# Missed Nursing Care in Australia: Exploring the Contributing Factors

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## Statement of Original Authorship

The work contained in this systematic review has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the systematic review contains no material previously published or written by another person except where due reference is made.

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**Abstract**

**Objective:** The objective of this thesis is to investigate the factors contributing to missed nursing care (MNC) by registered nurses in Australian hospitals.

**Introduction:** Nurses are increasingly ending their shifts with outstanding tasks and missing vital aspects of patient care. Research has indicated that this can have a detrimental effect on both patient and nurse outcomes. The connection between inadequate staffing levels and missed nursing care has been well documented in the research. However, other contributing factors leading to missed nursing care remain uncertain. A scoping review has been conducted to identify the factors contributing to missed nursing care in an Australian context.

**Inclusion criteria:** This review has included studies that explore the contributing factors to missed nursing care by registered nurses in Australian hospitals. Missed nursing care includes; incomplete care, care left undone or unfinished care. Contributing factors include the reasons or causes underpinning missed nursing care.

**Methods:** MEDLINE, CINAHL, and PubMed were searched for primary and secondary research articles. A scoping review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews. Data from the studies was extracted by two independent reviewers and presented in tabular form along with a narrative synthesis of the findings.

**Findings:** The findings of this scoping review align with the international studies into MNC. This review adds an important perspective to the impact of staffing on MNC due to the mandated nurse to patient ratios in Australia, which has not been investigated in other countries.

**Keywords:** Contributing factors; incomplete care; missed nursing care; MeSH terms: Nurses, Australia, Hospitals.

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**Summary of Thesis**

This thesis explores the contributing factors to missed nursing care from an Australian perspective. The idea for this research came from my observations when working in a critical care environment. I experienced a greater number of incomplete nursing tasks being transferred to me from the previous shift and I also had instances where I had to transfer nursing tasks to nurses taking over from me. This piqued my interest in the phenomenon of missed nursing care and more specifically, why this occurs.

The thesis is made up of three chapters. The first chapter is a literature review exploring the background and international research into missed nursing care. It explores major themes in relation to missed nursing care, including inadequate staffing, nurses' accountability, how missed nursing care is measured and highlights the types of nursing care missed. The literature review motivated me to narrow my focus to exploring the contributing factors to missed nursing care from an Australian perspective. The emerging nature of the research inspired me to conduct a scoping review and address the following research questions:
i) What factors contribute to missed nursing care in hospitals in Australia?
ii) How is missed nursing care measured in Australia?
iii) How do the characteristics of the registered nurses contribute to missed nursing care?
iv) What impact do ward characteristics have on missed nursing care?

Chapter two comprises the scoping review which has been structured according to the guidelines for authors from the journal: Collegian. The scoping review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews. The major findings from this review reflected the international findings. However, this paper adds an important perspective to the impact of staffing on missed nursing care due to the mandated nurse to patient ratios in Australia, which has not been investigated in other countries.

Chapter three concludes the thesis and discusses some recommendations for future research, policy and clinical practice.

# CHAPTER 1

# Literature Review

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## 1.1 Introduction

Nurses are at the forefront of patient care and represent the majority of professionals in the health care workforce, accounting for 70% of salaries (Olley et al., 2019). Nurses play a pivotal role in the quality of care provided to patients and the outcomes they experience. On a personal level, nurses tend to be empathetic, caring people who wish to provide a high level of care to their patients. However, the literature indicates that nurses are increasingly ending their shifts with outstanding tasks and missing vital aspects of patient care. This literature review will explore the contributing factors to the missed nursing care phenomenon in acute hospital settings.

## 1.2 Background

Missed nursing care (MNC) is a phenomenon where nursing care may be unintentionally omitted or not completed (Liu et al., 2019). Different definitions, conceptual frameworks and tools for measuring the concepts of missed, rationed and unfinished care can be found in the literature. The term 'missed care' and 'unfinished care' both originated from the United States by Kalisch (2006) and Sochalski (2004) respectively. 'Rationed care' was first defined in Switzerland by Schubert et al. (2007), and 'care left undone' is another term identified in the literature. All of the terms seek to describe situations where essential or routine nursing care is not completed (Recio-Saucedo et al., 2018). The term 'nursing care' encompasses all aspects of clinical, emotional or administrative nursing care that may have only been partially completed, completely omitted or delayed (Recio-Saucedo et al., 2018).

A seminal study by Kalisch (2006) identified the phenomenon of missed nursing care and attributed it to seven factors. Extrinsic factors included: inadequate staffing, poor use of existing staff resources, lack of time to complete a task and poor delegation. Intrinsic factors included: 'it's not my job' syndrome, habit, and denial (Kalisch, 2006). Research has since focussed on the extrinsic causes of MNC, in particular, staffing levels, and their link to both nurse and patient outcomes (Kalankova et al., 2020). The connection between staffing levels and poor patient safety outcomes has been studied extensively and led to mandated

nurse-patient ratios in some countries (Griffiths et al., 2018). Whereas studies investigating missed nursing care have increased over the last decade, highlighting the negative link to patient outcomes and a strong connection to limited resources (Gustafsson et al., 2020).

Evidence suggests that increasing demands on nurses paired with increasing patient acuity and complexity may result in patient's clinical needs outpacing the nurses' ability to meet them (Brooks-Carthon et al., 2015). This is concerning given the negative relationship between MNC and patient outcomes (Griffiths et al., 2018; Recio-Saucedo et al., 2018). MNC is also a predictor of decreased quality of care, decreased patient satisfaction, increased staff turnover, decreased job satisfaction, in addition to a rise in adverse patient events (Jones et al., 2015).

MNC presents an ethical issue, as nurses are bound by their personal values, professional obligations and the needs of the organisations for which they work. In Australia, nurses must meet the Nursing and Midwifery Board of Australia (NMBA) professional standards in order to practise nursing (Nursing and Midwifery Board of Australia, 2016). This includes the Code of Conduct, the standards for practice and the code of ethics for nurses (Nursing and Midwifery Board of Australia, 2016). Nurses often have to re-prioritise their work if there is an imbalance between the resources available to them and their patients' needs (Gustafsson et al., 2020). This can lead to them not completing their tasks and thereby providing ineffective care (Gustafsson et al., 2020); not only could this lead to negative patient outcomes, but also poor nurse outcomes including poor job satisfaction, reduced self-esteem and a feeling of inadequacy (Verrall et al., 2015). Prioritising care may lead to an internal conflict that challenges nurses' professional and moral values (Suhonen et al., 2018).

Nursing as a profession is constantly evolving and as more time constraints are placed on nurses, the less time they will have to complete their work. If this issue is not addressed, patient outcomes are more likely to worsen over time (Kalankova et al., 2020). The predicted shortage of nurses worldwide by the World Health Organisation (2020) provides a strong impetus for a deeper investigation of the phenomenon of MNC, in particular the contributing factors, in an endeavour to improve both patient and nurse outcomes.

Current research into MNC has been on nurse and patient outcomes including two systematic reviews (Griffiths et al., 2018; Recio-Saucedo et al., 2018) and two scoping reviews (Gustafsson et al., 2020; Kalankova et al., 2020). These studies have examined patient outcomes and MNC from a patient's perspective. The majority of the primary research into MNC has been quantitative; cross sectional studies that have been conducted primarily in the United States and Europe (Albsoul et al., 2019). The quantitative nature of the current and previous studies is useful in providing a broader picture of the phenomenon, including possible prevalence and outcomes. However, nurses' subjective experience of MNC, and the identification of its contributing factors is important to fully capture the situations in which MNC occurs. Therefore, qualitative and mixed-methods studies will be included in this literature review. No systematic or scoping reviews have been conducted to determine the contributing factors to MNC.

There are many variations of the definition of a nurse globally, influenced by the variety of levels of nursing and a lack of universal agreement around titles for nurses. For the purposes of this literature review, the definition of a nurse will be the one adopted by the International Council of Nurses:

> "The nurse is a person who has completed a program of basic, generalized nursing education and is authorized by the appropriate regulatory authority to practice nursing in his/her country. Basic nursing education is a formally recognised programme of study providing a broad and sound foundation in the behavioural, life, and nursing sciences for the general practice of nursing, for a leadership role, and for post-basic education for specialty or advanced nursing practice." (International Council of Nurses, 2020, p. para 4).

