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CONDITIONS FOR CARE

Factors in the nurse work environment related to
safe and high quality care in acute care hospitals

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"Everything is connected"

- Dirk Gently

ABSTRACT

Shortages of registered nurses (RNs) intensify challenges for healthcare service providers in matching an increasing demand for care with a sufficient healthcare workforce. Poor working conditions have been recognized to often precede RNs' decision to leave the profession prematurely. Since job dissatisfaction has been shown to be related to negative outcomes for patients, investigating working conditions may provide valuable insights for healthcare service providers in their efforts to improve recruitment and retention of RNs to sustain care quality and safety for patients. However, there was limited knowledge in research about the work conditions needed for care provision from the perspective of RNs themselves.

The overarching aim of this thesis is to investigate RNs' experiences of their work environment – as persons, as professionals, and as employees – and how their experiences are related to patient safety, quality of care, and conditions for patient care delivery.

This thesis is based on data derived from the Swedish component of the cross-sectional, multi-national EU 7th framework project Registered Nurse Forecasting (RN4CAST). Swedish data include survey responses from a national sample of 11 015 RNs working in inpatient care on medical/surgical wards in all acute care hospitals in Sweden, patient data from the national discharge register, and data on hospital characteristics.

Results show that hospital structural factors such as size, geographical location, and teaching status, had relatively little influence on RNs' assessments of their work environment, work situation and the quality of care. Factors with the most influence on RNs' assessments of patient safety on their ward were modifiable, related to their perception of adequate staffing and resources, hospital management prioritizing patient safety, supportive nurse leadership, and good working relations with physicians. RN-assessments of excellent patient safety and quality of care on their ward related to considerably lower odds of patients dying within 30 days of admission. In their own accounts, RNs described experiencing expectations and demands – from management, patients and their families, other staff groups, the RN profession as well as their own individual ambitions – to uphold standards of safe, high quality care. However, they also described working in an environment with little means of influencing the conditions needed to meet these demands. The tensions between expectations and demands on one hand, and lack of influence on the other, seemed to lead to RNs' lacking a sense of agency, on both individual and collective levels.

This thesis indicates that RN-assessments of excellent patient safety and quality of care can be useful as valid hospital-level indicators to inform policy-decisions on patient care. However, inadequacy of important conditions for providing safe care (e.g. adequate staffing and resources) as well as the lack of a sense of agency suggests organizational factors might impede RNs' ability to use their entire range of professional competence in care provision and to govern their own scope of practice. In efforts to improve RN retention and to ensure safe, high-quality care to patients, hospital organizations could use these research findings to identify and foster organizational conditions that support RNs' full professional contribution to patient care.

LIST OF SCIENTIFIC PAPERS

- I. Lindqvist R, Smeds Alenius L, Griffiths P, Runesdotter S, & Tishelman C (2015). Structural characteristics of hospitals and nurse-reported care quality, work environment, burnout and leaving intentions. *Journal of Nursing Management*, 23(2), 263–274. Doi: 10.1111/jonm.12123
- II. Smeds Alenius L, Tishelman C, Runesdotter S, & Lindqvist R (2014). Staffing and resource adequacy strongly related to RNs' assessment of patient safety: A national study of RNs working in acute-care hospitals in Sweden. *BMJ Quality & Safety*, 23(3), 242–249. Doi: 10.1136/bmjqs-2012-001734
- III. Smeds Alenius L, Tishelman C, Lindqvist R, Runesdotter S, & McHugh M.D. (2016). RN assessments of excellent quality of care and patient safety are associated with significantly lower odds of 30-day inpatient mortality: A national cross-sectional study of acute-care hospitals. *International Journal of Nursing Studies*, 61, 117–124. Doi: 10.1016/j.ijnurstu.2016.06.005
- IV. Smeds Alenius L, Lindqvist R, Ball J, Sharp L, Lindqvist O, & Tishelman C. Between a rock and a hard place: RNs' descriptions of their work situation in cancer care in Swedish acute care hospitals. Manuscript

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LIST OF ABBREVIATIONS AND KEY TERMS

Assistant Nurse	In Sweden, Assistant Nurses have a 3-year upper secondary school education in a specialized vocational program (Swe: Undersköterska)
CI	Confidence Interval
DRG	Diagnosis Related Groups
HSOPSC	Hospital Survey of Patient Safety Culture
MBI	Maslach Burnout Inventory
NBHW	National Board of Health and Welfare (Swe: Socialstyrelsen)
Nursing staff	Refers to both RNs and Assistant Nurses
OECD	Organisation for Economic Collaboration and Development
OR	Odds Ratio
Patient safety	<i>“the absence of preventable harm to a patient and reduction of risk of unnecessary harm associated with health care to an acceptable minimum”</i> (WHO, 2018) and <i>“the ability to succeed under varying conditions, so that the number of intended and acceptable outcomes (in other words, everyday activities) is as high as possible”</i> (Wears et al., 2015, p. 2)
PES-NWI	Practice Environment Scale of the Nursing Work Index
Quality of care	<i>“the extent to which health care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred”</i> (WHO, 2018)
RN	Registered Nurse, in Sweden based on a 3-year academic education leading to Bachelor of Science in Nursing as well as professional licensure (Swe: Legitimerad sjuksköterska)
RN4CAST	Acronym for the international EU-funded project: Nurse forecasting: Human Resources Planning in Nursing
SAHP	Swedish Association of Health Professionals – Swedish trade union organizing RNs, Midwives, Radiographers and Biomedical scientists (Swe: Vårdförbundet)
WHO	World Health Organization

PREFACE

At the start of my career in nursing, working as a registered nurse (RN) in a cardiology ward, I was fascinated by the intricate mechanisms of the heart and its' functioning, as well as the many ways it manifested in patient symptoms and how patients related to their own bodies. In my clinical work, I felt I was doing something important and meaningful, and I had skilled and competent colleagues who supported me when I was new as a nurse.

The communication and interaction among healthcare professionals in different parts of the hospital, and sometimes outside the hospital – an elaborate organization of activities and people – were all connected and interdependent in coordinating and providing care to every single patient. To me, the system was mind-boggling; much like the experience I first had learning about the functions of the human body during my RN education.

Similar to the physiological processes of the body and the system of interdependent organs, cells and fluids, working as an RN, I could recognize the complex context in which we worked. The way the system and organization either enabled or hampered the ability of different professionals to connect, coordinate and provide safe, quality care to patients. With my previous background in business organizational studies, I found it fascinating as well as humbling. While the hospital became a familiar arena for me in my everyday clinical work, for most of my patients, their stay in hospital represented a short, sometimes dramatic, period in their lives. Every patient was a new person with her/his own story and life outside the hospital, a life where we as healthcare staff were just visitors. My job as a nurse, together with the other healthcare professionals, was to provide relevant and adequate care to the best of our professional knowledge, in order for them – in the best case – to go home and continue their lives.

In 2010, I learned of a position in the Swedish 'Registered Nurse Forecasting (RN4CAST) research team, and was accepted as a doctoral student through the National Research School in Healthcare Science at Karolinska Institutet. This thesis is based on research conducted as part of the RN4CAST project, an international collaboration of 16 participating countries, including Sweden. It aimed to contribute to new ways of forecasting the need for nursing staff by not only looking at volume but also investigating workforce characteristics and implications for health outcomes.

The project presented an opportunity for me to investigate how healthcare organizational factors are related to staff and patient outcomes. During my PhD research education I have retained the desire to utilize a systems perspective to understand the interconnected and interdependent mechanisms and features of the complex hospital care context and explore conditions for providing safe, high quality patient care to ensure the least possible interruption of patients' lives.

1 INTRODUCTION

Changing demographics and increasing populations with chronic illnesses and multi-morbidities increase demands for healthcare services (European Commission, 2018). Healthcare providers, in Sweden as well as in other countries, face similar challenges trying to match the increasing demands for care with a sufficient supply of healthcare professionals, while also containing costs and maintaining or ideally improving care quality. National and global reports of shortages of healthcare staff in general and registered nurses (RNs) in particular (National Board of Health and Welfare, 2018, OECD, 2017, SCB, 2017) intensify the challenges facing healthcare stakeholders on national, regional and local levels.

1.1.1 Shortage of RNs

Currently, the number of RNs entering the workforce in Sweden still appears to be growing; more RNs are graduating from basic RN education (UKÄ, 2018) and more RN licensures are issued (National Board of Health and Welfare, 2018). However, the supply does not appear to meet the demand, as approximately 80% of employers in the healthcare sector report problems with recruitment and retention of nurses at present. They also estimate shortages worsening in the coming years, of both specialized RNs as well as RNs with basic education (National Board of Health and Welfare, 2018). Steps were taken on the national level to raise the number of RNs entering the profession by commissioning an increase in the capacity of RN educational programs (Utbildningsdepartementet, 2011). However, to date this seems to have had little or no effect on reducing current staff shortages; further increases in educational capacity have been recommended by the government agency responsible for health workforce planning forecasts (National Board of Health and Welfare, 2018). However, the data so far seems to suggest the shortage of RNs may not be able to be solved simply by educating more RNs; it may be necessary to also consider strategies to actively retain RNs who are already working in the system and look at how premature departures from the nursing profession might be prevented.

