 July 2024.

4.2.6 Data analysis

Tesch's eight-step data analysis method was used (Creswell & Creswell 2023:208). The researcher read through all the written responses, giving each one a code for purposes of cross-referencing. Then, all the data was read to gain a sense of it. The written responses were reread to gain an understanding of the meaning. Thoughts and main themes were noted on the sides and similar topics were grouped to form the themes. Themes were abbreviated as codes next to the appropriate text. Descriptive words for the themes were highlighted and formed into subthemes, which were reduced into the main subthemes, which fell under the main themes of facilitators or barriers. Data saturation was reached after 22 self-reported interview guides completed by CCNs. The supervisors co-coded the data with the researcher and agreed on the final themes and subthemes described in the table below.

4.2.7 Results

Facilitators and barriers experienced during SHO between CCN in the CCU are the main themes explored.

In this context, a facilitator refers to any factor that enhances, aids, or improves the efficiency and effectiveness of the SHO process, allowing it to run smoothly between CCN in the CCU. Conversely, a barrier denotes anything that hinders, obstructs, or disrupts the flow of information, making the SHO process challenging.

Each of the identified subthemes—four facilitators and six barriers—falls under the broader themes of facilitators and barriers. The subthemes are supported by participant quotes, which provide additional insight and strengthen the discussion. Further details are presented in Table 4 below.

Table 4: Facilitator, barriers, subthemes, and supporting quotes

FACILITATORS

Subthemes	Result	Supporting quotes
Effective teamwork	Participants described positive handover experiences in which their colleagues demonstrated support, professionalism, collaboration, and collegial rapport, making them feel like part of the team.	*"…Handover also develop partnership interaction between nurses and patients, promoting professionalism and enhancing internal communication amongst nurses" (RN 011)* *"…She took me to the patient so she can show me how…" (*RN 009)
Effective communication	Effective communication skills were highlighted as vital during SHO, as they impact continuity of care and patient safety. Some RNs experienced effective language skills, e.g. simplicity, conciseness and clarity. A focused recipient with active listening skills was also deemed important.	*"…finding a person who also truly listens to me and pays full attention to what I am saying..." (RN003)* *"…She also explained exactly what was done and what medication was given. The sequence of events was clearly explained in the treatment plan..." (RN014)*
Detailed handover	The verbal handover was complemented by well-documented patient records. Incidents and changes in the condition or treatment plan were clearly explained.	*"…Documented and reported to the doctor of the patient, who reported to be happy about the method of handling the situation. This taught me that is very important to hear about the handover…" RN007*
		"…She started by introducing the patient, the age and diagnosis. Also, she made me understand that the patient developed high temperature at night. This made it easier for me because I had to check the trends of the patient..." (RN002)
Comprehensive handover notes	The participants confirmed the use of written records and handover notes to improve the quality of the handover and to test the veracity of the information being transferred.	"…*You can take notes and read orders and notes from the multidisciplinary members involved so it's less likely to miss anything. There is a handover-specific section. This has improved the quality and efficiency of patient care because all the records are easily accessible..." (RN020)*

		"…Another thing that makes handover easier or that helps during handover is when you take handover from someone who documents every little detail that occurs during the day or night so that even if they forget to mention you can always go back to their documents and read it..." (RN003)

BARRIERS

Subthemes	Result	Supporting Quotes
Ineffective communication	Ineffective communication, resulting from a lack of focus, devalues the shift handover, which is to transfer responsibility and accountability for patient care. However, the lack of focus and participation during the handover process defeats this purpose. Some participants observed recipients reviewing written documentation, attending to the patient, or even beginning their work during the handover.	*"…nurse receiving the report / taking over the patient tends to browse… whilst report regarding the patient is given…", "…the nurse taking over is not listening attentively …" (RN004)* *"…Respect is needed between staff and shift leaders and proper approach needed...","… Wrong information most of the time…" (RN010)* *"…Receiver … has shifted focus to other things while you are busy with handover…" (RN005)*
Lack of comprehensive handover	Participants experienced short handovers of long-term patients. Based on the assumption that nothing had changed, omission of information can compromise patient safety. Perusal of handover notes for recent relevant information is needed to get a complete clinical picture.	*"…assumptions that detailed handover is not necessary, especially for long-stay patients…","…as you know Mr so and so. When handover is short, it causes omissions…"* (RN001)
		"…lack of formal handover, staff standardising because the patient has been in the unit for a long time…" RN020

Incomplete handover notes	Written documentation should complement verbal handovers to prevent treatment errors, delayed care, and wasted time, confirming previous actions. Participants noted that undocumented treatments lead to insufficient information for decision-making.	*"…Some actions were not documented, example potassium replacement, and the incomplete notes can lead to adverse events if the nurse of the next shift replaces the potassium again…" (RN004)*
		"…even if they forget…", "…you can go back to the document …but incomplete notes lead to adverse events if vital information is missed… " (RN003)
Negative attitudes	Participants indicated that negative attitudes from certain CCNs were detrimental to handover practices. Some nurses refused to listen when junior staff members handed over to them and were reluctant to clarify why certain care tasks were not completed. Others criticised everything at the bedside without paying attention to the handover report. A few shift leaders also displayed a negative attitude towards some CNNs, causing stress and conflict among the staff.	*"…and she replied, '…Because I say so...'. I did not like her response, … She could have replied in a better way…". (RN003)* *"…Clinical handover given in a language which is not ...makes a report to be difficult to be understood..." (RN011)* *"…The nurse became very upset…. She ended up not giving a full handover report about the patient..." (RN009)*
Unrealistic workload	Staff shortages in the CCU have affected the handover process, leading to disorganisation and hindering meticulous handovers due to increased workload from high volumes of acutely ill patients and unplanned admissions.	*"…Shortage of staff means that the nurses have to pair critically ill/injured patients, …, hence giving incomplete handover or missing out other important details…" (RN003)* *"… arrival of a patient from the operating theatre …made that handover impossible…. the attempt was abandoned to attend to the patient from theatre…." (RN018)*
Late coming	Participants expressed concerns about tardiness, which led to delayed patient assignments and improper handovers. This exacerbated ineffective shift handovers because essential information needed to assess patients, prioritise care, and implement the prescribed treatment was omitted.	*"…no proper clinical handover between day and night staff due to late coming…" (RN011)* *"…Due to late coming, the nurse didn't have enough information about the plan for the critically ill/injured patient…" (RN007)*

4.3 Discussion

4.3.1 Effective teamwork

Effective teamwork fosters positive morale despite the CC environments' time pressures and is instrumental for effective SHO in the CCU (Dietl et al 2023:2-3). While rapport and collaboration existed between CCNs, newcomers felt encouraged by the professionalism and guided SHOs they received (Seo et al 2022:3). Because the SHO often introduces unfamiliar modalities of care for novice CCNs, senior overseers must be aware of their limitations and provide mentoring for new CCNs to thrive in the CCU (Liu et al 2023:7). Additionally, the new CCNs appreciated the supportive environment, as it prevented feelings of inadequacy and promoted professional development (Seo et al 2022:3). Mutual understanding, collaboration, and shared reality improved teamwork among CCNs (Dietl et al 2023:2-3).