## 1.3 Methodology

A number of databases were searched for this review including; CINAHL, Medline, PubMed, the Cochrane Database of Systematic Reviews and the Joanna Briggs Institute Library of Systematic Reviews. Google Scholar was used to search for grey literature. The literature was initially searched using search terms: missed nursing care, unfinished nursing care,

missed care, unfinished care, omitted care, nurse, nurses, nursing, acute care. The Booleans 'and' and 'or' were used to refine the results. Primary research and scoping and systematic reviews were included in this literature review. The search period was then reduced to locate articles from 2010-2020. A total of 30 articles were selected by title and abstract. Upon further examination, three major themes were identified; Inadequate staffing and MNC, Nurses' accountability and MNC and Measuring Missed Nursing Care. This literature review will discuss the three major themes in more depth.

## 1.4 Inadequate staffing and MNC

Nurse staffing levels is a controversial topic that is associated with patient safety, quality of care, and financial constraints (Olley et al., 2019). A systematic review by Griffiths et al. (2018) identified the relationship between missed care and nurse staffing levels has been widely studied in many countries. Missed nursing care in England has been shown by Griffiths et al., (2018) to have a direct correlation with reduced or inadequate staff. This valuable research highlights that a reduction of 66% occurs when nurses are caring for fewer patients. This reduction was evident when MNC rates fell when nurses cared for 6.1 patients or fewer per shift compared to 11.7 or more patients (Griffiths et al., 2018). Ball and colleagues (2016) cross sectional study reported a decreased incidence in MNC when nurses cared for six patients per shift compared to ten or more patients (Ball et al., 2016). This vital evidence may explain why the number of MNC incidents is higher in medical-surgical wards than specialised areas including intensive care units (ICU's), where staffing levels and skill mix are subject to tighter controls due to the higher level of patient acuity (Bragadóttir et al., 2017; Chamberlain et al., 2018). This concern of a higher patient load is also reflected in research by Ball et al. (2014) who identified nurses working on medical-surgical wards in England were twice as likely to report inadequate patient surveillance and increased levels of MNC. Prezerakos et al. (2015) identified that inadequate staffing in Greece led to missed nursing care and forced errors because of their increased workload. However, care is needed in interpreting these results as the study was limited by a small sample size and was conducted during the global financial crisis. At that time the hospital was working well under normal staffing capacity, which could also exacerbate MNC.

In Victoria, Australia in 2015, in response to the Safe Patient Care Act changes were made to the way hospitals approached nurse staffing (Victorian Government, 2015). The changes introduced requirements for the operators of certain publicly funded health facilities staff certain wards with a minimum number of nurses (Victorian Government, 2015). These mandated nurse patient ratios were introduced to counteract any variances in staffing levels in a direct bid to improve patient safety (Victorian Government, 2015). These ratios are dependent upon the level of hospital including smaller hospitals offering limited services and the larger metropolitan hospitals offering more advanced services (Victorian Government, 2015). The larger metropolitan hospitals have a ratio of one (1) nurse to four (4) patients in medical surgical units and the smaller, rural hospitals have a one (1) nurse to six (6) patient ratio (Victorian Government, 2015). Willis et al. (2015) conducted a study in Victoria and found the mandated nurse to patient ratios of one nurse to four patients resulted in less nursing care being missed. However, nurses caring for six patients did report a greater incidence of MNC. These findings reflect the work of Ball and colleagues (2016) who recognised caring for fewer patients reduced the risk of nurses missing care.

In their review of the literature, Jones and colleagues (2015) conclude that MNC is a direct result of time constraints for nurses, leading to care being re-prioritised. They suggest that nurses may identify some tasks as a higher priority than others and therefore tasks that are deemed less important are more likely to be missed. Inadequate staffing levels could exacerbate time constraints, additionally the skill mix of the staff is an important contributing factor (Bragadóttir et al., 2017). This was highlighted in research by Winters and Neville (2012) in which nurses cited preceptoring junior staff as being a barrier to the provision of care to their patients. Skill mix was also suggested as a contributing factor to MNC in research by Henderson et al. (2020) which focused on the knowledge deficit of some nurses performing infection control activities. They found that the workload of the experienced infection control nurses increased as they had the skills and knowledge to carry out more complex tasks without guidance. Some tasks can only be completed by registered nurses, such as complex wound care and infection control activities. Research by Henderson et al. (2020) identified various contributing factors to infection control activities being missed by nurses. Poor staffing and skill mix have again been highlighted as contributing factors. Despite voicing concerns about poor staffing levels and skill mix,

nurses consistently work unpaid overtime in order to complete care at the end of their shift, often this overtime is unpaid or not acknowledged by management (Harvey et al., 2017).

Research by Ball et al. (2016) suggests that support worker staffing levels do not improve the rate of MNC. This notion was also supported in a review by Griffiths et al. (2018) who found that there was no benefit and sometimes a negative effect of a higher level of support workers, indicating that they may be an increased burden for nurses. This is because a registered nurse is not only accountable for their own actions but is also accountable for the decision to delegate care to others and also to monitor and evaluate the outcomes of that care (Nursing and Midwifery Board of Australia, 2016).

## 1.5 Nurses' accountability and MNC

Much of the research examining the factors contributing to MNC suggest that organisational factors and time constraints are the primary influences. There are only three studies that discuss the personal accountability of the nurse (Drach-Zahavy & Srulovici, 2019; Harvey et al., 2017; Srulovici & Drach-Zahavy, 2017). Research by Drach-Zahavy and Srulovici (2019) utilised a combination of the MISSCARE survey, the 44-item big five (personality) inventory and the 19-item 3D accountability questionnaire to determine the impact of a nurse's personality and level of accountability on MNC. This is the first study to measure these three attributes and takes a different approach to other research into MNC that focusses on contextual factors including; resources and time constraints (Drach-Zahavy & Srulovici, 2019). The findings of the research using the MISSCARE tool identified that nurses with a higher level of personal accountability missed less nursing care tasks, although the type of task missed remained the same as previous findings, including; communication and personal care, such as teeth brushing (Drach-Zahavy & Srulovici, 2019; Griffiths et al., 2018; Gustafsson et al., 2020). This finding also aligns with earlier research by Srulovici and Drach-Zahavy (2017). Srulovici and Drach-Zahavy (2017) found a high level of personal accountability was associated with a decreased occurrence of MNC in acute care settings. This was the only study to collect the joint perspectives of the focal nurse and the nurse that was taking over their care about MNC. This unique approach to data collection highlighted the difference in nurse's opinions of how much care was missed during their shift. The

nurses completing their shift reported less MNC than those taking over their care (Gray et al., 2017).

All three studies addressing the connection between a nurse's personal accountability and MNC share a common theme; there is conflict between the nurse's personal accountability and the increasing demands that nurses face from a higher level of patient acuity and their organisation (Drach-Zahavy & Srulovici, 2019; Harvey et al., 2017; Srulovici & Drach-Zahavy, 2017). This is supported in commentary by Harvey et al. (2017) who identified that nurses believe they are accountable to their employer rather than their own personal responsibility for care provided or omitted. This leads to nurses with a lower level of personal accountability transferring the blame for unfinished nursing care to an organisational level (Harvey et al., 2017). These findings support the original elements thought to contribute to MNC; that it occurred due to 'habit or denial' (Kalisch et al., 2009).

In contrast, Drach-Zahavy and Srulovici (2019) shared an important insight that some nurses may be unaware of their own professional accountability as a registered health professional. This may be accurate when considering nurses just entering the profession, as Krautscheid (2014) identified that new graduate nurses had lower levels of accountability than their more experienced counterparts. Drach-Zahavy and Srulovici (2019) suggest that educational institutions may have a role to play in improving the level of personal and professional accountability, preparing new graduate nurses for the conflicts that they may face in relation to caring for their patients effectively, and potentially reduce the incidence of MNC.

## 1.6 Measuring Missed Nursing Care

Due to the complexity of the role of the registered nurse, nursing activities can be difficult to measure (Yen et al., 2018). The literature measuring the types of missed nursing care activities typically focuses on a finite number of care activities. Upon reviewing the literature, MNC is measured using one of three tools; Basel Extent of Rationing of Nursing Care (BERNCA) instrument (Schubert et al., 2008), the MISSCARE survey (Kalisch & Williams, 2009) and the RN4CAST survey (Sermeus et al., 2011). Ball et al. (2014) identified 13 core

nursing activities in their cross-sectional study based on the Basel Extent of Rationing of Nursing Care (BERNCA) instrument (Schubert et al., 2008). The BERNA instrument has been validated as a tool to identify missed care activities based on 20 core nursing activities ranging from carry out activities of daily living (ADLs) to completing clinical documentation (Schubert et al., 2008; Schubert et al., 2007). The MISSCARE survey measures 22 items and has been validated as an effective tool (Kalisch et al., 2009). All of the tools have been validated however the assessment of missed care differed in terms of missed care activities and the time in which it was measured. BERNCA assessed nursing care over a previous seven-day period. MISSCARE survey focused on the frequency of missed nursing care and the RN4CAST survey asked which 13 activities were missed on the last shift (Griffiths et al., 2018). This leads to some variability in the nursing care assessed. In a systematic review by Griffiths et al. (2018), seven studies measured MNC using the RN4CAST survey, seven used the MISSCARE survey and one used the BERNCA survey. Despite some variability amongst the surveys, subjective bias was a common theme in all of the studies as they relied on the registered nurses' opinions of MNC on their shift. The MISSCARE survey is the most frequently used tool to investigate MNC.