A recent report shows that approximately 20% of enrollees in undergraduate RN education leave prematurely, i.e. in the first two years of their education, a figure similar to other vocational degree programs (e.g. teaching, engineering, business) (Svensson and Berlin Kolm, 2018). Although individual reasons for leaving may vary, the role of students' first placement in clinical practice has been highlighted, over several decades and across countries, as one potential challenge (Gertsson, 2009, Kramer, 1974). International studies show that approximately 8-20% of practicing RNs contemplate leaving the profession (Heinen et al., 2013, Li et al., 2011, Lindqvist et al., 2014), and a report from 2014 showed 10% of licensed RNs in Sweden had left clinical practice and were not working as RNs in the health and social care sectors. Of these, about 20 % worked in education-related positions, while the largest group worked as organizational developers and investigators at different governmental agencies (SCB, 2017).

Even though nursing shortages are recurrent, multi-faceted, and complex issues not easily explained (Ball, 2017), shortages of RNs reported by employers might not necessarily represent a lack of interest in nursing, but rather, as Buchan and Aiken argue, may indicate a lack of RNs willing to work in poor working conditions (Buchan and Aiken, 2008). In a recent Swedish survey of RNs who left the profession, 60% reported poor working conditions as one of their main reasons (SCB, 2017).

1.1.2 The context of care

As might be expected, working conditions and the quality of the work environment also have an impact on RNs' ability to provide safe, high-quality care to patients (Aiken et al., 2011, Page, 2004). In recent years, organizations such as the World Health Organization (WHO) and the European Union (EU) have increased their focus on healthcare staff, including RNs, as part of the overarching goal of improving public health (European Commission, 2012, WHO, 2016). With a pivotal role in the provision of care to patients, WHO and EU recognize the importance of improving working conditions for RNs and other healthcare staff in order to ensure universal access to effective, equitable, and appropriate quality care for patients (WHO, 2016).

With the limited resources available in healthcare, both human in terms of staff, and financial, there is a need to explore how to utilize the full potential of RNs' professional scope and practice to the benefit of both patients and staff. For healthcare service organizations, incentives to improve RNs' working conditions often target important areas, RN retention and improved patient care. In addition, improved working conditions might maximize RNs' professional contribution to enable safe, high quality care.

A growing body of literature has identified organizational features associated with positive patient care outcomes, e.g. supportive management, maintaining a proficient workforce, interdisciplinary teamwork (Taylor et al., 2015). Research has also shown that outcomes of care vary among different hospitals, e.g. in the case of mortality after myocardial infarction (Chung et al., 2015) or readmissions after cancer surgery (Haneuse et al., 2018). However, when RN4CAST began, there was still limited knowledge about how much of the variation in outcomes among hospitals is related to structural characteristics, not readily changed such as size or geographic location, compared to influence of more malleable factors, e.g. differences in working conditions or organizational features. There was also limited knowledge about conditions needed for patient care provision from the perspective of the care providers themselves, in this case, RNs. To increase our understanding of the environment in which care is provided to patients, where safety and quality of care are contingent on prerequisite conditions for everyday clinical activities, we need to know even more about the experiences of RNs working in such environments, and their role in providing direct patient care.

2 AIM

The overarching aim of this thesis is to identify and examine factors in the nurse work environment that are related to safe and high quality care in inpatient wards in Swedish acute care hospitals. In this research, RNs' assessments and experiences of their work environment – as persons, as professionals, and as employees – are investigated in relation to patient safety, quality of care, and conditions for patient care delivery.

This thesis aims to address the following research questions (numbers in parenthesis refers to the four studies I-IV):

- 1) How are structural factors related to RNs' assessments of their work environment? (I)
- 2) How are organizational features, such as patient safety culture, structural and work environment characteristics, related to RN assessments of quality of care and patient safety, statistically (I, II), and according to RNs' own descriptions (IV)?
- 3) How are organizational features related to RNs' assessments of their own well-being and job satisfaction? (I, IV)
- 4) How are subjective RN assessments of patient safety and quality of care related to the objective measure 30-day inpatient mortality? (III)
- 5) How do RNs describe experiences of their work and their work environment? (IV)

3 BACKGROUND

“I often work nights, where I am the only RN along with two assistant nurses. Then I’m responsible for 26 patients; we are often overcrowded which can lead to me being responsible for up to 29 patients. Since it’s a surgical ward with three different areas of surgery, we have a lot of newly operated patients who can be in very bad shape. I often have to leave the ward to get patients from the post-op ward. Then there is no RN on the ward.

Those of us who work nights have pointed out for quite some time that the situation is untenable, that there isn’t adequate surveillance of the patients, they often have to wait a long time for pain relief and, in reality, we have no means of taking care of more than one patient in really bad shape at a time. In addition, we often get patients who really need to be in an Intensive Care Unit, but when the ICU is full, we have to take those patients who are the ‘least bad off’. We are not staffed for that. But despite our loud protests, management ignores our concerns.

Also, in the last few months we’ve had a reorganization. We have gotten two new [surgical] areas which are completely new for us... Even though we requested education in advance [of the reorganization], management hasn’t given us any real education. This means that many times we don’t have the slightest idea of what to expect in terms of post-operative complications or what’s normal and what’s not, since no one on the ward has any experience of these kinds of patients. What about patient safety?”

– Survey-response from an RN working in a surgical ward

3.1 SAFE PATIENT CARE

The patient care context is complex, full of potential risks, and in a state of constant change, as illustrated in the quote above. Although patient harm from adverse events may sometimes be unavoidable despite RNs’ and other health professionals’ best efforts to provide safe, quality care, there are also instances where patient harm could have been prevented, but was not. A recent Swedish study estimates that every year, approximately 12% of patients admitted to an acute care hospital in Sweden experience an adverse event (e.g. pressure ulcers, hospital acquired infections, falls, venous thrombosis), but approximately 60% of those adverse events are considered probably or certainly preventable (Nilsson et al., 2018). The actual number of adverse events, however, might not necessarily correspond with the estimated number, since far from all adverse events or ‘near-misses’ (i.e. situations which could have led to patient harm, but were avoided) are reported, or even recorded in patient’s medical records (Öhrn, 2012).

On a system level, the consequences of adverse events can include increased length of stay at the hospital, re-admissions, and in some cases, additional treatments or interventions to mitigate the harm done, resulting in increased costs for hospital care. The consequences for

individual patients may involve unnecessary harm and suffering, where some patients may even sustain debilitating injuries affecting their continued daily lives. In the worst cases, patients might even die as a result of deficiencies in the care they receive. According to the Organisation for Economic Cooperation and Development (OECD), increased costs related to adverse events far exceed those for preventive measures (Slawomirski et al., 2017), which means there might also be financial incentives for hospitals in reducing adverse events, in addition to minimizing negative outcomes for patients.

Care-related harm to patients has been described and studied for well over a century, but according to Vincent, patient safety and safe care practices have only been recognized as priority issues on a larger scale in the last three decades (Vincent, 2010). A persistent culture which perceived skilled clinical professionals to be unable to make mistakes, within the professions of medicine and nursing in particular, made it challenging to address medical errors (Leape, 1994). Efforts to improve care safety resulted instead in a culture of ‘naming and blaming’, where individual professionals were identified as “bad apples”, which hampered collective learning as well as professional development (Leape, 1994).

Patient safety interest gained momentum through James Reason’s book *Human error* (1990) emphasizing the importance of systems thinking rather than individual blame, and the U.S. Institute of Medicine’s (IOM) report *To Err is Human* (Kohn et al., 1999), which described problems with patient safety and the extent of adverse events in U.S. healthcare. Both books contributed to global recognition of patient safety issues, and WHO urged nations to increase attention to safe care and to implement evidence-based strategies to improve quality and safety of patient care (WHO, 2002). In Sweden, to broaden attention on safety practices from focusing primarily on medication errors to encompassing all areas of care, an investigation into the state of Swedish healthcare was launched (Lundgren et al., 2008). The findings and recommendations were then integrated into a new Patient Safety Act, launched in 2011 (SFS 2010:659), which increased healthcare providers’ responsibility to develop safety practices, promote organizational patient safety awareness, and create a culture of patient safety.