4.3.2 Effective communication

Based on the results of this study, it was clear that effective SHO requires effective communication (Helal et al 2022:28; Chien et al 2022:1414). Professional, systematic, and clear verbal communication uses the correct words in the proper context to contribute to effective communication. Therefore, nurses should use a language that is understood by the receiver (Hashish, Asiri & Alnajja 2023:12). Hashish et al (2023:2) concur that saying what we mean is important for the receiver to experience the benefit of the SHO, for its purpose to be met, and for the communication to be understood. Hence, the receiver should be an attentive listener, capable of communicating and asking questions to clarify uncertainties. Paredes-Garza et al (2022:4315) agree that clarification through questioning ensures that the correct SHO message is transferred, as it impacts the CCN; therefore, there is clarity regarding responsibilities being assigned and the care plan.

4.3.3 Detailed handover

Some nurses provide a clear picture of the patient's care while others omit the details necessary to proceed with the shift's activities (Helal et al 2022:37). Detailed handover includes the patient's identification, diagnosis, allergies, clinical history, and condition changes (Alamrani 2022:1501). Alignment of nursing and physician treatment plans is essential for patient safety (Chien et al 2022:1414-5) and understanding both sides can contribute to the best and safest person-centred care (Ghonem & El-Husany 2023:2). The CCNs expressed a desire for more information about the patient during the SHO, including clear guidelines and priorities. Incomplete reports hinder workflow processes, complicating prioritising and decision-making.

4.3.4 Comprehensive handover notes

Many participants alluded to the need to clarify information and find missed details in the clinical notes due to improper SHO. Without specific methods, guidelines, or policies, CCNs are left to figure things out for themselves. All nursing care activities depend on improperly synthesised data to ensure comprehensive handover at the end of the shift (Mahran et al 2024:38). Rushed attempts to fill in the gaps can result in a vicious cycle between subsequent receivers of the report, thereby increasing patient safety risks (Atinga, Gmaligan, Ayawine & Yambah 2024:5)

Therefore, the verbal handover must be backed up by a well-written handover report which includes accurate, current details that may affect care planning and coordination (Alamrani 2022:1506). The written report should include truthful information regarding patient care, any adverse events, and errors. It must be factual and accurate to assist the CCN who is not yet knowledgeable about the patient's condition or potential complications (Ghonem & El-Husany 2023:2).

4.3.5 The barriers during shift handover are discussed below

4.3.5.1 Ineffective communication

This stems from poor focus, misunderstanding, and disinterest. The CCN should gain the receiver's attention, complete the verbal handover, and then answer any questions (Dietl et al 2023:4). Participants felt disrespected by the receiving nurses who went on to do something else like reading the patient notes or checking the patient while the other CCN was handing over. Multitasking was therefore not well received and raised differences between CCNs. Disagreements and misunderstandings resulted in incongruent handover, with consequent delays in treatment while resolving discrepancies first (Mulfiyanti & Satriana 2022:377).

4.3.5.2 Lack of proper handover

The data showed that improper handover, especially of long-stay patients, caused SHO to be impersonal due to assumptions that the patient is known (Vanderzwan et al 2023:1). CCNs who received incomplete handovers, verified care given with the documentation. Minimal information transfer makes the handover ineffective and improper, violating professional obligation (Schiavi et al 2023:9). Perusal of written notes was time-consuming and defeated the purpose of SHO (Schiavi et al 2023:9).

4.3.5.3 Incomplete handover notes

Documentation should complement the verbal handover. However, the records are only useful if everything is carefully documented (Chien et al 2022:1414). Failure to document care

increases risk of duplication of treatment and can cause harm or delays in care because there is no other way to verify the care given (Schiavi et al 2023:9).

4.3.5.4 Negative attitudes

Verbal handover became difficult when CCNs checked documentation simultaneously. Smooth SHO requires openness, respect, and an amicable attitude (Hashish et al 2023:187). While SHO is a two-way communication, some CCNs felt uncomfortable with questioning regarding omitted care or unreported problems. This elicited terse responses, with both CCNs becoming less communicative and the receiving nurses fearing to ask clarifying questions. According to Dietl et al (2023:114), a safe space is needed for effective communication.

Negative attitudes related to ethnicity and language barriers have been observed (Pun 2023:2). South Africa has 11 official languages; therefore, the hospital's business language is recommended during work communication. Abou Hashish et al (2023:12) discourage vernacular during SHO since not all CCNs are fluent in other languages.

4.3.5.5 Unrealistic workload

Due to staff shortages, CCNs prioritise patient care over handover, especially in emergencies. Mamalelala et al (2023) note a growing depletion of trained professionals in the country increases the possibility of unrealistic workloads. This is exacerbated by the lack of training, skills and knowledge levels of CCN, thereby affecting SHO negatively. According to Hashish et al (2023:10), short handovers become the norm due to fatigue, increased workload and time pressures to complete all care and documentation before the shift ends. Etemadifar et al (2021) state that the CCU is unpredictable, therefore planned SHO can be cancelled. This study showed that acutely ill patients allocated to the same nurse inadvertently increase their workload. Admissions via theatre and doctors performing urgent procedures during shift changes require immediate attention, which reduces handover time due to an unrealistic workload.

4.3.5.6 Tardiness

A CCN who arrives late cannot be assigned to patients until they arrive in the unit, leading to the need to reshuffle or redo patient assignments. Latecomers feel guilty for delaying the nurse going off duty, eliminating SHO (Atinga et al 2024:5). Others leave early to avoid missing their transportation, leading to delayed or incomplete handovers, as shown in this study. On the other hand, nurses who arrive early oversee more patients than expected. Tardiness worsens the problem of ineffective shift handover because the incoming and outgoing nurses do not overlap for SHO, thus background information to assess critical areas, prioritise tasks, and provide coordinated care is not transferred (Santos, Barros & Silva 2020:8).

4.3.5.7 Limitations

The study was limited to a single private hospital in Gauteng, which may affect the generalisability of the findings.