## 1.7 Types of Nursing Care Missed

When reviewing the types of nursing care activities that were missed, a review by Griffiths et al. (2018) identified talking to and comforting patients as the most frequently reported MNC event. This is also supported in research by Gustafsson et al. (2020) who reviewed MNC from the patient's perspective and found that missed communication was one of the most frequently missed items of care. A cross sectional study in the United Kingdom also found that communicating with patients was the most frequently missed care activity; accounting for 66% of MNC activities (Ball et al., 2014). This was closely followed by educating patients (52%). Both of these nursing activities are frequently viewed as time consuming by nurses (Ball et al., 2014). Less time-consuming activities including pain management and treatment and procedures were least likely to be reported as missed with a much lower incidence of 7% and 11% respectively (Ball et al., 2014). What remains unclear from this literature is whether the tasks that are missed by nurses are strategically planned

so that care can be distributed evenly, or whether the nurses have unintentionally missed care. This information is not captured in the MISSCARE, RN4CAST and BERNA surveys as they rely on quantitative data to collect information. Subjective data collected in a scoping review by Suhonen et al. (2018) implies that nurses plan and prioritise care at the start of their shift, according to the skill mix and individual patient's needs at the time. This results in nursing care being missed, leading to poor patient satisfaction (Gustafsson et al., 2020).

## 1.8 Conclusion

It is evident that there a number of contributing factors to MNC globally and this area is emerging as a theme in nursing literature. The review has highlighted the majority of research has considered extrinsic variables that contribute to MNC and most of the research into MNC is quantitative in nature. While this data is relevant, there is a degree of bias in some studies as they rely on a single nurse's perception of the situation. What is lacking from the current body of research is the exploration of the intrinsic elements that could contribute to MNC, particularly that of professionalism and personal accountability. If the factors contributing to MNC can be understood more deeply, then strategies can be put in place to manage them and the situations in which they frequently occur and potentially improve nurse and patient outcomes.

The contributing factors to MNC may be variable by country and even state, depending on the type of governance of hospitals, staffing levels, and mandated nurse to patient ratios. A review of the literature regarding the contributing factors to MNC from a local, Australian perspective has not yet been conducted. Therefore, a scoping review will be conducted to identify the types of evidence available in Australia and to identify and analyse any gaps in knowledge.

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# Chapter 2

## Paper for Publication

## 2.1 Abstract

**Objective:** The objective of this paper is to determine the contributing factors to missed nursing care by registered nurses in Australian hospitals.

**Introduction:** Nurses are increasingly ending their shifts with outstanding tasks and missing vital aspects of patient care. Research has indicated that this can have a detrimental effect on both patient and nurse outcomes. The connection between inadequate staffing levels and missed nursing care has been well documented in the research. However, other contributing factors leading to missed nursing care remain uncertain. This scoping review seeks to identify the contributing factors to missed nursing care in an Australian context.

**Inclusion criteria:** This review has included studies that explore the contributing factors to missed nursing care by registered nurses in Australian hospitals. Missed nursing care includes; incomplete care, care left undone or unfinished care. Contributing factors include the reasons or causes underpinning missed nursing care.

**Methods:** MEDLINE, CINAHL, and PubMed were searched for primary and secondary research articles. A scoping review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews. Data from the studies was extracted by two independent reviewers and presented in tabular form along with a narrative synthesis of the findings.

**Findings**

The findings of this scoping review align with the international studies into MNC. This review adds an important perspective to the impact of staffing on MNC due to the mandated nurse to patient ratios in Australia, which has not been investigated in other countries.

**Keywords:** Contributing factors; incomplete care; missed nursing care; MeSH terms: Nurses, Australia, Hospitals.

## 2.2 Summary of Relevance

### Problem

Little is known about the contributing factors to missed nursing care in Australia.

### What is already known

International findings indicate inadequate staffing levels as a major contributing factor to missed nursing care.

### What this paper adds

Mandated nurse to patient ratios can lead to a reduction in the incidence of missed nursing care. Poor insight into personal and professional accountability was also found to contribute to missed nursing care in Australia.

# Table of Contents

## 2.3 Introduction

Missed nursing care (MNC) is a phenomenon where nursing care may be unintentionally omitted or not completed (Liu et al., 2019). Different definitions, conceptual frameworks and tools for measuring the concepts of missed, rationed and unfinished care can be found in the literature. The term 'missed care' and 'unfinished care' both originated from the United States (Kalisch, 2006; Sochalski, 2004). 'Rationed care' was first defined by Schubert et al. (2008) and 'care left undone' is another term that has been identified in the literature (Ball et al., 2014). All of the terms seek to describe situations where essential or routine nursing care is not completed (Recio-Saucedo et al., 2018). The term 'nursing care' encompasses all aspects of clinical, emotional or administrative nursing care that a nurse is required to complete (Recio-Saucedo et al., 2018).

In seminal research Kalisch (2006) identified the phenomenon of missed nursing care and attributed it to seven factors. Extrinsic factors included; inadequate staffing, poor use of existing staff resources, lack of time to complete a task and poor delegation. Intrinsic factors included; 'it's not my job syndrome', habit, and denial (Kalisch, 2006). Research has since focussed on the extrinsic causes of MNC, in particular, staffing levels, and their link to both nurse and patient outcomes (Griffiths et al., 2018; Jones et al., 2015). Research connecting staffing levels and poor patient safety outcomes has been studied extensively and led to mandated nurse-patient ratios in Australia (Victorian Government, 2015) However, research exploring the contributing factors to MNC, particularly from an Australian perspective, is lacking (Albsoul et al., 2019).

Evidence suggests that increasing demands on nurses paired with increasing patient acuity and complexity may result in patient's clinical needs outpacing the nurses' ability to meet them (Brooks-Carthon et al., 2015). Furthermore, nurses often have to re-prioritise their work if there is an imbalance between the resources available to them and their patients' needs (Gustafsson et al., 2020). These increasing pressures on nurses can result in nursing tasks being missed or not completed. This is concerning given the negative relationship between MNC and patient outcomes (Griffiths et al., 2018; Recio-Saucedo et al., 2018). MNC is also a predictor of decreased quality of care, decreased patient satisfaction,

increased staff turnover, decreased job satisfaction, in addition to a rise in adverse patient events (Jones et al., 2015). MNC also presents an ethical issue, as nurses are bound by their personal values, professional obligations and the needs of the organisations for which they work. In Australia, nurses must meet the NMBA's professional standards in order to practise nursing (Nursing and Midwifery Board of Australia, 2016). This includes the Code of Conduct, the standards for practice and the code of ethics for nurses (Nursing and Midwifery Board of Australia, 2016). Research has highlighted that when nurses fail to complete their care activities it can lead to negative patient outcomes (Griffiths et al., 2018). This can also affect nurses negatively with research suggesting a link between MNC and poor nurse outcomes including poor job satisfaction, reduced self-esteem and a feeling of inadequacy (Jones et al., 2015).

Nursing as a profession is constantly evolving and as more time constraints are placed on nurses, the less time they will have to complete their work so if this issue is not addressed, patient outcomes could increasingly worsen over time (Kalankova et al., 2020). The predicted shortage of nurses worldwide provides a strong impetus for a deeper investigation of the phenomenon of MNC, in particular the contributing factors, in an endeavour to improve both patient and nurse outcomes (World Health Organisation, 2020). The focus of the existing research into MNC has been on nurse and patient outcomes including two systematic reviews (Griffiths et al., 2018; Recio-Saucedo et al., 2018) and two scoping reviews (Gustafsson et al., 2020; Kalankova et al., 2020) examining patient outcomes and MNC from a patient's perspective. The majority of the primary research into MNC has been quantitative, cross sectional studies that have been conducted primarily in the United States and Europe (Albsoul et al., 2019). The quantitative nature of this evidence is useful in providing a broader picture of the phenomenon, including possible prevalence and outcomes. However, the subjective experience of MNC to nurses, and the identification of its contributing factors is important in more fully capturing the situations in which MNC occurs, therefore qualitative and mixed-methods studies will be included in this literature review

There are many variations of the definition of a nurse globally. For the purposes of this scoping review, the definition of a nurse will be the one adopted by the International

Council of Nurses: “The nurse is a person who has completed a program of basic, generalized nursing education and is authorized by the appropriate regulatory authority to practice nursing in his/her country. Basic nursing education is a formally recognised programme of study providing a broad and sound foundation in the behavioural, life, and nursing sciences for the general practice of nursing, for a leadership role, and for post-basic education for specialty or advanced nursing practice.” (International Council of Nurses).