A systems approach to patient safety errors builds further on ideas of ‘active’ and ‘latent’ errors, originating from operational safety in the nuclear industry, where ‘active’ errors are related to actions of the front-line operators, or ‘the sharp end’ of an organization (Rasmussen and Pedersen, 1984). ‘Latent’ errors on the other hand relate to system positions or organizational functions where actions are often removed in both time and space from the ‘sharp end’; this end of operations is also referred to as ‘the blunt end’. Exploring these ideas further in his book, Reason lists functions such as managers, designers, maintenance personnel, and high-level decision makers as operating in the ‘blunt end’ (Reason, 1990). Latent conditions may lay dormant within a system, making them difficult to detect, only to become visible when combined with other factors to result in a breach of safety defenses. As Reason puts it: “*Rather than being the main instigators of an accident, operators tend to be the inheritors of system defects created by poor design, incorrect installation, faulty maintenance and bad management decisions*” (Reason, 1990, p. 173). A systems approach to

investigating medical errors has since been recognized as far more productive than a culture of blaming specific individuals, in efforts to create a culture of safety.

Patient safety is most often defined as a part of the overarching concept of quality of care, and, in an overall concern with health care quality, safety practices need to be integrated along with other issues in a continuous quality assurance and development process. Vincent (2010) makes an important point in addressing integration and prioritization of patient safety among other pressing concerns. He argues that delivering care to patients is the foremost priority in healthcare, not safety, but that patient safety should almost always take precedence when objectives collide (Vincent, 2010). This argument is rooted in the reality of everyday healthcare management, where for example a ward manager needs to balance patient safety with limited resources while also maintaining a rapid throughput of patients. Differing objectives need to be balanced against each other, and safety is one of many in the overall concept of quality care which also includes accessibility, efficiency, patient centeredness, timeliness, and equitability (Kohn et al., 1999).

Creating an organizational culture of patient safety is an essential part of strategies to improve the safety of patient care and ensuring patient safety is an integrated part of clinical practice. There are many definitions of what a culture of safety is composed of, but common features are reciprocal, interactive relationships between the organization and its workers. The relationship is manifested through shared values and safety attitudes, behavior expressing awareness of safety aspects, and is supported by organizational structures and systems (Cooper, 2000).

A culture of safety is an ongoing process of awareness and learning on organizational and individual levels, where following rules – or occasionally breaking them – is what creates and strengthens safety. As Don Berwick put it: “*Breaking the rules is the adaptive response of an intelligent workforce involved at the sharp end of healthcare* (as cited in Vincent, 2010, p. 44).

3.2 RNS AT THE ‘SHARP END’ OF CARE

In 2004, continuing their focus on systems approaches to improving patient safety, the IOM published another report, *Keeping patients safe* (Page, 2004), identifying improvement of the RN work environment as an essential factor to increase patient safety. RNs have a central position in patient care, make up the majority of healthcare staff (National Board of Health and Welfare, 2018), and are one of the health professional groups that hospital patients spend the most amount of continuous time with, during their hospital stay (Page, 2004). Consequently, improvements in RNs’ work environments should influence a large degree of the care received by patients.

A hospital inpatient ward, i.e. the ‘sharp end’ of care, is composed of an intricate, interconnected, and interdependent system where different health professionals interact with patients. In addition to providing direct care and treatments to patients, RNs monitor patients’

health status to detect early signs of complications; they coordinate and collaborate with multi-professional care teams, supervise students and other nursing staff, and provide education and support for patients and their families. RNs' role in the context of patient care on a ward allows them a unique overview of care activities during patients' hospital stay (Hughes, 2008), supporting their ability to make well-informed assessments of care quality and safety in their ward (Page, 2004). RNs' strategic position at the 'sharp end', provides opportunity for them to identify, intercept, and prevent or correct both active and latent errors that could result in patient harm, thus acting as a patient 'safety net' (Henneman et al., 2012).

3.3 EXPLORING THE LINK BETWEEN RNS AND OUTCOMES OF CARE

3.3.1 Nurse-related factors

A rapidly growing body of research has shown nurse-related factors to be significantly associated with different patient outcomes. For example, improved nurse-staffing has been found to be related to lower odds of patient mortality (Aiken et al., 2014), fewer hospital-acquired infections (Cimiotti et al., 2012), lower risk of post-surgical infections (e.g. pulmonary embolism, urinary tract infection (Kovner et al., 2002), as well as fewer falls and medication errors (Duffield et al., 2011), to name a few. Other dimensions, such as skill mix in the nursing staff and higher proportions of RNs with Bachelor's degrees, have also been shown to reduce odds of patient mortality (Aiken et al., 2017, Aiken et al., 2014). However, most studies have relied on cross-sectional data, limiting the possibility for causal inferences. A rigorous study by Needleman et al. (2011) investigated patient data from a three year period and matched it with exposure to high/low workload shifts for RNs during the same time-frame. They found significant increases in negative patient outcomes on shifts with high workload compared to shifts with a lower workload. Shekelle, in a systematic review of nurse staffing and outcomes, argues that Needleman et al.'s study makes a strong contribution to evidence of a causal relationship between nurse staffing and patient outcomes (Shekelle, 2013). Even so, evidence of a causal effect of staffing on patient outcomes does not reveal the potential mechanisms of such a relationship. To investigate this, Ball et al (2018) explored missed nursing care (i.e. patient care activities RNs consider necessary but miss carrying out due to lack of time), as a potential clue to the workings of a causal mechanism. They found that staffing had a mediating effect on the relationship between care left undone and patient mortality, suggesting missed care is part of the causal relationship between staffing and patient outcomes.

3.3.2 Work environment

Although adequate resources, such as sufficient staffing, appear essential to RNs' abilities to provide safe, high quality patient care, there are other factors, which might be equally fundamental to the delivery of care.

Identifying the importance of the work environment, as an aspect of patient care delivery, can be dated back to the 19th century when Florence Nightingale wrote *Notes on Nursing*. To

“put the constitution in such a state as that it will have no disease, or that it can recover from disease” (Nightingale, 1859/1989, p.iii), in other words, providing fresh air and helping patients to have a standard of basic hygiene was an essential part of professional nursing. To enable nurses to provide high quality care for patients, she also wrote *Notes on Hospitals* (Nightingale, 1863), where she applies a systems approach and details how hospitals should be designed, organized and structured to serve as facilities optimized for nursing care to support patients’ recovery and healing processes. Through her book on hospitals, which was at the time quite controversial, Nightingale has even been attributed influencing the development of the modern hospital (Black, 2005).

More recently, the quality of the work environment has been shown to mediate the effects that improvements in other factors have on outcomes. A large study by Aiken et al. (2011) included data from 665 hospitals, survey responses from ~40 000 RNs, and patient data from >1.2 million patients in four U.S. states. They used statistical modelling to investigate, among other factors, the effect of improved nurse staffing, (calculated as one less patient per nurse) on 30-day inpatient mortality in work environments with varying quality, where RNs’ assessments of their work environment were categorized into poor, mixed (average) or good. Results indicated that improved staffing showed no significant reductions in the odds of patient death in hospitals with a poor work environment, while the same improvement in staffing in a hospital with the best environment (two standard deviations above the mean value) significantly reduced the odds of patients dying by 9% (Odds ratio (OR) 1.101) (Aiken et al., 2011). Although the cross-sectional design limits a potential analysis of causal relationships, the study nonetheless shows that improved staffing might not reach its full potential effect unless the work environment is also favorable.

3.3.2.1 Magnet hospitals

Throughout the 20th century and in to the 21st, different ideas and concepts continue to shape the development of nursing and nurses’ roles to keep pace with changes in society (Corwin et al., 1961, Hine, 2007, Nancarrow and Borthwick, 2005, Schwartz, 1904). Historically, recurrent nurse shortages seem, perhaps out of necessity, to inspire hospitals and researchers to think in new ways and explore potentially attractive factors in the practice environment to improve RN recruitment and retention, while simultaneously bringing value, and benefit to patient care. A nursing shortage in the early 1980s motivated the American Nursing Association (ANA) to launch a study to investigate 41 identified hospitals, later known as ‘magnet’ hospitals, which managed to attract and retain nurses, despite the national shortage (McClure et al., 2002).

Through group interviews with nursing directors and with staff nurses at these hospitals, McClure et al. (2002) identified a number of organizational factors seen as key to their ‘magnetism’; these factors related to different areas of the professional organization and structure of the hospitals. Factors highlighted in the interviews as being of particular importance related to visible leadership and supportive management; a decentralized organization enabling participation of staff in decision-making processes; meaningful

personnel policies (work schedule flexibility and opportunities for promotion); organizational focus on quality of patient care (adequate mix of competence in staff, professional nursing practice, autonomy and control over practice); an image of nursing as a central part of care provision, as well as potential for RNs' professional development (McClure et al., 2002).

Drawing on these findings, several survey instruments have been constructed, beginning with the initial 'Nursing Work Index' (NWI) (Kramer and Hafner, 1989) which consisted of 65 items measuring job satisfaction and productivity of quality care at the level of individual nurses. Response-alternatives reflected agreement of the extent to which the different 'magnetic' factors were present at the current workplace as well as a rating of the perceived importance of each aspect in relation to providing quality care. The revised 'Nursing Work Index' (NWI-R) (Aiken and Patrician, 2000) included 49 items and changed focus from job satisfaction to instead measuring factors promoting professional practice models, using RNs as informants of ward and hospital level organizational traits. Response-alternatives only rated presence, not relative importance, of factors. 'Essentials of Magnetism' I and II (EOM I, II) (Kramer and Schmalenberg, 2004, Kramer and Schmalenberg, 2005) were developed to include, as argued by the authors, new developments in professional nursing practice which were not included in the original instruments. The EOM has been used in different countries and continues to be further developed (de Brouwer et al., 2014).