4.4 Conclusion

The SHO is crucial in maintaining CoC and preventing patient safety incidents in CC settings. The ever-changing needs of critically ill patients contribute to the complexity of this environment. To ensure effective SHO, it is important to enhance the facilitators and manage the barriers identified. Future interventions should take these study findings into account. Recommendations addressing the barriers could help in developing policies and procedures. The study findings highlight that effective SHO relies on teamwork, communication, guidelines, supervision, support, and dedicated handover time. Resolving challenges related to varying handover styles, content, and procedures is essential. SHO should be viewed as an investment in the performance of a skilled nursing task that can bridge the gap during shift changes. Therefore, CCNs should consider implementing practical solutions to address barriers to improve the SHO in the CCU.

Author's contribution

Three authors contributed to the planning, compilation and review of the manuscript. Data collection and analysis were done by the researcher and co-coded by the research supervisors.

Ethical approval

The University of Pretoria, Faculty of Health Sciences granted ethical approval with ref no. 576/2023 and the hospital ethical committee **UNIV-2024-0017.** The hospital manager, nursing manager, and unit managers also granted permission. A signed informed consent form was obtained from voluntary participants.

Declaration of competing evidence

The authors declare that there was no competing evidence.

Acknowledgements

Letitia Greenberg edited the manuscript. The researcher thanks all the participants for their contribution.

CHAPTER 5 – FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter 4, the study results are presented as an article. Chapter five provides a brief overview of the findings, offers suggestions for improving SHO between CCNs, describes the significance and limitations of the study, and makes recommendations for practice, education, management, and further research.

5.2 PURPOSE OF THE STUDY

The purpose of the study was to:

- Explore and describe the facilitators and barriers during shift handover between critical care nurses.
- Suggest strategies to improve shift handover between critical care nurses.

To achieve the purpose of the study the following research questions were formulated:

- What are the facilitators during shift handover between critical care nurses?
- What are the barriers during shift handover between critical care nurses?

5.3 FINDINGS

The data was collected from the written narrative guides completed by 22 CCNs. The key themes explored and described in this study are the facilitators and barriers encountered during the SHO between CCNs in the CCU.

SHO was enhanced, aided, and made efficient and effective, making SHO happen smoothly when CCN experienced the following facilitators: effective teamwork, effective communication, detailed handover procedures, and comprehensive handover notes.

In contrast, six barriers that hinder, prevent, obstruct, or interrupt information flow or make the SHO process difficult between CCNs in the CCU were identified: ineffective communication, lack of comprehensive handover, incomplete handover notes, negative attitudes, and tardiness.

The four facilitators and six barriers that emerged as subthemes are summarised below.

5.3.1 Facilitators during shift handover between critical care nurses

5.3.1.1 Subtheme 1: Effective teamwork

The first theme, effective teamwork, was seen as a key factor in effective handover practice. Teamwork requires several conditions to be satisfied. Mentoring, professionalism, and knowledge of handover are necessary for the process to be fulfilled. The participants desired support from senior nurses and those in supervisory roles, especially where their own experience and knowledge were insufficient.

5.3.1.2 Subtheme 2: Effective communication

The handover fulfils the key function of transferring roles and responsibilities from the person ending the shift to the one beginning a shift. If the information is not communicated effectively, the handover process fails, as the person taking over cannot be held accountable and responsible. Communication requires a good listener, who is engaged with the information being received and who asks relevant questions to validate and clarify, thereby preventing misunderstanding. The person handing over should be skilled and have practical knowledge of the handover process to communicate all the relevant information clearly, concisely, and timeously. Participants also expressed that some handovers were received in vernacular, hence the information was not understood. The failure to follow the official language policy of the hospital, which in this context was English, resulted in less effective communication and failed handover due to misunderstanding. The delayed treatment and longer hospital stays increased the cost of medical care.

5.3.1.3 Subtheme 3: Detailed handover

Many of the participants preferred to have detailed information regarding the nursing care given so that CoC could be maintained. This includes medical and surgical history, current diagnosis, condition of the patient, any life-threatening events, and treatment plans. CCNs were concerned that nursing care given was not reported and that the findings during the shift were not communicated during the handover. The nurses also felt that it was important to communicate the need for the omission of any particular treatment and a justification of that omission.

5.3.1.4 Subtheme 4: Comprehensive handover notes.

Due to time pressures in the CC setting, the handover is a time-saving process, which is meant to reduce the time required to become familiar with the patient. Some participants felt the need to go back to the written documentation to verify some details about patient care. Therefore,

the handover notes complete the verbal handover and help to verify that the details given over are correct. Life-threatening events that occurred in the last few days should be discussed and documentation handed over. The handover notes or checklist should include any new treatment, omissions, and new findings in the last shift, which must be handed over verbally. A unique set of information is handed over for each patient, hence, it is important to have a written guideline as to what needs to be handed over, for instance, handover notes, which implies that handover requires a small amount of preparation time to ensure a comprehensive, systematic approach.

5.3.2 Barriers during shift handover between critical care nurses

5.3.2.1 Subtheme 1: Ineffective communication

Multitasking and a lack of focus during the handover gave the impression that the receiver was disinterested in the verbal handover. The nurses giving the report felt disrespected and preferred that the communication be completed before verifying the information with environmental checks, clinical assessment, and patient records.

5.3.2.2 Subtheme 2: Lack of proper handover

Many nurses experienced the inconvenience of having to accept responsibility for patients who were not handed over to them. This meant having to find verbal confirmation from nurses other than the last shift nurse, and the IPT members. It also resulted in difficulty with how to prioritise and coordinate patient care because of a lack of information, forcing the receiving nurse to go through the documentation.

Noise, telephone calls, and other non-urgent communications are often “squeezed in” before everyone leaves after their shift. However, these disruptions nullify the value of the SHO. Some interruptions render the handover impossible, as the staff are required to assist with procedures during that time, taking their attention away from the other patients.

5.3.2.3 Subtheme 3: Incomplete handover notes

The lack of proper handover notes made it difficult to verify the verbal report and to confirm what must be prioritised as urgent care to be rendered. Hence, the handover notes, which would have sufficed as a double-check, are not a standard practice in CCUs. Handover notes can also serve as evidence of some form of handover taking place and may in some cases represent a replacement for verbal communication where a crisis like emergency care or staffing is being dealt with.

5.3.2.4 Subtheme 4: Negative attitude

Some nurses seemed to feel exposed with the verifying questions during the handover clammed up. They preferred that the person receiving the handover did not ask questions and accept the information given as correct. This attitude or feeling that they know better was not helpful to the receiver who needed to clarify their own understanding of certain details. This also led to conflict regarding what should have been reported or done during the last shift, especially where there was no valid justification or where responsibility and accountability were not demonstrated by the nurse ending the shift.