The Australian health landscape is geographically diverse compared to other countries. The diversity of the health landscape in Australia encompasses densely populated, metropolitan areas and sparsely populated rural areas, serviced by smaller hospitals. The geographical diversity of the Australian health landscape poses additional challenges of limited access to services and resources (Blackman et al., 2015b). The types of acute care areas in Australian hospitals can include emergency departments, theatre, intensive care and medical/surgical wards.

## 2.4 Methods

A scoping review has been selected as it is an effective tool to determine the scope of emerging evidence in a given field (Munn et al., 2018). This scoping review has been conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews (Peters et al., 2020). It has been based on the five-stage framework for conducting scoping reviews, identified in seminal research by Arksey and Malley (2005). The five stages include: identifying the research question, identifying relevant studies, study selection, charting the data, and collating, summarising and reporting the results (Arksey & Malley, 2005). The indications for this scoping review are to examine how research is conducted on MNC in Australia and to identify key characteristics that contribute to MNC in Australia.

A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews and JBI Evidence Synthesis was conducted and no current or underway scoping reviews or systematic reviews on the topic were identified.

## 2.5 Stage 1: Identifying the research Question

The following research questions were identified to guide the scoping review:

i) What factors contribute to missed nursing care in hospitals in Australia?

ii) How is missed nursing care measured in Australia?

iii) How do the characteristics of the registered nurses contribute to missed nursing care?

iv) What impact do ward characteristics have on missed nursing care?

## 2.6 Stage 2: Identifying relevant studies

### Inclusion criteria

*Participants*

This review has considered studies that include factors that contribute to missed nursing care by registered nurses in Australia. Registered nurses are those that have completed a pre-registration degree in nursing that enables them to be registered with the Australian Health Practitioner Regulation Agency (Australian Health Practitioner Regulation Agency, 2020).

*Concept*

This review has considered studies that explore the concept of the contributing factors to missed nursing care in Australia. Missed nursing care will include; incomplete care, care left undone or unfinished care. Contributing factors will include the reasons or causes underpinning missed nursing care.

*Context*

This review has included studies that have been conducted in Australian hospitals, including a number of acute care environments; from medical surgical wards to emergency and critical care units.

*Types of sources*

A broad range of published and unpublished literature including; quantitative, qualitative and mixed methods study designs are included in this review. Articles published in English

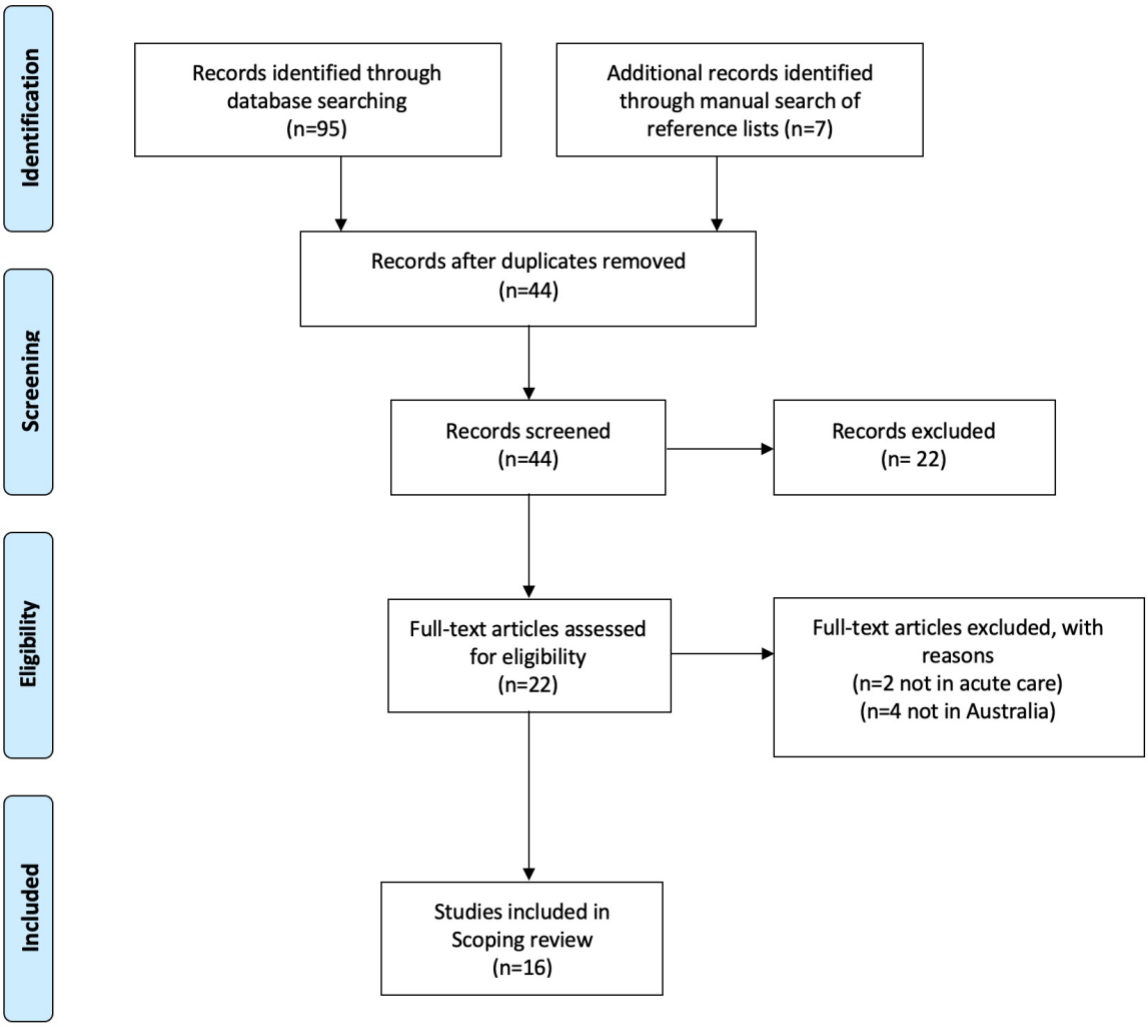
only have been included due to it being the primary language of the reviewers. The database search considered articles published from 2000 to 2020 in order to ascertain the extent of research currently available in Australia.

*Search strategy*

A number of databases were searched for published material and included; MEDLINE, CINAHL, and PubMed. Cochrane library and JBI Evidence Synthesis were searched for systematic and scoping reviews, and Google Scholar was used to search for grey literature. The reference lists of studies selected for inclusion were screened for additional papers.

## 2.7 Stage 3: Study Selection

Following the search, all identified records (n=95) were uploaded into EndNote X9 and duplicates removed (n=44). Titles and abstracts were then screened by two independent reviewers (SM, MD) for assessment against the inclusion criteria for the review. The full text of selected citations (n=22) was assessed in detail against the inclusion criteria by two independent reviewers (SM, MD). Reasons for exclusion of full text papers were that they were not inclusive of an acute care environment (n=2) or that they were not conducted in Australia (n=4). There were no disagreements between the reviewers during the selection process. The results of the search are presented below in the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) flow diagram (Moher et al., 2009). Sixteen studies have been included in the final review.




## 2.8 Stage 4: Charting the data

*Data extraction*

Data was extracted from the studies by two independent reviewers (SM, MD). The data extraction tool used is a modified version of the JBI template source of evidence details, characteristics and results extraction instrument (Peters et al., 2020). The data extracted included specific details about the population, concept, context, study methods and key findings relevant to the review objective.

*Data analysis and presentation*

The extracted data has been presented in Table 1 in a manner that aligns with the objective of this scoping review and the data extraction form. A narrative summary accompanies Table 1 and describes how the results relate to the reviews objective and questions.