In the RN4CAST project, the 'Practice Environment Scale of the Nursing Work Index' (PES-NWI), (Lake, 2002) was used, which was also one of the first instruments to build on the magnet features. Lake built on the original NWI-instrument and structured the instrument into 5 dimensions which targeted measures at either ward level (adequacy of staffing and resources, collegial relations with physicians, and nurse manager ability, and support of nurses) or hospital level (nursing foundations for care, and nurse participation in hospital affairs) (Lake, 2002). A composite measure was also created to show an aggregated overall score of the practice environment. To date, PES-NWI is the most widely used instrument to measure nurse practice environments, and it has been translated into multiple languages (Warshawsky and Havens, 2011).

3.3.2.2 *Professional nursing practice*

In 1996, Hoffart and Woods (1996) presented a model, similar to the magnet model, for professional nursing. Using Donabedian's classic model for evaluating healthcare through structure, process, and values (Donabedian, 1966), Hoffart and Woods proposed the following definition of a professional practice model: "*a system (structure, process, and values) that supports registered nurse control over the delivery of nursing care and the environment in which care is delivered*" (Hoffart and Woods, 1996, p. 354). Similar to the concepts and instruments stemming from the magnet factors, aspects of autonomy and RNs' control over practice appear central in the professional nursing model in combination with supportive management, adequate staffing and resources, and collegial relationships with physicians.

4 METHODS

4.1 THE RN4CAST

Most data used in this thesis derives from the Registered Nurse Forecasting (RN4CAST) project. Primarily funded through the EU 7th framework program, RN4CAST consisted initially of a consortium of 15 collaborating countries, within and outside Europe, led by professor Walter Sermeus (Leuven Institute for Healthcare Policy, Katholieke Universiteit, Belgium) and professor Linda Aiken (Center for Health Outcomes and Policy Research, University of Pennsylvania School of Nursing, USA). Norway, which was not part of the original consortium, joined at a later stage.

When I joined the Swedish research team in 2010, the general research design of RN4CAST was already determined and data collection completed, which means I was not involved in decisions regarding the overall design. However, in the four studies included in this thesis I have been active in developing ideas, constructing research questions, analyzing data, interpreting results, and writing manuscripts. In this section, I provide a general overview of RN4CAST, with information specific to the Swedish component further described in section 4.4.

4.1.1 Design and methods

RN4CAST aimed to develop new ways of forecasting nurse staffing needs by investigating how individual and hospital organizational features relate to outcomes for patients (e.g. 30-day inpatient mortality and RN-assessments of patient safety and quality of care) and RNs (e.g. job satisfaction, burnout, intention to leave). This cross-sectional project, financed by EU from 2009 to 2011, focused on RNs working with inpatient care in adult medical and surgical wards in acute care hospitals. General acute care hospitals were chosen as they employ the majority of nurses (National Board of Health and Welfare, 2018), account for the largest number of medical errors (Kohn et al., 1999, Sławomirski et al., 2017), and comprise the largest share of national health expenditures (OECD, 2009, OECD, 2017).

The RN4CAST consortium established a study protocol which was followed, with some adaptations, by all participating countries and a description of general methodology and design of the project was published in 2011 (Sermeus et al., 2011). Depending on country size and number of hospitals, each country was requested to investigate 20-70 general acute care hospitals. Through direct contact with the hospitals, at least two nursing wards in each hospital, one medical, and one surgical ward were to be selected. All RNs (except RNs on leave or on vacation) providing direct patient care on the selected wards were included in the RN survey sample (Aiken et al., 2012, Sermeus et al., 2011). In Sweden, due to large geographical distances and additional financing, we decided to include a larger sample of RNs (recruitment process is described in section 4.4).

To investigate the relationships between nursing workforce characteristics, hospital organizational features and patient outcomes, all participating countries drew on three sources of data:

- 1) A survey of RNs undertaken to capture the context in which patient care is provided in hospitals, as well as characteristics of the nursing workforce and nurse assessed outcomes,
- 2) Patient data, such as age, gender, procedures, and diagnoses, derived from routinely collected data,
- 3) Hospital data collected to investigate organizational features, such as size, teaching status, and availability of high-technology procedures such as open-heart and/or transplantation surgery.

In a subgroup of five RN4CAST countries, a patient satisfaction survey was also administered in the selected nursing wards at the study hospitals (Sermeus et al., 2011). This was not done in Sweden (see section 4.4.).

4.2 ETHICAL CONSIDERATIONS

Prior to initiation, the RN4CAST study obtained ethical approval from the ethics committee at Katholieke Universiteit Leuven in Belgium (Ref: B3222009 6682), which was the coordinating center for the study. Additional ethical approval was obtained locally from other participating countries when needed in accordance with national regulations. In Sweden, approval of the study, as well as approval to acquire and analyze patient outcome data, was obtained from the regional Ethical Review Board in Stockholm (Dnr 2009/1587-31/5).

From the initiation of the RN4CAST project, the Swedish research team established a partnership with the Swedish Association of Health Professionals (SAHP). SAHP directly financed the distribution of the Swedish RN Survey, which was administered by Statistics Sweden, the Swedish governmental statistical agency. In a written agreement, the researchers' independent role was specified in terms of processing and analyzing the data, where SAHP only had access to processed data and had no influence on study design, results, or researcher dissemination.

The RN survey was distributed with an information letter, sent to the RNs' home address, describing background and purpose of the RN4CAST study, that participation in the study was voluntary, and that researchers at Karolinska Institutet in collaboration with SAHP conducted the Swedish RN4CAST component. The letter stated that responses would be anonymized by Statistics Sweden, and aggregated on the level of the hospital or clinical department, and guaranteed that results would not be presented in a manner that would enable identification of individuals, clinical departments, or hospitals. The letter also included contact information for the survey administrator at Statistics Sweden and the Swedish RN4CAST project coordinator. The information letter is found in Appendix 1.

Patient data used in this thesis derives from the national Patient Discharge Register, administrated by the National Board of Health and Welfare. Healthcare service providers are legally required to submit information on all inpatient care admissions to the NBHW, for the purposes of producing healthcare statistics, evaluation and quality assurance, as well as for research and epidemiological studies (SFS 1998:543). Patients are informed about purposes of collecting healthcare data, but individual patient consent is not required. To gain access to patient data, research studies need to have obtained ethical approval from an ethical review board, as well as passed a review performed by NBHW, according to strict legal confidentiality requirements.

4.3 SWEDISH CONTEXT

4.3.1 Swedish Healthcare

Swedish healthcare is organized at three independent governmental levels – national government, county councils/healthcare regions, and municipalities. At the national level the Ministry of Health and Social Affairs is responsible for setting overall goals and policies. The county councils/healthcare regions are responsible for developing, organizing and providing primary care, district council care, and regional health care to residents. The municipalities are responsible for social and elder care (Anell et al., 2012).

Healthcare services are primarily financed by income tax, with limited out-of-pocket costs for patients. The majority of acute care hospitals in Sweden are publicly owned and operated by the county councils/healthcare regions, with general hospitals serving each regional catchment area and a limited number of regional/university hospitals providing more specialized care (Anell et al., 2012). The municipalities overtake care and financial responsibility for patients who are medically ready to be discharged from inpatient healthcare, and in need of social or elder care services (SFS 2017:612).

4.3.2 Registered nurses in Swedish healthcare

Nursing staff in Swedish hospitals most often consist of two categories, RNs and assistant nurses. Assistant nurses have a 3-year upper secondary school education in a specialized vocational programme.

The educational program leading to RN licensure is a three-year academic program that, as part of the Bologna process from 2007, also leads to a Bachelor's degree in Nursing Science. After completing basic education there are a number of different programs for further academic degrees as well as programs for clinical specialization as an RN, including those for midwives, nurse anesthetists, critical care nurses, surgical nurses, and ambulance nurses (Smeds Alenius et al., (forthcoming)).

4.4 THE SWEDISH RN SAMPLE

While recruitment of RNs in other RN4CAST countries took place mainly through direct contact with management at each hospital, in Sweden recruitment was national, based on the member register of the union, SAHP, which had over 80% of clinically active RNs as members at the time of the survey. The sample selection process is shown in Figure 1.

The member register included information on workplace, including both hospital and department, but did not detail the RNs' specific function or whether they were working in inpatient or outpatient care. Therefore, all RNs registered as working in medical or surgical departments (N=33 083 RNs) were selected as the population for recruitment to the RN survey. This purposeful over-recruitment was undertaken to identify as complete a population as possible of relevance for our study.