5.3.2.5 Subtheme 5: Unrealistic workload

Many nurses who deemed handover an important task for CoC were frustrated by the lack of resources and understaffing, despite many new patients being admitted to the unit. This resulted in handover time being taken to resolve the staffing issues, sometimes by doubling up on unstable patients and reallocating patients to other nurses. Therefore, shift leaders often do not have a clear picture of what lies ahead on that shift.

Many CCNs currently working in the units are not trained in critical care due to “brain drain” and fewer nurses being able to register for a post-basic training programme. The foundational knowledge of CCNs due to inexperience influences the accuracy of the SHO. Currently, many CCUs have more newly qualified nurses and fewer with a diploma or certificate in critical care nursing, contributing to the higher workload for trained and experienced CCNs.

5.3.2.6 Subtheme 6: Late coming

Nurses often do not arrive on time to relieve the nurses ending the shift. Hence, one leaves early, or the other arrives late, which makes handover impossible. This problem has worsened during load shedding, delayed traffic flow on busy roads and many staff depending on public transport to trave for work. Hence, the economics of the country has an indirect effect on the shift handover. While other measures are in place, like handing over to the person working next to that patient, it often results in multiple incomplete messages being transferred between the CCNs. The nurse arriving late receives a short handover, as others have already begun their work, leaving her to find things out for herself, impacting CoC and patient safety.

Some CCNs believe that tardiness has become a habit due to a lack of self-discipline and accountability.

5.4 STRATEGIES TO IMPROVE SHIFT HANDOVER BETWEEN CRITICAL CARE NURSES

Based on the findings, the researcher suggests the following strategies to improve the shift handover process in CCUs:

5.4.1 Improving teamwork and communication

- Develop and introduce interdisciplinary collaborative meetings and in-service education programmes to address professional issues and improve clinical knowledge and SHO practice skills of CCNs.
- Encourage a team approach problem-solving shift handover challenges in the unit.
- Develop and introduce open and participatory communication structures that will enable CCNs to raise their concerns and make suggestions to improve their handover practice.

5.4.2 Orientation, Induction and ongoing professional development

- All CCNs should complete the orientation and induction programme, which includes the nursing process, documentation, interaction with the IPT, policies and procedures, and shift handover protocols.
- Provide continuing in-service training for improvement of communication, ethos, and professional practice, and ensure regular mandatory attendance.

5.4.3 Development of SHO guidelines

CCU managers and senior managers can collaborate with CCN educators to create a common framework, which may be adapted for use in each discipline to guide SHO in the CCU.

5.4.4 Evaluation of SHO skills and continuous development

- Unit managers, educators, and other senior staff who are qualified and experienced should be encouraged to provide additional support to CCNs through training, supervision, and continuous evaluation of the shift handover practice in the unit.

5.4.5 Clinical governance

Senior managers and human resource departments may collaborate on policies and procedures for managing staff timekeeping and attendance and ensure participation in all in-service programme offerings and compliance with the policies and procedures. Regular audits

should be conducted to determine the gaps in the implementation of the process and provide practical improvement solutions.

5.4.6 Further research

Although well-researched in developed countries, CC shift handover remains a problem. To date, few hospitals have successfully written and implemented a practical guideline. Other barriers found in this study also contribute to the complexity of the shift handover problem. New practical solutions for shift handover in CCUs in South Africa need to be explored and practical solutions should be trialled for suitability in the CCU. Knowledge of critical care nursing, attitudes, and communication skills of CCNs should be explored further in South African settings to gain a deeper understanding.

5.5 RECOMMENDATIONS

The study was done to explore and describe the facilitators and barriers during SHO between CCNs in a specific setting. Based on the findings and their implications, the researcher makes the following recommendations for nursing practice, nursing education, and further research.

5.5.1 Nursing practice

Regarding nursing practice, nursing management, and clinical educators should:

- be aware of the facilitators and barriers during SHO between CCNs
- support the implementation of strategies to enhance the facilitators and alleviate the barriers experienced during SHO
- be aware of the factors that may trigger negative attitudes and behaviours during the SHO that impact negatively on CoC and patient safety
- encourage patient and family participation in patient care during visiting time to avoid impacting the SHO
- encourage CCNs' attendance and participation in all continuing professional development activities to improve SHO communication and practice
- make provision for ongoing in-service training on CC nursing and documentation as these have a big influence on the effectiveness of SHO
- encourage respect and strict observation of a dedicated SHO, where possible, and discuss events that arose if this was prevented due to unforeseen or difficult

circumstances. Allow such issues to be raised during the unit's daily review meetings to find practical solutions.

5.5.2 Nursing education

Regarding nursing education, all nursing curricula should:

- include documentation of SHO
- include development of communication skills to improve SHO in all areas of patient care
- include SHO practice and supervision in the portfolio of evidence of all undergraduate and post-basic students as a compulsory competence
- engage in the development of a standard guideline and evaluation tool for SHO in all areas of patient care.

5.5.3 Nursing managers

Nursing managers should:

- encourage the reporting and investigation of SHO-related incidents to identify and study trends
- identify or develop policies and procedures for guiding the practice of SHO in the CC units
- promote and encourage a non-threatening learning environment for all CCN to improve knowledge, communication, attitudes and effective SHO skills
- encourage and promote research regarding the SHO practices of CCNs to better understand the problem and give direction for planning and implementation of policies and guidelines.

5.5.4 Further research

Further research should be conducted on the following topics:

- An investigation into the factors contributing to the non-conformances of SHO policies and procedures.
- An evaluation of CCNs' competence to effectively communicate verbal and written SHO reports.

- Development of a model to guide CCNs implementation of SHO.
- Willingness and competence of CCNs to train, supervise, and guide newly qualified and novice CCNs in the implementation of SHO.

5.6 LIMITATIONS

The study was limited to a single private hospital in Gauteng, which might affect the generalisability of the findings. The researcher focused on CCNs with more than six months of experience in critical care.

5.7 SIGNIFICANCE

The findings of this study should:

- contribute to the body of knowledge regarding the SHO in the CCUs
- assist nursing management in supporting the implementation of strategies to improve CCN practice of SHO.
- facilitate and promote understanding and improve effective communication and practice of SHO in the CCU.

This study provides insight into the facilitators that can be enhanced and the barriers that need to be addressed before exploring interventions for the improvement of SHO practice.

5.8 PERSONAL REFLECTION

Throughout this master's research project, I have been exposed to a small part of the world of research and had the opportunity to learn many new skills. It has developed me personally and taught me many new lessons about perseverance and resilience through difficult times.