## 2.9 Stage 5: Collating, Summarising and Reporting the Results

Stage 5 involved the identification of themes to present a thematic analysis. The themes emerged during the review process rather than being preconceived as a scoping review is designed to describe the available research on a topic rather than synthesise the evidence (Arksey & Malley, 2005). The PRISMA-Sco checklist for scoping reviews was used to guide this process (Tricco et al., 2018).

## 2.10 Results

**Table 1** displays data extracted from the 16 studies included that contain the following information; Author(s) & Year, title, type of study, country of origin, the contributing factors associated with MNC, the wards/units included in the study, the skill level of RNs included in the study, and the tool used to determine MNC. All of the studies were conducted within Australia, but only three included data collected across all states and territories, the rest were state based studies with the majority of them being conducted in South Australia (n=6), Queensland (n=2), Tasmania (n=1), Victoria (n=1), New South Wales (n=1) one included participants from New Zealand and one did not specify which region in Australia the study was based.

## 2.11 Study description and Instruments used to measure MNC in Australia

All studies included in this review are from 2013-2020, indicating the emergent nature of research into MNC in Australia. From the 16 studies included in this review, 12 were

conducted by or in collaboration with a state-based nursing union in Australia. The types of studies included Mixed methods (n=8), Quantitative (n=3) and Qualitative (n=5). All of the studies (n=11) adopting a mixed methods or quantitative approach used the MISSCARE Survey originally developed by Kalisch and Williams (2009) to determine the type of care missed and the reason, with slight adaptations to the Australian setting, including modifying the terminology used for the various shift types. The inclusion of the MISSCARE survey in Australian studies is consistent with international research.

The psychometric properties of the MISSCARE survey have been validated in previous international research into MNC (Albsoul et al., 2019). The survey contains three sections: one section contains 20 demographic questions about the nurses' personal and professional characteristics and working conditions (Kalisch & Williams, 2009). Section A contains a list of 24 nursing care tasks where nurses indicate the frequency of missing tasks during their shift using a 5-point Likert scale from 5 (always missed) to 1 (never missed). Section B of the MISSCARE survey consists of 17 reasons for missing nursing care, scored using a 4-point Likert scale (4 – significant reason to 1- not a reason for MNC) (Kalisch & Williams, 2009). Section A and B can be completed independently or combined (Kalisch & Williams, 2009). All of the studies included in this review completed both section A and B of the MISSCARE survey. This allowed researchers to describe what care was missed and why. In order to meet the objective of this scoping review, demographic information and data from section B (reasons for MNC) has been examined.

The qualitative studies contain a smaller number of participants, three of which included 15 or fewer participants (Henderson et al., 2020; Willis et al., 2015b; Willis et al., 2016). Three of the qualitative studies collected data by interviewing participants either in person, via the telephone or email (Henderson et al., 2020; Jones et al., 2016; Willis et al., 2016). One common question that was asked in the mixed methods survey was 'what else can you tell us about missed nursing care'. This was in addition to the MISSCARE survey and offered the participants an opportunity to elaborate. This yielded additional subjective data that was not captured in the MISSCARE survey.

## 2.12 The major contributing factors to missed nursing care in Australia

Most of the studies utilising quantitative data (n=6) have identified urgent situations and an unexpected rise in patient volume or acuity as the main contributors to MNC. In contrast, the qualitative data does present a greater variety of contributing factors that range from environmental factors, including the layout of the ward and access to equipment (n=2) (Henderson et al., 2020; Verrall et al., 2015), the nurses' personal and professional accountability (n=2) (Harvey et al., 2017; Jones et al., 2016) and interprofessional communication between the doctor and nurse (n=3). Interprofessional communication between the doctor and nurse was identified as a reason for nurses missing or delaying some nursing care, due to a delay in doctors prescribing it (Willis et al., 2015b). There was a difference in the contributing factors to MNC in studies that included registered nurses compared to those that included nurses in middle management. One common contributing factor to MNC highlighted in the studies only including registered nurses (n=5) was; environmental factors such as the ward layout, poor access to equipment and medications not being available. Whereas work intensity and interprofessional communication was identified as contributing factors to MNC in the studies that included middle management only (n=3). Inadequate staffing levels (n=8) was the most common theme across the studies. This aligns with both international research into MNC (Griffiths et al., 2018) and seminal research by (Kalisch, 2006).

## 2.13 The impact of ward characteristics on missed nursing care

The majority of the studies (n=12) have been conducted in association with a branch of the Australian Nursing and Midwifery Federation and targeted to their members, rather than focussing on individual hospitals. This has led to a broad span of settings being included in the research. Research by Blackman et al. (2015b) included wards in a range of large, medium and small acute care hospitals (47.89%) and other settings including community, mental health and aged care (52.11%). Willis et al. (2015a) included a range of large, medium and small acute care hospitals (70%) and other settings including community, mental health and aged care (30%). Six studies have based their research in acute care

areas only (Albsoul et al., 2019; Blackman et al., 2015a; Harvey et al., 2017; Henderson et al., 2016; Jones et al., 2016; Verrall et al., 2015). In order to meet the objective of this scoping review, data from acute care areas has been extrapolated from the studies.

There was a greater number of metropolitan than rural acute care hospitals included in the research. The study by Willis et al. (2015a) included 47% of respondents from metropolitan settings and 32% in rural acute care settings in Victoria. Rural settings reported higher levels of MNC, particularly on afternoon and night shifts (Willis et al., 2015a). This could be attributed to the decreased nurse to patient ratios in rural settings (Victorian Government, 2015). Other research by Blackman et al. (2015a) found that rural hospitals had a higher incidence of MNC than metropolitan hospitals. Their findings have determined this is due to fewer human and physical resources; this is a well-known problem in rural Australia (Whitehead et al., 2019). Rural hospitals struggle to maintain a consistent workforce and have limited resources available to them (Whitehead et al., 2019).

The work areas/wards included in the research were not specified in most of the studies (n=9) which makes it difficult to determine the effect on MNC on individual wards. Four studies report on data collected from one source (Blackman et al., 2015a; Henderson et al., 2013; Verrall et al., 2015; Willis et al., 2015c). A strong finding from two of the studies highlighted a lower incidence of MNC in critical care areas, compared medical-surgical wards (Blackman et al., 2018; Chapman et al., 2017). Results from Blackman et al. (2018) included 14% of nurses from intensive care units (ICUs) and found a reduction of MNC events in ICUs. They indicate that it could be due to the staffing ratios. Nurse to patient ratios are generally higher in critical care areas, with one nurse to one patient, instead of one nurse to four patients on medical surgical wards (Victorian Government, 2015). Chapman et al. (2017) Also found a lower level of missed care in ICUs compared to medical-surgical wards. In their study, ICUs reported the lowest number of mean missed care incidents (n=40) compared to the medical ward (n=60) and the surgical ward (n=63). They also indicate the difference may be due to the 1:1 nurse to patient ratio (Chapman et al., 2017). The structure and size of the environment that a nurse works in could also explain reduced MNC in ICU's. ICU nurses must stay with their patient if they are ventilated and have many resources available within their immediate vicinity (Hoogendoorn et al., 2020).

This environment has been designed to limit the movements of the nurse, and ensure equipment is readily available in case of an emergency (Hoogendoorn et al., 2020).

## 2.14 The skill level of registered nurses and missed nursing care

Some of the studies conducted in collaboration with the nursing unions (n=8) included a broad range of disciplines, including assistants in nursing and student nurses who are unregistered health professionals. The majority of the studies included registered health professionals only (n=10) but this did also include enrolled nurses, and a minority of midwives in some studies. Data including registered nurses only has been extrapolated from these studies to align with the review questions. There were only six studies that included registered nurses only and four of these focused on senior nursing roles from nurse educators, specialist nurses, nurse managers and their perceptions of MNC (Henderson et al., 2020; Jones et al., 2016; Willis et al., 2015b; Willis et al., 2016). These findings include valuable senior nurse perspectives on MNC and identify diverse viewpoints to the contributing factors to MNC.

Senior nurses reported intentionally missing some nursing tasks or not performing them correctly, thereby intentionally 'cutting corners' (Jones et al., 2016). Reasons for cutting corners were to formulate a faster way to carry out a task in order to complete their work. One example of cutting a task was 'making up a patient's observations to avoid being perceived as incompetent or unable to cope with the workload' (Jones et al., 2016, p. 2129). This poses an inherent patient safety risk and a degree of concern that senior nurses are intentionally missing nursing care. Jones et al. (2016) suggests that an increase in work intensity is pressuring nurses to take shortcuts in order to complete their tasks.