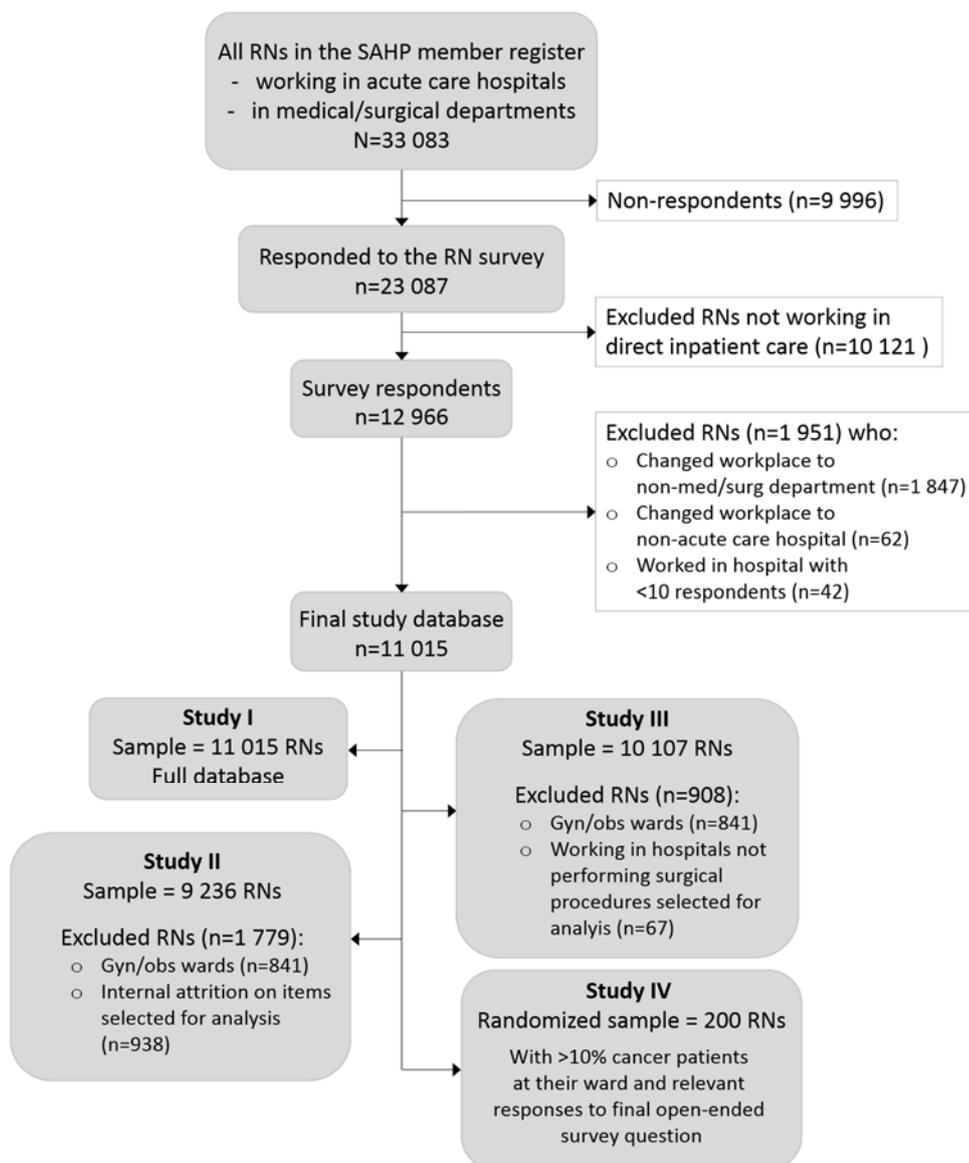


Figure 1. Swedish sample selection process and selections for Studies I-IV

4.4.1 Administration of the survey

The use of individually unique personal identity numbers in Sweden made it possible to link the member register of SAHP with a national register of residential addresses. Administered by Statistics Sweden, a government agency working with developing, producing, and disseminating official statistics in Sweden, the survey was distributed by post in February 2010 to the RNs' home addresses. RNs were given the option of responding by paper or electronically. After three reminders were sent and data collection completed, the return rate was 69.8% (n=23 087). There seemed to be great interest in the Swedish study even among RNs who did not meet the inclusion criteria, with more than 500 RNs contacting the researchers and/or the survey administrators at Statistics Sweden, by phone or by e-mail, mostly expressing their wish to be included in the study.

4.4.2 Respondents

The first question on the Swedish RN survey asked respondents if they were currently working actively in direct inpatient medical/surgical acute care, to establish whether they belonged to the study population. In this phase, as shown in Figure 1, 10 121 RNs were excluded as they did not meet the inclusion criteria. Since correct information about the RNs' individual workplace was essential to enable aggregation of data for analysis, the hospital and clinical department as reported in the SAHP member register was printed on the survey for each individual respondent. Two control questions were then posed to ensure the information was currently correct and if not, to allow for updating. Through these questions, additional RNs with workplaces or functions beyond the inclusion criteria of the study (e.g. head nurses or RNs who had changed workplace and did not currently work with direct medical-surgical inpatient care) were also excluded (n=1 951). The remaining 11 015 RNs, who reported actively working with inpatient care in medical and/or surgical wards, constituted the Swedish RN4CAST database. Characteristics of the RN sample are shown in Box 1.

Box 1

- 11 015 RNs working in medical/surgical wards from all 72 acute care hospitals in Sweden
- Approximately 6% male and 94% female
- Age range 21-67 (mean 40 years)
- Approximately 98% RNs educated in Sweden
- Degrees
 - Bachelor: 60% (in nursing/health care science)
 - One or two year master^a: 4%
 - Licentiate^a: 36 persons (0,36%)
 - Doctoral^a: 11 persons (0,11%)
- Total RN work experience ranged 0-48 years (mean 12 years)
- Approximately 60% worked full-time
- Average 10 years RN work experience at the current hospital

Note: ^a In any subject, including nursing/healthcare science

The RN4CAST consortium decided early on not to include gynecological wards, as these were difficult to separate from obstetrical wards in many of the study hospitals. However, the Swedish researchers chose to include gynecological and obstetric (pre and post-natal, not delivery) wards in the Swedish RN database as these generally functioned as medical/surgical wards and as they provided opportunities for additional research questions to be posed. However, even though gynecological and obstetric wards were often included in analysis using the Swedish RN database, in Study II and III we excluded them from analysis to allow for international comparison.

4.4.3 Non-responders

Statistic Sweden's analysis of non-responders, based on known background factors (age, sex, and workplace) showed no systematic bias. A separate analysis was performed to analyze potential differences between the study sample (i.e. RNs working directly in inpatient care) and the over-recruitment group, but no systematic differences were found between the two groups.

4.5 RN SURVEY

As Sermeus et al. (2011) explain, the aim of the RN survey (included in Appendix 2) was twofold, to measure characteristics of the nursing workforce including future employment intentions and RN assessments of quantity and quality of patient care, and to create aggregated measures of staffing and working conditions for nurses. Internationally used and validated instruments and questions for the RN survey were chosen in part based on experiences from prior research conducted by members of the consortium (Aiken et al., 2002, Bruyneel et al., 2009, Sermeus et al., 2011). Even other well-used and validated instruments were also included (Maslach et al., 1996, Sorra and Nieva, 2004).

4.5.1 Translation

The survey was translated from English into Swedish and nine other languages for use in the different participating countries (Squires et al., 2013). However, using instruments developed in one particular context are not necessarily relevant nor easily translated into another, since different languages, cultural and contextual differences might alter the concepts and constructs the instruments are intended to measure (Harkness et al., 2003). Therefore, efforts were made to validate the translations of the RN survey through a systematic process including forward and backward translations, as well as country specific panels with 7-11 bilingual experts. The panels of experts assessed the quality and relevance of the translation, both literally as well as for cultural and contextual relevance (described in detail in (Squires et al., 2013)). The rated assessments from the expert panels generated content validity indexes for the entire scale (S-CVI) as well as for each item separately (I-CVI) (Polit et al., 2007). The Swedish translation received an S-CVI score of 0.91, which is considered excellent (Polit et al., 2007).

A number of items were challenging to translate – for example, one item in the RN survey referred to the role and position of the ‘chief nursing officer’ (original formulation in English). Since there was no corresponding position in most Swedish hospitals, the Swedish translation used the conceptual meaning of the item, i.e. the highest-ranking RN with responsibility for nursing at the hospital executive level (see Appendix 2, Question 5p in the RN survey, for formulation in Swedish). Notably, this specific item (Q5p) had 12% internal attrition, the highest on the survey, where average internal attrition ranged from 2-3% on the other survey items, thus further pointing to difficulties in its use in the Swedish context.