Seeing a problem through the lens of a researcher has inspired me to ask other questions about the CC environment and nursing. It has been challenging at times but has given me more insight into the problems faced by the nursing community. I am thankful that this goal has been reached and for supportive supervisors, managers, colleagues and family who have always encouraged and supported me during this journey.

5.9 CONCLUSION

This chapter concluded the study, described the limitations, and made recommendations for nursing managers, nurse educators, researchers, and CCNs.

LIST OF REFERENCES

Abou Hashish, E., Asiri, A.A. & Alnajja, Y.K. 2023. SHO quality in Saudi critical care units: determinants from nurses' perspectives. BMC Nursing. 22(1):186.

Alamrani, A.O. 2022. Effective nursing shift handover in critical care: a concept analysis. Nursing Forum. 57(6):1501-1507.

Alberta, D.N., Idang, N.O. & Jane, E. 2018. Nurse handover and its implication on nursing care in the University of Calabar Teaching Hospital, Calabar, Nigeria. International Journal of Nursing Care. 2(3):1-9.

Alexander, A.P. 2019. Lincoln and Guba's quality criteria for trustworthiness. IDC International Journal. 6(4):1-6.

Atinga, R.A., Gmaligan, M.N., Ayawine, A. & Yambah, J.K. 2024. "It's the patient that suffers from poor communication": Analysing communication gaps and associated consequences in handover events from nurses' experiences. SSM – Qualitative Research in Health. 100482.

Bourne, R.S., Jeffries, M., Phipps, D.L., Jennings, J.K., Boxall, E., Wilson, F., et al. 2023. Understanding medication safety involving patient transfer from intensive care to hospital ward: a qualitative sociotechnical factor study. BMJ Open. 13(5):e066757.

Chien, L.J., Slade, D., Dahm, M.R., Brady, B., Roberts, E., Goncharov, L., Taylor, J. Eggins, S. & Thornton, A. 2022. Improving patient-centred care through a tailored intervention addressing nursing clinical handover communication in its organizational and cultural context. Journal of Advanced Nursing. 78(5):1413-1430.

Clari, M., Conti, A., Chiarini, D., Martin, B., Dimonte, V. & Campagna, S. 2021. Barriers to and facilitators of bedside nursing handover: a systematic review and meta-synthesis. Journal of Nursing Care Quality. 36(4):e51-e58.

Creswell, J.W. & Creswell, J.D. 2023. Research design: qualitative, quantitative, and mixed methods approaches. 6th ed. Sage Publications.

Cruchinho, P., Teixeira, G., Lucas, P. & Gaspar, F. 2023. Influencing factors of nurses' practice during the bedside handover: a qualitative evidence synthesis protocol. Journal of Personalized Medicine. 13(2):267.

Dalky, H., Al-Jaradeen, R. & Abualrub, R. 2020. Evaluation of the situation, background, assessment, and recommendation handover tool in improving communication and satisfaction

among Jordanian nurses working in intensive care units. Dimensions of Critical Care Nursing. 39:339-347.

Department of Health. 2023. Guidelines for good practice in the healthcare professions national patients' rights charter: Booklet 3. Pretoria: HPCSA

Dietl, J.E., Derksen, C., Keller, F.M., Schmiedhofer, M. & Lippke, S. 2023. Psychosocial processes in healthcare workers: how individuals' perceptions of interpersonal communication is related to patient safety threats and higher-quality care. International Journal of Environmental Research and Public Health. 20(9):5698.

Encyclopaedia Britannica. n.d. [Internet]. The Britannica dictionary. Available from: https://www.britannica.com/dictionary. Retrieved 4 March 2023.

Etemadifar, S., Sedighi, Z., Sedehi, M. & Masoudi, R. 2021. The effect of situation, background, assessment, recommendation-based safety program on patient safety culture in intensive care unit nurses. Journal of Education and Health Promotion. 10(1):422.

Ghonem, N.M.E.S. & El-Husany, W.A. 2023. SBAR shift report training program and its effect on nurses' knowledge and practice and their perception of shift handoff communication. Sage Open Nursing. 9:23779608231159340.

Gray, J.R. & Grove, S.K. 2021. Burns and Grove's The practice of nursing research. 9th edn. Elsevier.

Hashish, A., Asiri, A.A. & Alnajja, Y.K. 2023. Shift handover quality in Saudi critical care units: determinants from nurses' perspectives. BMC Nursing. 22(1):14.

Health Professions Council of South Africa. 2023. Guidelines for good practice in the healthcare professions: National patients' rights charter. Booklet 3. Pretoria: HPCSA.

Helal, W.E.-S.H., Ghada, A.G.S. & Mostafa, G.M.A. 2022. Assessment of nursing shift-to-shift handover in intensive care unit. Helwan International Journal for Nursing Research and Practice. 1(1):27-41.

Kim, J.H., Lee, J.L. & Kim, E.M. 2021. Patient safety culture and handoff evaluation of nurses in small and medium-sized hospitals. International Journal of Nursing Sciences. 8(1):58-64.

Leigh, J.P., Brundin-Mather, R., Whalen-Browne, L., Kashyap, D., Sauro, K., Soo, A., et al. 2021. Effectiveness of an electronic communication tool on transitions in care from the intensive care unit: protocol for a cluster-specific pre-post trial. JMIR Research Protocols. 10(1):e18675.

Liu, X., Ma, M., Qu, C., Liu, C. & Yin, Y. 2023. Practical progress of SBAR communication model-related teaching in clinical teaching. Journal of Clinical and Nursing Research. 7(1):7-14.

Mahran, G.S.K., Mekkawy, M.M., Ibrahim, B.A., Saber, E.A., Ali, M., Abbas, M.S., et al. 2024. Designing and validating an evidence-based, shift-to-shift handover bundle for nurses and physicians. Critical Care Nursing Quarterly, 47(1): 41-50.

Mamalelala, T.T., Schmollgruber, S., Botes, M. & Holzemer, W. 2023. Effectiveness of handover practices between emergency department and intensive care unit nurses. African Journal of Emergency Medicine. 13(2):72-77.

MedlinePlus. 2020. Bethesda (Md). National Library of Medicine (US). What is a critical care unit? 25 August 2016. ed. Bethesda: US Department of Health.

Merriam-Webster 2023a. “Facilitate.” Merriam-Webster.Com Thesaurus, Merriam-Webster, Merriam-Webster.Com Dictionary.

Merriam-Webster 2023b. “Barrier.” Merriam-Webster.Com Thesaurus, Merriam-Webster, Merriam-Webster.Com Dictionary.

Mulfiyanti, D. & Satriana, A. 2022. The correlation between the use of the SBAR effective communication method and the handover implementation of nurses on patient safety. International Journal of Public Health Excellence. 2(1):376-380.