Work intensity and poor communication were a common theme identified as contributing factors to MNC by the senior nurses (Henderson et al., 2020; Willis et al., 2015b; Willis et al., 2016). More specifically, Henderson et al. (2020) identified that work intensification can result in nurses not applying Personal Protective Equipment (PPE) or performing hand hygiene. This has led to nurses missing vital tasks and poor infection control practices

(Henderson et al., 2020). Rounding was introduced by senior management as a risk reduction strategy and to reduce nurses' work intensity. Research by Willis et al. (2016) suggests that it has the opposite effect by increasing the number of tasks that a nurse needs to complete every shift, therefore, increasing their workload. These findings align with Jones et al. (2016) that the more work that is given to nurses, the more tasks they will miss as they are pressured to prioritise their care.

## 2.15 List of Tables

**Table 1**

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| Albsoul et al. (2019) QLD | Factors influencing missed nursing care in public hospitals in Australia: An exploratory mixed methods study | Mixed Methods | Medical Surgical wards | 44 | Urgent patient situations<br>Heavy admission and discharge activity<br>Unexpected rise in patient volume/acuity in the unit<br>Medications not available when needed<br>Unbalanced nurse-patient assignments<br>Tension/communication breakdown with medical staff | Bachelors degree<br>EN | MISSCARE Survey |
| Blackman et al. (2015a) SA | Factors influencing why nursing care is missed | Quantitative | Medical Surgical wards | 289 | Shift type<br>nursing resource allocation<br>health professional communication<br>Workload intensity<br>workload predictability<br>nurses job satisfaction | Bachelors degree | MISSCARE Survey |
| Blackman et al. (2015b) | Missed Nursing Care: Report to the | Mixed Methods | Acute care Community | 648 | Urgent patient situations<br>Unexpected rise in patient volume/acuity in the unit | RNs<br>Masters degree | MISSCARE Survey<br>Open ended question |

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| TAS | Australian Nursing and Midwifery Federation: Tasmanian Branch | | Mental Health<br>Aged Care | | Inadequate number of staff<br>Heavy admission and discharge activity<br>Inadequate skill mix (no percentages given) | ENs<br>Midwives<br>PCA | 'Is there anything else you would like to tell us about Missed care?' |
| Blackman et al. (2018) AUS | Modelling Missed Care: Implications for evidence-based practice | Quantitative | Acute care<br>Community | 1195 | Afternoon shifts<br>Clinical area<br>Australian state of practice | EN<br>Diploma trained RN<br>Bachelor's degree<br>Graduate Diploma<br>Masters degree or higher | MISSCARE Survey |
| Chapman et al. (2017) AUS | Impact of teamwork on missed care in four Australian hospitals | Quantitative | Acute care | 372 | Labour resources - inadequate staffing<br>Urgent patient situation<br>Unexpected rise in patient volume<br>Supplies/equipment not functioning<br>Tension/communication breakdown with doctors, and other reasons | RN<br>EN | MISSCARE Survey<br>Nursing teamwork Survey |

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| Harvey et al. (2017) AUS/NZ | Missed nursing care as an 'art form': The contradictions of nurses as carers | Qualitative | Aged care Med/surg | 5698 | Nurses lack a personal level of accountability<br>Nurses lack professional accountability<br>Nurses remain a silent workforce and do not speak up about MNC<br>Nurses have to choose between care and expectations from their managers and organisation<br>Unpaid overtime to address MNC | Not stated | MISSCARE Survey |
| Hegney et al. (2019) QLD | Perceptions of nursing workloads and contributing factors, and their impact on implicit care rationing: a Queensland, Australia study | Mixed methods | Acute care | 2397 | Inadequate staffing | AIN<br>EN<br>RN<br>NP<br>MW<br>Student RN | 6 quantitative questions<br>1 qualitative question<br>No validated tool |

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| Henderson et al. (2013) SA | After Hours Nurse Staffing, Work Intensity and Quality of Care Missed Care Study South Australia | Mixed methods | Med/surg aged care midwifery Mental Health Community Research | 258 | Unexpected rise in patient volume/acuity<br>Inadequate numbers of staff<br>Inadequate number of assistive/clerical personnel<br>Heavy admission/discharge activity<br>Urgent patient situations | Registered Nurses/midwives | MISSCARE Survey |
| Henderson et al. (2016) NSW | Causes of missed nursing care: qualitative responses to a survey of Australian nurses | Mixed methods | Acute care and aged care | 4431 | Work intensification<br>Staffing issues | AIN (4.4%)<br>EN (12.6%)<br>RN (83%) | Modified MISSCARE Survey<br>Paper reports on qual responses to 1 question by 1037 nurses |

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| Henderson et al. (2020) AUS | Why do nurses miss infection control activities? A qualitative study | Qualitative | Specialist infection control nurses | 11 | Systemic failures - staffing and lack of time to complete the task<br>Environmental factors - Ward layout and access to equipment; environmental design, poor access to hand basins and PPE<br>Organisational factors - Lack of leadership and managerial support precipitating poor infection control practices, lack of educational opportunities to improve infection control.<br>Personal factors - Individual nurses knowledge base | Specialist infection control nurses | Semi structured interviews |
| Jones et al. (2016) AUS | Recognising and responding to 'cutting corners' when providing nursing care: a qualitative study | Qualitative | Acute care; | 71 | Cutting corners…something nurses 'live by' - nurses commonly find shortcuts and ways to do tasks quicker.<br>Judicious corner cutting - nurses cutting corners to manage time in demanding clinical environments.<br>Cutting corners as undermining patient safety - The majority of respondents were aware that cutting corners undermined patient safety | Nurse educator<br>Staff nurse<br>Clinical nurse<br>Clinical nurse consultant<br>Nurse unit managers | Semi structured interviews |

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| Verrall et al. (2015) SA | Nurses and midwives' perceptions of missed nursing care – A South Australian study | Mixed methods | Acute care | 258 | Competing demands: Lack of resources<br>lack of properly maintained equipment<br>Unexpected tasks - interruptions with phone calls/disruptions.<br>Ineffective software for determining staffing levels<br>Inadequate skill mix/staffing numbers | Not stated | Modified MISSCARE Survey<br>Paper reports on qual responses to open ended questions. |
| Willis et al. (2015a) VIC | Missed Nursing Care: Report to the Australian Nursing and Midwifery Federation: Victorian Branch | Mixed methods | Acute care<br>Mental Health<br>Aged care | 992 | Urgent patient situations<br>Unexpected rise in patient volume/acuity in the unit<br>Heavy admission and discharge activity<br>Inadequate skill mix<br>Unbalanced patient assignment | Registered nurses<br>- Bachelor degree<br>- Diploma<br>- Hospital Certificate<br>- Masters degree<br>Enrolled Nurses<br>- cert IV EN<br>Midwives | MISSCARE Survey<br>Open ended question:<br>'Is there anything else you would like to tell us about Missed care?' |
| Willis et al. (2015c) SA | Work intensification as missed care | Mixed methods | Med/surg aged care<br>Midwifery | 354 | Unexpected rise in patient volume/acuity<br>Inadequate numbers of staff<br>Inadequate number of assistive/clerical personnel | Years of experience:<br>Less than 2 years<br>2-5 years | MISSCARE Survey<br>Plus two extra questions: |

| Evidence Source Details and Characteristics | | | | Details Extracted | | | |
|---|---|---|---|---|---|---|---|
| **Author(s)/ State** | **Article Title** | **Methodology** | **Context** | **Sample Size** | **Contributing factors associated with MNC** | **Qualification/experience** | **Instrument** |
| | | | Mental Health Community Research | | Heavy admission/discharge activity<br>Urgent patient situations | 5-10 years (16%)<br>More than 10 years (57%) | Number of hours worked<br>Number of times their shift went over time |
| Willis et al. (2015b) SA | Understanding Missed Nursing Care Using Institutional Ethnography- The Ruling Relations of Post New Public Management | Qualitative | Tertiary public hospital | 12 | Interprofessional communication<br>Poor skill mix<br>Patient outliers (on incorrect wards)<br>bed to bed handover | Nurse managers (working night shifts and late shifts) | Interviews |
| Willis et al. (2016) SA | Rounding, work intensification and new public management | Qualitative | Acute care | 15 | Work intensity. Rounding was introduced to counteract this but contributed to it- Hourly rounding was cited as adding to the nurse's workload and worsening MNC. | After hours clinical nurse consultants, nurse managers | Interviews |

## 2.16 Discussion

### Staffing numbers and nurse to patient ratios

Literature regarding the factors contributing to MNC is limited in Australia with only sixteen studies carried out since 2016. Twelve of these were conducted by nursing unions. This can present a biased view as unions focus on the workload of nurses, rather than a balanced assessment of the contributing factors to MNC (Blackman et al., 2015b). Despite this, poor staffing levels have been recognised as one of the major contributing factors to MNC in fifty percent of the papers included in this scoping review (Blackman et al., 2015b; Chapman et al., 2017; Hegney et al., 2019; Henderson et al., 2013; Henderson et al., 2016; Henderson et al., 2020; Verrall et al., 2015; Willis et al., 2015c). Inadequate staffing has also been identified as the leading contributor to MNC in the international literature (Griffiths et al., 2014).