To detect potential problems in how participants understood and responded to the survey questions (Thrasher et al., 2011), Statistics Sweden performed seven cognitive interviews with RNs actively working with inpatient care in acute care hospitals. As it was important that the core questions of the RN survey remained comparable across the different RN4CAST countries, no major changes were allowed (Sermeus et al., 2011). Consequently, the cognitive interviews were not used to change the *content* of the survey items, instead the interviews provided useful information regarding how the responding RNs understood different questions, what different aspects they considered in their answers, and if minor reformulations were necessary. One example of useful information derived from this process was that in items asking RNs to grade the level of care quality or patient safety on their ward, the interviewees explained that they did not only consider the care they themselves provided but they also included care delivered by others in their overall rating of care.

4.5.2 Survey structure

The RN survey consisted of four main sections with the same content and order in all countries:

- A. ‘*About your job*’ contained items regarding work environment, burnout and job satisfaction
- B. ‘*Quality and Safety*’ related to patient care on their ward
- C. ‘*About your most recent shift at work in this hospital*’, consisted of items about staffing, missed nursing care, and the RNs’ role in direct patient care
- D. ‘*About you*’ had demographic questions relating to age, sex, education, and work experience

In addition to the four common sections, it was possible to add country-specific questions in a final section. The unique Swedish fifth section, E ‘*Final questions*’ consisted of areas of long-term research interest to the Swedish research team. Among those items included were questions addressing the extent to which RNs cared for people with cancer on their ward, questions about potential work-family conflicts (which despite the negative connotation also included positive aspects), as well as a final open-ended question asking respondents to share any additional information about their work or the survey.

4.5.3 Measures used in this thesis

The Swedish RN survey can be found in Appendix 2, although the Maslach Burnout Inventory, used to measure burnout, is not published here for copyright reasons. Individual questions from the survey will be referred to here as Q1, Q2 etc. Details on analysis are found in the summary of each study in section 5.

4.5.3.1 Work environment measures

The Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002, Lake, 2007, Li et al., 2007) (Q5a-s and Q6a-m) was used to assess different aspects of RNs' **work environment**. It consists of 32 items categorized into five dimensions: 1) *Staffing and resource adequacy*, 2) *Collegial nurse-physician relations*, 3) *Nurse manager ability, leadership and support of nurses*, 4) *Nursing foundations for quality of care*, and 5) *Nurse participation in hospital affairs*. Items are formulated as statements asking RNs to rate the extent to which they agree that different organizational features are present in their workplace. Response alternatives are on a four point Likert-type scale, ranging from 1='Strongly disagree' to 4='Strongly agree'. The PES-NWI-instrument has been internationally used and validated in a number of settings (Frieze et al., 2008, Orts-Cortes et al., 2013, Swiger et al., 2017, Van Bogaert et al., 2009, Warshawsky and Havens, 2011). Since the instrument had not previously been used in a Swedish context, we tested the reliability of the subscales used in Study II (subscales 1, 2, 3 above) by calculating the internal consistency, Cronbach's α . All three subscales had a Cronbach's α between 0.76 and 0.89 which is considered strong (Clark and Watson, 1995), and is similar to results found in prior research (Fuentelsaz-Gallego et al., 2013, Lake, 2002, Li et al., 2007).

RNs' overall assessment of their **work environment** was investigated through two global questions. The first question was (Q8) '*How would you rate the work environment at your job in this hospital (such as adequacy of resources, relations with co-workers, support from supervisors)?*' Response alternatives were on a four point scale ranging from 1='Poor' to 4='Excellent'. The second question was (Q12) '*Would you recommend your hospital to a nurse colleague as a good place to work?*' RNs responded on a four point scale ranging from 1='Definitely no', to 4='Definitely yes'.

4.5.3.2 Measures of RN well-being and role in patient care

The Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1982), was used to assess RNs' level of **burnout**. The MBI is commonly used internationally and this version of MBI was chosen for the RN survey as it had been translated and validated in different languages (Maslach et al., 2009, Poghosyan et al., 2009). It consists of 22 items categorized in three dimensions – *Emotional exhaustion*, *Depersonalization*, and *Personal Accomplishment* – with each dimension consisting of five to nine statements. Respondents were asked to mark how frequently they experienced the feelings described in the items, in relation to their current job. The seven response alternatives ranged from 0='Never' to 6='Every day'.

Job satisfaction was explored in the single-item question (Q7) ‘*How satisfied are you with your current job in this hospital?*’ with response alternatives ranging from 1=Very dissatisfied to 4=Very satisfied. As Sermeus et al. (2011) explains, the single question was chosen due to an overlap between the PES-NWI and existing comprehensive measures of job satisfaction (Stamps and Piedmonte, 1986). To allow further specification of job satisfaction, nine different aspects of job satisfaction (e.g. work schedule flexibility, wages, and opportunities for advancement) were also included in the RN survey (Q9a-i).

Intention to leave was assessed by the yes/no question: (Q10a) ‘*If possible, would you leave your current hospital within the next year as a result of job dissatisfaction?*’ followed by a specification, (Q10b) ‘*If yes, what type of work would you seek?*’ with the response alternatives a) ‘Nursing in another hospital’, b) ‘Nursing, but not in a hospital’ and c) ‘Non-nursing’.

The RNs’ role in direct patient care was assessed using the question (Q28) “*How would you describe your role in caring for most of the patients on your most recent shift?*” with three response alternatives provided; a) ‘I provided most care myself’, b) ‘I supervised the care by others and provided some myself’, and c) ‘I provided only limited care, such as dressing changes or drug administration and most of the direct care was done by others’.

4.5.3.3 RN assessed patient care measures

Patient Safety Culture was assessed using seven items from the Hospital Survey on Patient Safety Culture (HSOPSC) (Sorra and Nieva, 2004, Sorra and Dyer, 2010), developed by the U.S. Agency for Healthcare Research and Quality (AHRQ). The items (Q20a-g) were formulated as statements about different aspects of behaviors and routines relevant to patient safety culture. RNs rated the extent to which they agreed that the situation in each item was present at their workplace, from 1=Strongly disagree to 5=Strongly agree.

A global question, also from the HSOPSC, was used to assess **overall patient safety** on the ward (Q18): ‘*Please give your unit/ward an overall grade on patient safety*’ with responses reported on a five point Likert scale ranging from 1=‘Failing’ to 5=‘Excellent’.

Quality of care was measured using two single-item questions (Q15): ‘*In general, how would you describe the quality of care delivered to patients on your unit/ward?*’, responses on a four point scale (1=‘Poor’ to 4=‘Excellent’) and (Q13) ‘*Would you recommend your hospital to your friends and family if they needed hospital care?*’ with four response alternatives (1=‘Definitely not’ to 4=‘Definitely yes’).

4.5.3.4 Additional Sweden-specific measures

In the last section of the survey (E), only used in Sweden, questions specifically addressing **cancer care** asked RNs to assess the proportion (in 10% increments) of patients on their ward who were cared for primarily due to a cancer diagnosis (Q44a), as well as the proportion of patients on their ward who had a cancer diagnosis but were cared for primarily due to another

illness/disease (Q44b), during the RNs' most recent shift. Another yes/no item asked whether patients with a cancer diagnosis were usually cared for in their ward (Q45).

In section E, another four items (Q54a-d) addressed the balance between **work life and private life**. Items used here are similar to those in the General Nordic Questionnaire for Psychological and Social Factors at Work (QPS Nordic) (Wännström et al., 2009). Two of four statements asked RNs to rate the extent to which *their work affected their private life in a) a positive, or b) a negative manner* and the other two statements asked the extent to which *their private life affected their work in a) a positive or b) a negative manner*. Response alternatives ranged from 1='To a very high degree' to 5='To a very small degree'.

The final **open-ended question** asked respondents '*Do you have any thoughts and/or reflections about your work situation or this study that you want to share and which were not covered in the survey?*' (Q55). This question was included to capture views, experiences, and other potentially relevant issues not covered in the survey (Miles and Huberman, 1994).

4.6 HOSPITAL DATA

A survey was sent to hospital administrators in all acute care hospitals in Sweden, to collect information about e.g. organizational structure, number of admissions/year, number of beds, staffing, presence of highly specialized care, and whether there were current ongoing major re-organizations or mergers. Due to relatively large internal attrition on the hospital survey the RN4CAST consortium decided to focus on a few key variables, such as **size** (annual number of hospital admissions or number of hospital beds), **teaching status** (affiliated to a university or not), and **technology status** (whether the hospital performed open-heart and/or transplantation surgery or not). When information on key variables was missing for the Swedish hospitals, additional information was collected by two research assistants contacting each hospital as well as by checking sources available in the public domain. Information on **geographical location** in terms of population density was also collected and dichotomized into high-density population areas (> 500 000 inhabitants) and less dense areas. Each of the three high-density population areas in Sweden had more than one hospital in their area.