Murthy, T.A. 2022. Handover in the intensive care unit: information and time mismatch. Journal of Anaesthesia and Critical Care Case Reports. January-April 2022(1):1-2.

Obaia, U.I., Zahran, S.a.E.-M. & Obied, H.K. 2023. Factors affecting quality of nursing handover among staff nurses and its relation to patients’ safety in intensive care units. Tanta Scientific Nursing Journal. 28(1):79-91.

Paredes-Garza, F., Lázaro, E., Vázquez, N. 2022. Nursing bedside handover in an intensive care unit with a mixed structure: Nursing professionals' perception. Journal of Nursing Management. 30(8):4314-4321.

Pope, C. & Mays, N. 2020. Qualitative research in health care. Newark, United Kingdom: John Wiley & Sons Incorporated.

Pun, J. 2021. Factors associated with nurses’ perceptions, their communication skills and the quality of clinical handover in the Hong Kong context. BMC Nursing. 20(1):1-8.

Pun, J. 2023. Nurses’ perceptions of the Isbar handover protocol and its relationship to the quality of handover: a case study of bilingual nurses. Frontiers in Psychology. pp. 141-148.

Santos, G.R.S., Barros, F.M. & Silva, R.C. 2020. Handover communication in intensive therapy: nursing team meanings and practices. Revista Gaucha de Enfermagem. 41:e20180436. Available from: https://doi.org/10.1590/1983-1447.2020.20180436.

Schiavi, A., Mershon, B.H., Gottschalk, A. & Miller, R.C. 2023. Measurement of information transfer during simulated sequential complete shift-to-shift intraoperative handoffs. Mayo Clinic Proceedings: Innovations, Quality & Outcomes. 7(1):9-19.

Seo, Y.H., Jang, K. & Ahn, J.-W. 2022. Effects of handover education using the opt model and SBAR protocol in nursing students: a quasi-experimental design. Iran Journal of Public Health. 52(6):1140-1149.

Shahian, D. 2021. I-PASS handover system: A decade of evidence demands action. BMJ Quality and Safety. 30(10):769-774.

South African Nursing Council (SANC). 2005. *Nursing Act No. 33 of 2005*. Pretoria, South Africa: Government Printers

South African Nursing Council (SANC). 2022. Regulations regarding the scope of practice for nurses and midwives. Government Gazette, 46471, 3 June 2022. Available at: https://www.gpwonline.co.za [Accessed 5 Mar. 2025].

Temsah, M.-H., Ashry, N.a.A., Alhaboob, A.a.-E.A., Almazyad, F.a.M., Alabdulhafid, M., Temsah, R., et al. 2022. Virtual handover of patients in the pediatric intensive care unit during the Covid-19 crisis. Journal of Multidisciplinary Healthcare. 25(14):1571-1581.

Vanderzwan, K.J., Kilroy, S., Daniels, A., O'rourke, J. 2023. Nurse-to-nurse handoff with distractors and interruptions: an integrative review. Nurse Education in Practice. 67103550.

World Health Organization. 2021. Global patient safety action plan 2021-2023: towards eliminating avoidable harm in healthcare. World Health Organization. Available from: https://www.who.int/publications/i

Yetti, K., Dewi, N.A., Wigiarti, S.H. & Warashati, D. 2021. Nursing handover in the Indonesian hospital context: structure, process, and barriers. Belitung Nursing Journal. 7(2):113-117.

ANNEXURES

ANNEXURE A1: ETHICAL APPROVAL RESEARCH ETHICS COMMITTEE

Faculty of Health Sciences

Faculty of Health Sciences **Research Ethics Committee**

14 March 2024

Approval Certificate
New Application

Dear Mrs M Naidoo

Ethics Reference No.: 576/2023
Title: Exploring and describing the facilitators and barriers during shift handover between critical care nurses in a private hospital in Gauteng

The **New Application** as supported by documents received between 2023-10-19 and 2024-03-13 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2024-03-13 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2025-03-14.
- The Research Ethics Committee (REC) must monitor your research continuously. To this end, you must submit as may be applicable for your kind of research:
  a) annual reports;
  b) reports requested ad hoc by the REC;
  c) all visitation and audit reports by a regulatory body (e.g. the HPCSA, FDA, SAHPRA) within 10 days of receiving one;
  d) all routine monitoring reports compiled by the Clinical Research Associate or Site Manager within 10 days of receiving one.
- The REC may select your research study for an audit or a site visitation by the REC.
- The REC may require that you make amendments and take corrective actions.
- The REC may suspend or withdraw approval.
- Please remember to use your protocol number (576/2023) on any documents or correspondence with the Research Ethics Committee regarding your research.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

On behalf of the FHS REC, Dr R Sommers
MBChB, MMed (Int), MPharmMed, PhD
Deputy Chairperson *of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria*

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health).

ANNEXURE A2: ETHICAL APPROVAL - RESEARCH OPERATIONS COMMITTEE

RESEARCH OPERATIONS COMMITTEE FINAL APPROVAL OF RESEARCH

Approval number: UNIV-2024-0017

Ms Marlini Naidoo

E mail:

Dear Ms Naidoo

RE: THE FACILITATORS AND BARRIERS DURING SHIFT HANDOVER BETWEEN CRITICAL CARE NURSES IN A PRIVATE HOSPITAL IN GAUTENG

The above-mentioned research was reviewed by the Research Operations Committee's delegated members and it is with pleasure that we inform you that your application to conduct this research at Private Hospitals, has been approved, subject to the following:

i) Research may now commence with this FINAL APPROVAL from the Committee.
ii) All information regarding the Company will be treated as legally privileged and confidential.
iii) The Company's name will not be mentioned without written consent from the Committee.
iv) All legal requirements with regards to participants' rights and confidentiality will be complied with.
v) All data extracted may only be used in an anonymised, aggregated format and for the purposes of this specific study as specified in the proposal. The data may under no circumstances be used for any other purpose whatsoever.
vi) The Company must be furnished with a STATUS REPORT on the progress of the study at least annually on 30th September irrespective of the date of approval from the Committee as well as a FINAL REPORT with reference to intention to publish and probable journals for publication, on completion of the study.
vii) A copy of the research report will be provided to the Committee once it is finally approved by the relevant primary party or tertiary institution, or once complete or if discontinued for any reason whatsoever prior to the expected completion date..
viii) The Company has the right to implement any recommendations from the research.

ix) The Company reserves the right to withdraw the approval for research at any time during the process, should the research prove to be detrimental to the subjects/ Company or should the researcher not comply with the conditions of approval.
x) APPROVAL IS VALID FOR A PERIOD OF 36 MONTHS FROM DATE OF THIS LETTER OR COMPLETION OR DISCONTINUATION OF THE STUDY, WHICHEVER IS THE FIRST.