Nurse staffing is a controversial topic as it has significant quality of care, patient safety and financial implications. The financial implications can be significant as nurses account for up to 70% of salaries in acute hospitals in Australia (Olley et al., 2019). One aspect of staffing that differs in this scoping review compared to international findings is the impact of mandated nurse to patient ratios on MNC. The mandating of nurse to patient ratios has been introduced in two of the seven states and territories in Australia; Queensland and Victoria (Queensland Government, 2016; Victorian Government, 2015). The ratios are dependent upon the clinical area, time of shift and the location of the hospital.

In Victoria, mandated nurse to patient ratios vary between one nurse caring for four patients on day shifts to up to eight patients on night shifts (Victorian Government, 2015). The frequency of MNC was lower in Victoria than in other Australian states indicating the positive impact of mandated nurse-patient ratios on MNC (Blackman et al., 2018). The research in Victoria did suggest that staffing was a greater contributor to MNC on night shifts, where the nurse to patient ratios were lower. This may not solely be due to the ratio effect, rather the rollover effect; care that is missed by the early shift is passed onto the late shift, adding to their workload (Willis et al., 2015a) This will then be passed onto the night

shift who are already starting with double the number of patients than the early shift (Willis et al., 2015a).

High patient to nurse ratios have been highlighted as one of the main contributing factors to MNC in the global literature (Griffiths et al., 2018). In a study of 31,627 RNs from 488 hospitals in 12 European countries, the odds of MNC were increased by 26% when nurses were caring for more than 11.5 patients, compared with nurses caring for less than six patients (Griffiths et al., 2014). Despite this, international consensus on nurse to patient ratios is variable with a push from the International Council of Nurses (ICN) to implement them broadly (Olley et al., 2019). In the United States, a systematic review found no alignment between the different states on minimum nurse to patient ratios and suggests the legal standards for optimal staffing need to be developed worldwide (Shin et al., 2018).

## Nurses' lack of personal and professional accountability and missed nursing care

Nurses personal values and professional accountability has not been widely studied in relation to MNC (Srulovici & Drach-Zahavy, 2017). Only two studies have been conducted globally (Drach-Zahavy & Srulovici, 2019; Srulovici & Drach-Zahavy, 2017) and one in Australia (Harvey et al., 2017). A powerful finding in the Australian based research was the lack of personal and professional accountability of the registered nurse when discussing missed nursing care (Harvey et al., 2017). Nurses in the study presented little insight into their professional accountability when discussing care that they had missed. They rendered the responsibility to organisational mandates rather than their own responsibility to complete nursing care (Harvey et al., 2017). More specifically, they acknowledge the increasing demands from their organisation and target driven tasks, such as completing paperwork, as higher priority tasks than direct patient care (Harvey et al., 2017). Further research into this area could provide a deeper insight into the connection between accountability and MNC.

Lack of personal and professional accountability are underrepresented in the research into MNC. This gap in research could be explained by the way the MISSCARE survey is

structured. Part B of the MISSCARE survey asks nurses to select reasons for MNC (Kalisch & Williams, 2009). Nurses select from a number of reasons divided into three categories; communication, material resources and labour resources (Kalisch & Williams, 2009). This limits the options for nurses completing the survey. Therefore, the results of the survey may fail to capture a comprehensive analysis of the factors contributing to MNC. This further supports the rationale for the inclusion of qualitative data to offer a broader perspective of the nurses participating in the studies. More well-developed mixed methods research incorporating questions about the nurses' professional accountability would strengthen research in this area. The information could be extremely useful for middle management and educational institutions as they continually strive to improve nursing practice and patient outcomes. Srulovici and Drach-Zahavy (2017) suggest the implementation of local and national educational programmes promoting accountability in practice may reduce the incidence of MNC. They also add that a culture of accountability needs to be led by the ward managers. Given that nurses with a higher level of personal accountability end up missing less nursing care than those with a lower level of accountability, this is an area that warrants further research (Srulovici & Drach-Zahavy, 2017).

## Skill mix and missed nursing care in Australia

The nursing workforce in Australia includes assistants in nursing (AINs) and enrolled nurses, in addition to registered nurses (Blackman et al., 2015b). The skill mix of the nursing workforce included in this research has been useful in determining the impact of AINs and ENs on reducing MNC by registered nurses. Unregulated health care workers such as AINs take on more direct patient care responsibilities, such as assisting with personal hygiene, mobility and patient transfers (Willis et al., 2015a). However, two studies found that an inadequate skill mix was a major contributor to MNC in Australia (Verrall et al., 2015; Willis et al., 2015a). As registered nurses are accountable for the supervision and the delegation of nursing activity to ENs and AINs, this monitoring adds to their workload (Nursing and Midwifery Board of Australia, 2016; Willis et al., 2015a). International findings also found that adding nursing support workers to a team to improve care failed to improve the incidence of MNC (Griffiths et al., 2018).

## 2.17 Conclusion

Research seeking to more fully understand the contributing factors to MNC in Australia is emerging. The majority of the findings in this review align with the international studies into MNC and some of the seminal works into the MNC phenomenon by Kalisch (2006). This review adds an important perspective to the impact of staffing on MNC due to the mandated nurse to patient ratios in Australia, which has not been investigated in other countries. This review has also explored the connection between a nurses's professional accountability and MNC. It is clear that further research is needed in Australia to understand these contributing factors in a local context in order to determine solutions to reduce missed nursing care opportunities, and therefore, improve outcomes for both nurses and patients.

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The authors declare no conflict of interest.

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# Chapter 3

# Conclusion and Recommendations

# Table of Contents

## 3.1 Introduction

The aim of this thesis was to determine the factors contributing to missed nursing care in Australia. A scoping review was conducted and answered the research question: What are the contributing factors to missed nursing care by registered nurses in Australia? The preceding chapters have explored international and Australian research and have addressed the question. This chapter will provide an overview of the thesis and discuss the implications for nursing practice. Strengths and limitations of the research will be discussed. This chapter will conclude with recommendations for future research in the emerging field of missed nursing care.

The literature review provides a solid foundation for this thesis as it investigated the contributing factors to MNC from a global perspective. It found the common factors contributing to MNC focused on extrinsic variables such as inadequate staffing levels, and an increased workload. The literature review identified the majority of global research utilised the MISSCARE survey to collect data about MNC and this was also used in some Australian studies. However, it was evident that no systematic or scoping review of the literature has been conducted in Australia, highlighting a gap in the research. This led the development of the scoping review.

## 3.2 Strengths

The strengths of this thesis are the depth of the literature review, exploring MNC from an international perspective, and the use of a scoping review to explore the factors contributing to MNC in an Australian perspective. Scoping reviews offer an alternative approach to evidence synthesis (Peters et al., 2020). A traditional systematic review is useful for answering precise questions, whereas a scoping review is better suited to identifying key characteristics and concepts in studies (Munn et al., 2018).
Moreover, the indications for conducting a scoping review must meet the following criteria:

- To identify the types of available evidence in a given field
- To clarify key concepts/definitions in the literature
- To examine how research is conducted on a certain topic
- To identify key characteristics or factors related to a concept
- As a precursor to a systematic review
- To identify and analyse gaps in the knowledge base

A scoping review was conducted as it was the best way to synthesise the data due to the emergent nature of the research into MNC in Australia. The specific indications for conducting the scoping review were to identify key characteristics or factors related to MNC in Australia and to examine how research is conducted on MNC in Australia (Peters et al., 2020).

The strengths of this scoping review lie in its methodical approach. The use of the PRISMA-ScR checklist and Arksey O'Malley scoping review framework ensured a rigorous, transparent process (Arksey & Malley, 2005; Tricco et al., 2018). The five-stage framework by Arksey and Malley (2005) offered a systematic approach to searching and collating the data and presenting the results. The presentation of the results in a tabular format allowed for transparency of the results. This allowed data to be collated and synthesised using a transparent process. The fluidity of the data extraction process in this scoping review ensured a comprehensive body of data was extracted from the studies. This is a particular strength in the scoping review as a traditional systematic review requires pre-conceived ideas which was difficult to ascertain with the emerging nature of MNC in Australia (Munn et al., 2018).