The numbers of hospitals included in the different studies vary despite originating from the same project database due to variations in how data was structured in the hospital database compared to the RN and patient databases. For example, the variable 'number of beds' could be presented either in the form of total number of beds of a hospital group (i.e. several hospitals organizationally belonging to one hospital group), while in another database the number of beds was presented for each separate hospital. Thus, in order to ensure inclusion of as many hospitals as possible in different analyses we either collapsed several hospitals into one hospital group and or separated them into smaller, single hospital entities, depending on the nature of the analysis. The inclusion criteria set for the different studies also resulted in varying numbers of included hospitals. For example in Study III, we excluded hospitals that did not perform the surgeries chosen for analysis.

In Studies I and III, hospital size was operationalized in two different ways. In Study I, we used the annual *number of admissions* to the hospitals to indicate their size. To facilitate international comparison, we also provided an estimation of the corresponding number of beds. In Study III we used the internationally more common measure of *number of beds* to indicate hospital size. Number of admissions could be said to indicate the extent of a hospital's production capacity, while the number of beds points to a hospital's maximum planned capacity. However, differences in measures of hospital size were not considered a problem in the analysis in Study I and III.

Details on analysis are found in the summary of each study.

4.7 PATIENT DATA

The data on patients used in Study III derives from the Swedish national hospital discharge register (Swedish: *Patientregistret*), which contains information on all inpatient care discharges from all hospitals in Sweden. It is administrated by the government agency, the National Board of Health and Welfare.

4.7.1 Patient mortality outcome measure

The RN4CAST consortium chose the patient outcome measure 30-day inpatient mortality, i.e. patients who die in hospital within 30 days of admission, as it has been found to be associated with staffing as well as other nurse-related factors (Sermeus et al., 2011). More specifically, patients who had undergone general, vascular, or orthopedic surgery were chosen, since this patient group can be found in most general acute care hospitals and the surgical procedures are seen as relatively low-risk procedures where the expectance of patient death or harm is low.

Patient mortality has been described as the “ultimate outcome”, and although death is the ultimate ending for everyone, calculating inpatient mortality aims to detect potentially avoidable deaths i.e. deaths that should have been prevented in the presence of timely and effective hospital care (Nolte and McKee, 2012). To analyze patient mortality variation in hospitals, risk-adjustment procedures are used to control for a number of patient characteristics, e.g. age, sex, and co-morbidities, as well as certain process-related variables, e.g. whether the patient stay was planned or not (Silber et al., 2009, Silber et al., 1992). The idea is to identify variation in mortality that can be explained by patient characteristics, i.e. expected death or unavoidable death. Any residual variation found thereafter might instead reflect variation in hospital care provided, either structural or process-related variation (Tourangeau, 2005).

By choosing a sub-group of patients, such as those who had undergone general, vascular, or orthopedic surgery, the aim is to reduce variation between observed and expected deaths, and thus to be able to identify variation that might be attributable to differences in organizational factors in hospitals.

4.8 OVERVIEW OF COMPONENTS IN THE STUDIES

Table 1. Overview of studies

	Study I	Study II	Study III	Study IV
General aim	To investigate whether hospital characteristics are related with nurse-reported outcomes	To investigate how RN-assessed features of their work are related to RNs' global assessment of patient safety on their ward	To investigate relationships between subjective RN-assessments of patient care and an objective patient outcome	To investigate RNs' own accounts of their experiences of their work situation in cancer care
Types of data	RN Survey items Hospital Survey data	RN Survey items	RN Survey items Hospital survey data Patient discharge data	RN Survey – free-text responses
Key measures	<i>Hospital measures</i> size, geographical location, teaching status <i>Outcome variables</i> RN-reports of intention to leave, job satisfaction, burnout, work environment, and quality of care	<i>RN measures</i> RN-reports of work environment, patient safety culture, involvement in direct patient care, and work experience <i>Outcome variable</i> RN-assessed patient safety	<i>RN measure</i> RN-assessments of patient safety <i>Outcome variable</i> 30-day inpatient mortality	Not applicable
Type of analysis	Mixed model regression	Proportional odds regression	Multivariate logistic regression	Inductive content analysis guided by a Framework Approach

5 SUMMARY OF STUDIES

5.1 STUDY I – STRUCTURAL CHARACTERISTICS OF HOSPITALS AND NURSE-REPORTED CARE QUALITY, WORK ENVIRONMENT, BURNOUT AND LEAVING INTENTIONS

As previously mentioned, structural features of hospitals are seldom used in research as explanatory variables in their own right. Consequently, there has been limited knowledge of whether these structural characteristics in themselves might be related to RNs' assessments of their work environment and their work situation, and whether these factors, which are not easily changed, need to be considered in efforts to improve the work environment in hospitals.

5.1.1.1 *Aim*

In this study, we therefore aimed to investigate whether structural hospital characteristics not readily susceptible to change (i.e. size, geographical location, and teaching status), were associated with RNs' assessments of quality of patient care, their work environment, and their own work situation.

5.1.1.2 *Sample and methods*

As shown in Figure 1, in this study we analyzed responses from all 11 015 RNs who had responded to the RN-survey, as well as data from all 72 hospital organizations, where some hospitals had been combined into larger hospital groups to allow matching with data on admissions from the patient discharge register.

The aim was operationalized as follows: from the RN survey we used RNs' assessments of quality of patient care on their ward (Q15, in Appendix 2), their overall assessment of their work environment (Q8), and their willingness to recommend their workplace to a colleague (Q12). RNs' own work situation was measured through questions about their job satisfaction (Q7), their intention to leave either their workplace or the RN profession (Q10a-b), and level of burnout (items not shown in the Appendix)

Hospitals were categorized into three groups according to their size: small hospitals with < 12 000 admissions/year (about 150 beds); medium hospitals with between 12 000–30 000 admissions/year (about 150–400 beds); and large hospitals with > 30 000 admissions/year (> 400 beds). Geographical location was dichotomized into high-density population areas with over 500 000 inhabitants, and less dense areas. Teaching status was defined as whether the hospital was affiliated with a university or not. In analyses we used Chi²-tests, Mann-Whitney *U*-tests, and Student's *t*-tests to calculate differences between groups. Multivariate regression analysis was used to determine effects of hospital characteristics on outcome variables. To reduce potentially confounding effects we controlled for a number of RN characteristics in the adjusted regression models; sex, age, bachelor's degree or not, work experience as RN and whether they worked full time or part time at their current workplace.

Differences in RN characteristics (age, work experience as RN, and RN experience at the current hospital) between RNs working in small, rural hospitals compared to RNs working in large, urban hospitals were analyzed using t-tests and are shown in Table 2. This data is not shown in Study I as it was performed post publication.

5.1.1.3 Results

In this sample, 10 of the 72 hospitals were university hospitals, situated in urban areas. Most respondents (46%) worked in large hospitals, and a slightly higher proportion of RNs with Bachelor's degrees worked in large, urban, or university hospitals.

	N	Mean	Std Dev	p
Age				
<i>Rural and small hospitals</i>	2201	42.3	11.1	<0.0001
<i>Urban and large hospitals</i>	2809	38.8	11.0	
Work experience at the current hospital (years)				
<i>Rural and small hospitals</i>	2180	11.3	10.1	<0.0001
<i>Urban and large hospitals</i>	2778	8.6	8.3	
Work experience as RN in total (years)				
<i>Rural and small hospitals</i>	2199	13.3	11.2	<0.0001
<i>Urban and large hospitals</i>	2799	11.1	10.1	

Descriptive statistics showed that although the majority of RNs (>70%) reported being moderately or very satisfied with their work at the current hospital, a small but statistically significant difference was seen in RNs working in small hospitals who reported a higher sense of job satisfaction compared to RNs in large and medium-sized hospitals. RNs working in university hospitals or small hospitals reported slightly better work environments. Over 70% of RNs reported that they would recommend their workplace to a colleague, independent of hospital size and teaching status. In their assessments of quality of care, descriptive statistics showed a larger proportion of RNs working in small hospitals reported that care was of good or excellent quality. The majority of RNs (>90%), independent of hospital size, reported that they would recommend their hospital to a friend or relative in need of care.

In the regression models, we controlled for RN characteristics such as age, sex, work experience as RN, level of education and whether the RN worked part/full-time. We found that RNs working in smaller hospitals rated the care quality as significantly better than did RNs in larger hospitals (odds ratio (OR) 1.015, 95% confidence interval (CI) 1.0003-1.027). We found no relationship between either teaching status or urban/rural location and RNs' assessments of their work environment or work satisfaction. A small but statistically

significant effect was found in that RNs working in smaller hospitals rated their work environment better (OR 1.017, CI 1.001-1.032), and they were more likely to recommend their workplace to a colleague (OR 1.025, CI 1.003-1.047) compared to other RNs. Although we did not find statistically significant relationships between the structural characteristics and RNs' intention to leave, of those who did contemplate leaving, slightly more RNs in large and university hospitals reported that they would seek a new position as an RN in another hospital.