We wish you success in your research.

Yours faithfully

25/5/24

Prof Dion du Plessis
Full member: Research Operations Committee & Medical Practitioner evaluating research applications as per Management and Governance Policy

Dr Shannon Nell
Chairperson: Research Operations Committee
Date: 10/06/2024

This letter has been anonymised to ensure confidentiality in the research report. The original letter is available with author of research

ANNEXURE B: DATA COLLECTION

ANNEXURE B1: PARTICIPANT INFORMATION LEAFLET

PARTICIPANT INFORMED CONSENT DOCUMENT FOR COMPLETION OF THE NARRATIVE GUIDE

STUDY TITLE: EXPLORING AND DESCRIBING THE FACILITATORS AND BARRIERS DURING SHIFT HANDOVER BETWEEN CRITICAL CARE NURSES IN A PRIVATE HOSPITAL IN GAUTENG

Institution: UNIVERSITY OF PRETORIA

Daytime numbers: 0810115833

After-hours number: 0731410031

Date and time of informed consent discussion

Date_____ Month_____ Year_____ Time_____

Dear Prospective Participant

1 INTRODUCTION

You are invited to volunteer for a research study. I am conducting this research for master's degree purposes at the University of Pretoria. This document gives you information to help you decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions which are not fully explained in this document, do not hesitate to ask the investigator. Consent and participation are voluntary.

2 THE NATURE AND PURPOSE OF THE STUDY

The aim of this study is to explore and describe the facilitators and barriers experienced by critical care nurses during shift handover that affect patient safety and quality of care. Part of the study will be answering questions regarding the above. This study uses a qualitative research method that relies on asking questions to collect data. Data will be collected using a written narrative guide which contains questions concerning the topic. Some data regarding work experience will be asked. You may decide on a convenient time and place to complete the interview.

3 EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

Should you agree to participate, you will be asked to complete a narrative guide that will take about 20 to 30 minutes. You will be asked some questions about the barriers and facilitators of shift handover in an adult ICU. With your permission, the answers will be analysed and interpreted. Identifying data is not requested on the narrative guide.

4 RISKS AND DISCOMFORTS INVOLVED

Taking part in the study is unlikely to cause any physical or emotional discomfort or risk. You do not have to share any knowledge you are not comfortable with. If questions make you feel uncomfortable, you do not have to answer them.

5 POSSIBLE BENEFITS OF THE STUDY

You will not benefit directly from this study. Your participation may contribute to the hospital to emphasise facilitators and gain more knowledge about the barriers to shift handover in the critical care units. The findings of the study may lend itself to managers and nurse educators seeking and /or implementing their own innovative solutions for barriers to handover practice, which will influence patient safety and CoC.

6 COMPENSATION

You will not be paid to take part in the study. There are no costs to you for participating in the study.

7 VOLUNTARY PARTICIPATION

The decision to take part is voluntary. The interview guide cannot be recognised as there will be no form of identification.

8 ETHICAL APPROVAL

This study was submitted to the Ethics Committee of Faculty of Health Sciences at the University of Pretoria, Medical Campus- contact number (012)3543084/5. Please contact the above department should you need any clarification pertaining to ethical approval inquiries.

9 INFORMATION TO CONTACT

If you have any queries concerning this study, you may contact

Researcher M Naidoo 081 011 5833

Professor I Coetzee (012) 356 3173

10 CONFIDENTIALITY

We will not record your name anywhere and the answers you give cannot be linked to you. Your answers will be linked to a fictitious code, and we will refer to you in this way in the data, any publication, report, or other research output. All records from this research will be regarded as confidential. Results will be published in scientific journals or presented at conferences in such a way that it will not be possible for people to know that you were part of the study. All hard-copy information will be kept in a locked facility at the University of Pretoria, for a minimum of 15 years and only the research team will have access to this information. All participants will be requested to keep their answers confidential. I therefore request that you do not disclose any information of a very personal or sensitive nature.

11 CONSENT TO PARTICIPATE IN THIS STUDY

- ✓ I confirm that the person requesting my consent to take part in this study has told me about the nature and process, any risks or discomforts, benefits of the study.
- ✓ I have also received, read and understood the above written information about the study.
- ✓ I have had adequate time to ask questions, and I have no objections to participate in this study.
- ✓ I am aware that the information obtained in the study, including personal details, will be anonymously processed, and presented in the reporting of results.

- ✓ I understand that I will not be penalized in any way should I wish to discontinue with the study and my withdrawal will not affect me in any way.
- ✓ I am participating willingly.
- ✓ I have received a signed copy of this informed consent agreement.

Participant name (Please print)

---------- ----------

Participant's signature Date

Researcher's name (Please print)

---------- ----------

Researcher's signature Date

ANNEXURE B2: NARRATIVE GUIDE

Self-Reported Narrative Guide

A. DEMOGRAPHIC DATA

Choose an appropriate answer:

1.1. I am a(n)	Enrolled Nurse□…. Registered Nurse□
1.2. I have the following General Nursing qualification	Diploma□…….. Degree□……..Certificate□
1.3. I have been working in critical care units for	>6 months□…….>12 months□……..>24 months□ >5 years□……..>10 years □
1.4. I have the following qualifications in critical care nursing	6-month elementary certificate□ ICU Diploma □ Degree□……..ICU Experienced ONLY□
1.5. Gender	Male□…….. Female□……..... Other □
1.6. . I am currently working MOSTLY	At bedside□……..As a shift leader/UM□
1.7. Age group	20-30 years□……30-40 years□…….40-50years□ >50 years□
1.8. . I work in the following critical care unit	Cardiology□……General□…….. Trauma□

Please answer the next section in as much detail as possible.

B. NARRATIVE QUESTIONS

1) Relate what happened during 1 or more situations /events when you experienced facilitators (aspects that impacted positively, supported / helped /guided, enabled) during giving/ receiving of shift handover in the critical care unit:

2) Relate what happened during 1 / more situations event(s) when you experienced <u>barriers</u> (aspects that hindered, prevented /obstructed/ delayed/ inhibited /negatively impacted) during giving/receiving of shift handover in the critical care unit :

Thank you for your participation. Your contribution is much appreciated.