The Australian centric focus of the research ensured that the results are relevant to the local healthcare context, therefore, easily interpreted by local nurses, managers and change-makers. This in turn can have a direct impact on the Australian healthcare system, particularly due to the sparse spread of the population in Australia and the unique geographical health landscape. Powerful comparisons in MNC data collected between rural and metropolitan hospitals highlight the challenges that rural nurses face, such as a higher

ratio of patients, compared to their metropolitan counterparts, this is despite mandated nurse to patient ratios in some states (Willis et al., 2015). This finding is unique to the Australian healthcare environment and highlights the strength of adopting an Australian centric approach to the scoping review.

## 3.3 Limitations

Self-reporting bias is evident in most of the quantitative studies as they rely on collecting the subjective data of individuals, meaning that situations may be under-reported, over-reported or misremembered (Schneider et al., 2016). This is also a common theme in the international research due to the nature of the MISSCARE survey being used to collect the data. The MISSCARE survey is useful as it enables researches to collect a large amount of data and easily identify the types of care missed and the reasons for care missed, but it fails to capture the subjective experiences of nurses which is vital when assessing the direct actions of a nurse. Another limitation to this scoping review was that most of the studies were cross sectional so they were unable to establish a causal link between the contributing factors and missed nursing care (Schneider et al., 2016).

The majority of the Australian research has been sponsored by nursing unions. This has shifted the analysis of the research to focus on macro health reforms including work intensification and staffing rather than presenting a non-biased view and exploring individual nurse characteristics, as Kalish does in the international research (Kalisch & Xie, 2014). The studies by nursing unions also included a diverse spread of healthcare professionals from registered nurses, unregistered nursing assistants, midwives and practice nurses. Yet the MISSCARE survey is designed for bedside nurses to complete (Kalisch, 2006). Future Australian research may yield more valuable results if the subjects of the research include registered nurses only, rather than including midwives, and unregistered health professionals. This is because of the greater variance in the scope of practice, responsibilities and clinical environment between the roles, leading to challenges in the transferability of the results. In this scoping review, careful extraction of data including RNs only was utilised to strengthen the results and address the research question.

## 3.4 Recommendations for future research

Quality independent research in an Australian context is needed to explore the phenomenon of MNC in greater depth. All research into MNC has focused on the contributing factors, nurse and patient outcomes, however none has focused on strategies to reduce MNC. The contributing factors to MNC are variable so need to be identified at a local level (Willis et al., 2017). A quasi experimental pretest-posttest study design could be employed to collect MNC data before and following an intervention (Schneider et al., 2016). The intervention could incorporate nursing education to raise awareness of a nurse's personal and professional accountability for MNC. A study of this type has not been conducted. Results could lead to the development of educational strategies to reduce MNC and lead to changes in nursing practice and significant improvements in the quality of nursing care, even in challenging, busy environments. If nurses are aware of the phenomenon of MNC and the impact that it can have on nurse and patient outcomes, this could potentially reduce its incidence (Verrall et al., 2015).

Ethnographic studies could also be considered as an alternative approach to analysing the phenomenon of MNC, particularly the factors contributing to MNC. An ethnographic approach could reduce self-reporting bias by collecting the perspectives of both the nurse and the observer (Schneider et al., 2016). This could strengthen the results of the research and offer a detailed way of witnessing the factors contributing to MNC in the relevant context (Schneider et al., 2016). A mixed methods approach to the research combining ethnography and the quantitative MISSCARE survey would yield some exciting and very useful results and this has not yet been conducted in any of the research into the contributing factors of MNC. However, it is acknowledged that ethnographic studies are time consuming, requiring a great deal of fieldwork, so the study would need to use a smaller sample size and may be better suited to single wards or hospitals rather than running studies across multiple healthcare facilities.

## 3.5 Recommendations for practice

A surprising finding from this scoping review was the lack of personal and professional accountability some nurses had when providing care for their patients. It is accepted that nurses have personal and professional accountability to provide a high level of care to their patients at all times. Personal accountability is entrenched in a nurse's upbringing and cultural background (Srulovici & Drach-Zahavy, 2017) and is what draws many people to the profession. Professional accountability is developed through their pre-registration training programme and ongoing professional development (Srulovici & Drach-Zahavy, 2017). In Australia, the work that is accepted and completed by a nurse becomes their responsibility (Harvey et al., 2017). The NMBA Standards for practice as a registered nurse state: "Nurses are accountable for their decisions, actions, behaviours and the responsibilities that are inherent in their nursing roles including documentation. Accountability cannot be delegated" (Nursing and Midwifery Board of Australia, 2016, p. 6). Meaning that nurses are accountable for all of the actions they perform whether they do so independently or interdependently. This research found that a lack of accountability was associated with an increase in MNC events. It is not clear why the current evidence shows a dismissal of personal accountability and what impact it has on nurses missing care. More research could further investigate this phenomenon and enable the development of strategies to potentially lead to an increased awareness of personal and professional accountability.

## 3.6 Implications and recommendations for policy

What is clear from research into MNC is that it can have a negative impact on patient and nurse outcomes (Kalankova et al., 2020; Zhu et al., 2019). By using MNC as a measurable outcome, this could provide healthcare providers with a strong understanding of how their organisation is performing. Regular surveys could be conducted to determine the contributing factors to MNC, establish a baseline measurement and monitor ongoing occurrences and design strategies to implement, tailored to the local ward level to attempt to reduce its incidence. Regular measurement of MNC activities can track the effectiveness of nursing care directly and produce secondary and tertiary benefits of improving nurse and

patient outcomes. These improved outcomes will have a flow on effect to fiscal outcomes, which usually underline healthcare policy, staffing and infrastructure (Willis et al., 2017).

This scoping review found a strong positive connection between nurse to patient ratios and MNC. The mandating of nurse to patient ratios in two states within Australia provided a unique insight into the effects of controlled staffing vs non mandated staffing within one country. It is clear that the mandated of one nurse to four patients on medical surgical wards reduces the incidence of MNC yet staffing ratios with more than four patients leads to a greater incidence of MNC. These findings add to the international research and strengthen the support for a one to four ratio across all shifts and medical surgical wards in both rural and metropolitan settings. A great degree of positive change has occurred in staffing levels with the mandating of nurse to patient ratios in Queensland and Victoria in Australia. However, there is still some variability in ratios according to the type of shift and location. Further work can be done to streamline the ratios to a minimum of one (1) nurse to four (4) patients and mandate them throughout Australia.

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# Appendix I: Search strategy

MEDLINE with Full Text (access via EBSCOhost Web).

Search conducted on 10th August, 2020.

MeSH Terms: “Australia”, “Hospitals”, “Nursing”

| Search | Query | Records retrieved |
|---|---|---|
| #1 | “missed nursing care” [TX] OR “unfinished nursing care” [TX] OR “missed care”[TX] OR “unfinished care”[TX] OR “miss care”[TX] OR “omitted care”[TX] OR “rationed care”[TX] | 1767 |
| #2 | “contributing factors”[TX] OR “reasons”[TX] OR “causes”[TX] | 2126856 |
| #3 | “nurse”[TX] or “nurses”[TX] or “nursing”[TX] | 1414723 |
| #4 | “acute care”[TX] OR “acute setting”[TX] OR “acute hospital”[TX] OR “inpatient” [TX] | 372788 |
| #5 | “Australia”[TX] OR “Australian”[TX] OR “Australians”[TX] | 1068977 |
| #6 | #1 AND #2 AND #3 AND #4 AND #5 | 20 |
| Limited to #2000-2020, #English language | | 20 |

## Appendix II: Data extraction instrument

The JBI data extraction instrument has been modified to meet the objective of the scoping review. This may be amended further when undertaking the review.

| | |
|---|---|
| Scoping Review Details | |
| Scoping Review title: | |
| Review objective/s: | |
| Review question/s: | |
| Inclusion/Exclusion Criteria | |
| Population | |
| Concept | |
| Context | |
| Types of evidence source | |
| Evidence source Details and Characteristics | |
| Citation details (e.g. author/s, date, title,) | |
| Country | |
| Context | |
| Participants (details e.g. age/sex and number) | |
| Details/Results extracted from source of evidence (in relation to the concept of the scoping review) | |
| What contributing factors were associated with MNC? | |
| Which wards/units are included in the study? | |
| What is the skill level of the nurses included in the study? | |