ANNEXURE B3: EXAMPLE OF COMPLETED NARRATIVE GUIDE

Self-Reported Questionnaire

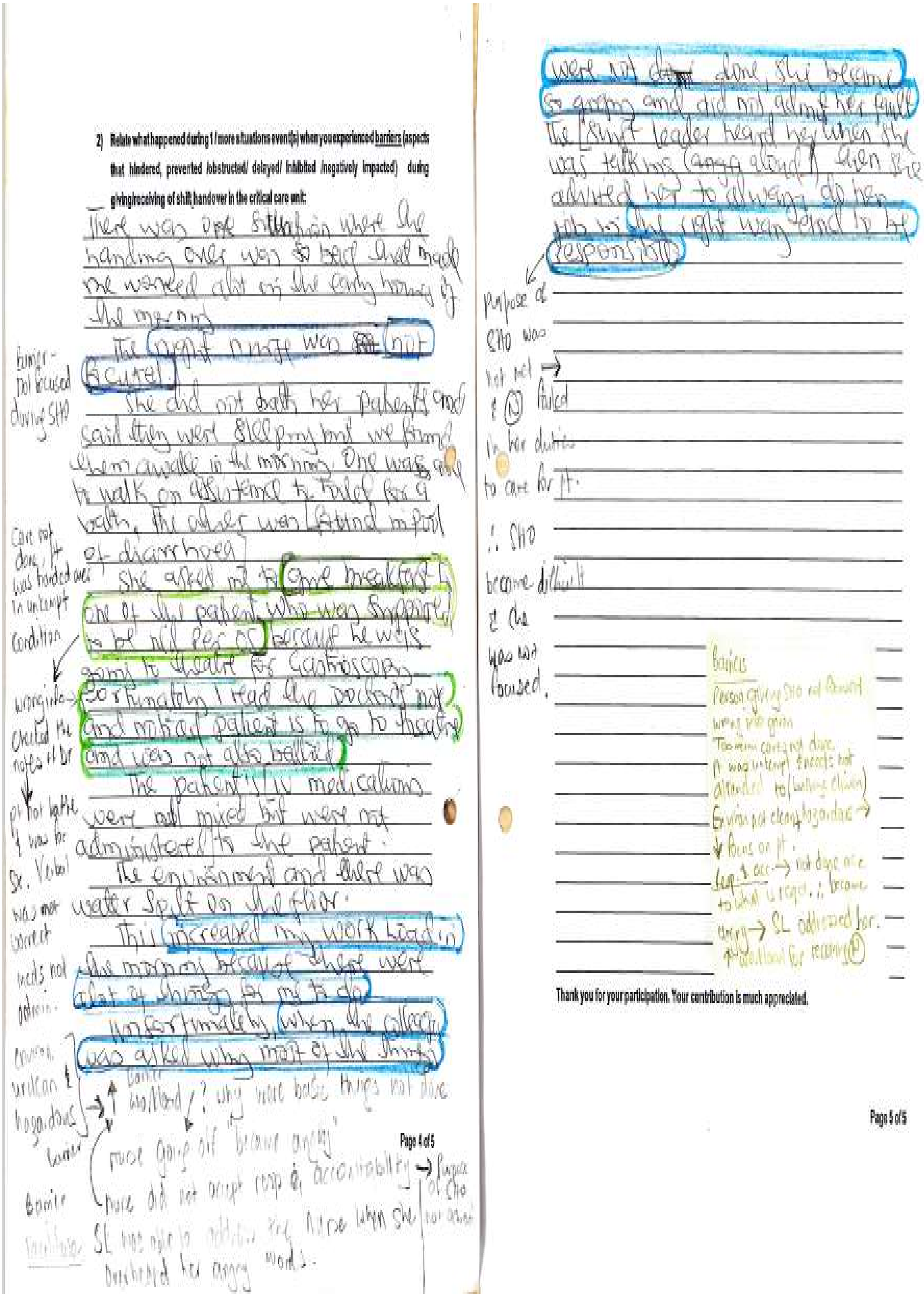
A. DEMOGRAPHIC DATA

Choose an appropriate answer:

1.1. I am a(n)	Enrolled Nurse□.... Registered Nurse☒
1.2. I have the following General Nursing qualification	Diploma☒..... Degree□..... Certificate□
1.3. I have been working in Critical care units for	>6 months□.....>12 months□.....>24 months☒ >5 years□.....>10 years □
1.4. I have the following qualifications in Critical care nursing	6-month elementary certificate□ ICU Diploma □ Degree□.....ICU Experienced ONLY☒
1.5. Gender	Male□..... Female☒..... Other □
1.6. . I am currently working MOSTLY	At bedside☒.....As a shift leader/UM□
1.7. Age group	20-30 years□.....30-40 years☒.....40-50years□ >50 years□
1.8. . I work in the following Critical care unit	Cardiology□.....General□..... Trauma☒

Please answer the next section in as much detail as possible.

B. NARRATIVE QUESTIONS



2) Relate what happened during 1/more situations event(s) when you experienced barriers (aspects that hindered, prevented /obstructed/ delayed/ inhibited /negatively impacted) during giving/receiving of shift handover in the critical care unit:

There was one situation where the handing over was so bad that made me worked alot on the early hours of the morning.

The night nurse was not focused.

She did not bath her patients and said they were sleeping but we found them awake in the morning. One was able to walk on assistance to toilet for a bath. The other was found in pool of diarrhoea.

She asked me to give breakfast to one of the patient who was supposed to be nil per os because he was going to theatre for gastroscopy. Fortunately I read the doctor's notes and noticed patient is to go to theatre and was not also bathed.

The patient's IV medications were all mixed but were not administered to the patient.

The environment and there was water spilt on the floor.

This increased my work load in the morning because there were alot of things for me to do.

Unfortunately, when the officer was asked why most of the things were not done, she became so angry and did not admit her fault. The shift leader heard her when she was talking angry aloud then she advised her to always do her job in the right way and to be responsible.

Barriers
Person giving SHO not focused
wrong info given
Too many cares not done
Pt was unkempt & needs not attended to (bathing, clothing)
Environment not clean/hazardous

Page 4 of 5

Thank you for your participation. Your contribution is much appreciated.

Page 5 of 5

ANNEXURE C: DECLARATION BY THE EDITOR

LETITIA GREENBERG

LANGUAGE SPECIALIST

Cellphone: 084 077 1580
Email: lgletitia@gmail.com

31 Aland Road
Valhalla
0185

8 December 2024

To whom it may concern

With this letter, I confirm that I have language edited the dissertation titled *Exploring and Describing the Facilitators and Barriers during Shift Handover Between Critical Care Nurses in a Private Hospital in Gauteng* by Marlini Naidoo.

With a relevant degree and honours degree, I am fully qualified to undertake such proofreading.

Yours faithfully

Greenberg

Letitia Greenberg