As shown in Table 2, the additional analysis showed significant differences between RNs working in small, rural hospitals compared to large, urban hospitals in terms of RN age, length of work experience at the current hospital and work experience as RN. RNs in large, urban hospitals were slightly younger and less experienced.

In the measures of burnout, despite marginally significant relationships found in the descriptive analysis between different hospital characteristics and the three dimensions of burnout (Emotional exhaustion, Depersonalization and Personal Accomplishment), they did not remain significant after adjustment in the regression analysis.

5.1.1.4 Concluding reflections

In these data, the significant associations we found between structural factors of hospitals (i.e. size, geographic location, and teaching status) and RN reported outcomes were small and their relevance remains questionable. However, our results in this study may be useful for hospital managers as they indicate the negligible impact of factors that are beyond control.

These results should not be interpreted to suggest that structural characteristics of hospitals are unimportant. However, their effect on how RNs rate their work environment and quality of care appear limited and should not impede efforts to improve the work environment by focusing on malleable factors within the organization.

5.2 STUDY II – STAFFING AND RESOURCE ADEQUACY STRONGLY RELATED TO RNS' ASSESSMENT OF PATIENT SAFETY

With the results in Study I showing that structural characteristics of hospitals, not easily changed, seemed to have little influence on how RNs rated the quality of care, their work environment, or their work situation, we shifted focus to organizational factors more readily adaptable. Consequently, I continued my exploration of organizational factors relating to how RNs assess different features related to the quality and safety of patient care in their workplace.

5.2.1.1 Aim

Existing research had shown many nurse-related factors, such as staffing, education, and teamwork with physicians to be related to different patient safety outcomes (e.g. medication errors, pressure ulcers, and patient mortality) (Aiken et al., 2011, Duffield et al., 2011, Kane

et al., 2007). However, limited research was found specifically addressing how RNs themselves assess the safety of patient care on their ward or how work environment factors, patient safety culture, RNs' level of involvement in direct patient care, and RN work experience might be related to those assessments. Therefore, in Study II we aimed to address these issues.

5.2.1.2 *Sample and methods*

To allow comparison with international RN4CAST data as well as other research, we excluded gynecological and obstetric wards (n=841 RNs) in this study. An additional 938 RNs were excluded due to internal attrition or invalid responses on the items chosen for analysis, resulting in a study sample of 9236 RNs working in 79 acute care hospitals. Since we were investigating RN responses aggregated on a group level, rather than hospital level, we did not collapse or separate any hospitals, which results in a slightly larger number of hospitals in this study than was the case in Study I.

To investigate different dimensions of the nursing work environment three subscales from the PES-NWI instrument (Q5a-s, Q6a-m) were used; 1) *Staffing and resource adequacy (4 items)*, 2) *Collegial nurse-physician relations (7 items)*, and 3) *Nurse manager ability, leadership and support of nurses (4 items)*. Seven items assessing patient safety culture (Q20a-g) as well as RNs' role in direct patient care (Q28), and work experience as RNs (Q43a) were also investigated in relation to a global patient safety grade as outcome measure (Q18). In the multivariate analysis, we used proportional odds regression, controlling for education and sex. Age, however, was not controlled for as it was highly correlated with work experience, which was one of the explanatory variables.

5.2.1.3 *Results*

In the multivariate analysis, we found that three of the five most influential factors on RNs' patient safety assessments were related to the nursing work environment, such that a more positive rating of their work environment increased the odds of RNs rating better patient safety on their ward.

Positive RN-reports of having adequate staffing and resources was the most influential work environment factor and increased odds of RNs rating patient safety as better, by at least two and a half times (OR 2.74 CI 2.52-2.97). The second most influential factor for RNs' ratings of patient safety was one of the seven items used to assess patient safety culture, concerning the extent to which RNs agreed that hospital management showed patient safety was a top priority through their actions (OR 1.51 CI 1.44-1.58). Two other work environment factors showed high odds of increasing RNs' patient safety ratings; these were related to nurse manager ability, leadership and support of nurses (OR 1.49 CI 1.36-1.63) as well as collegial nurse-physician relations (OR 1.43 CI 1.30-1.57). The last of the top five most influential factors related to whether prevention of errors reoccurring was discussed at their ward (OR 1.27 CI 1.20-1.35), which was part of the patient safety culture.

Investigating RNs' role in direct patient care and length of RN work experience, we found that RNs who reported providing most of the direct patient care themselves were more likely to rate patient safety at their ward as better, when compared to RNs who provided only limited care themselves. Work experience, however, was not found to affect RNs' patient safety assessment, despite our initial hypothesis that work experience might be an important factor when assessing patient safety on the ward.

5.2.1.4 Concluding reflections

Another interesting finding was that three of the seven items included in the assessment of patient safety culture were not significantly related to these RNs' assessments of patient safety on their ward. This inspired questions as to what RNs themselves consider when they rate patient safety using a single global question, and also questions of the subjective measure of RN-assessed patient safety and its relation to objective patient safety outcomes.

5.3 STUDY III – RN ASSESSMENTS OF EXCELLENT QUALITY OF CARE AND PATIENT SAFETY ARE ASSOCIATED WITH SIGNIFICANTLY LOWER ODDS OF 30-DAY INPATIENT MORTALITY

5.3.1.1 Aim

Whereas Study II investigated RNs' subjective assessments of their work environment and patient safety, Study III addresses the issue, as to whether and how RNs' subjective assessments of care relate to an objective patient outcome. In this study, we explored how RNs' assessments of patient safety as well as quality of care relate to the objective patient safety indicator 30-day inpatient mortality after general, orthopedic, or vascular surgery, i.e. patients who die within 30 days of admission after undergoing common surgical procedures with low expected mortality.

Study III builds further on a study by McHugh & Stimpfel (2012), which found RN assessed quality of care to be related to 30-day inpatient mortality; they did not examine relationships to RN assessed patient safety. In this study, we collaborated with McHugh and colleagues at the University of Pennsylvania, Philadelphia, USA. I worked closely with them to increase my own understanding of using risk-adjusted regression modeling for this particular patient population. In addition to partially replicating the study by McHugh and Stimpfel, in this study we added RN assessed patient safety as a new variable to investigate in relation to the patient outcome.

5.3.1.2 Sample and methods

We combined three categories of data; patient data from the national hospital discharge register, acute care hospital organizational data, and RN survey data. We focused on adult patients (19-99 years) who had undergone general, orthopedic, or vascular surgery, since this patient group can be found in most acute care hospitals. Patient discharge data for 2009-2010 (years closest to the RN survey) were used to extract the following patient information:

patient characteristics (gender and age); administrative data (hospital/clinic, department, date of admission, date of discharge, length of stay, where patients were admitted from, where patients were discharged to); and medical information (main diagnosis, secondary diagnosis, procedures, and diagnosis related groups [DRGs]), and if the hospital stay was planned or not). The number of patients included in the analysis were 201 674.

Hospitals that did not perform the procedures chosen for analysis were excluded and after adjusting hospitals (by collapsing into larger hospital groups) to match patient data with RN survey data, the analysis is based on data from 67 hospital organizations. Consequently, RNs working in hospitals not performing the surgical procedures in question were also excluded, resulting in 10 107 RN responses as the basis of analysis. In this study, gynecological and obstetric wards are not included.

RNs' global assessments of patient safety (Q18) and quality of care (Q15) on their ward were explanatory variables. For the analysis, RN responses were aggregated on hospital level. To establish that there was adequate agreement among the individual RNs to allow aggregation of responses to hospital level, we used one-way analysis of variance to calculate intra-class correlation coefficients (Glick, 1985, Sloan et al., 2002). Hospitals were categorized into three groups (lower, middle, and upper tertiles) based on RNs' assessments of excellent patient safety and excellent quality of care.

In the multivariate logistic regression analysis models, using established risk-adjustment procedures (Silber et al., 2007, Silber et al., 2009) we controlled for characteristics relating to patients (i.e. gender, age, co-morbidities, planned/unplanned hospital stay, and surgical DRGs) and hospitals (i.e. size by number of beds, teaching status, and presence of high technology procedures such as open-heart and/or transplantation surgery). We used the C-statistic to test goodness of fit of the risk-adjusted mortality model, resulting in 0.89, which is considered strong (Hosmer Jr et al., 2013).

5.3.1.3 Results

The patients in the analysis had a mean age of 64.5 (median 67), included somewhat more women (57.6%), and had a mean length of stay of seven days (median 5). A total 2 341 patients (1.2%) died in hospital within 30 days of admission.

In this study we found that patients cared for in hospitals where a large portion of RNs assessed the quality of care as excellent (the highest tertile of hospitals) had 23% lower odds of dying within 30-days of admission, compared to a hospital in the lowest tertile (OR 0.77, CI 0.65-0.91). The corresponding results regarding patient safety showed that patients in hospitals where a high proportion of RNs assessed patient safety at their ward as excellent (highest tertile) had 26% lower odds of 30-day inpatient mortality, compared to hospitals in the lowest tertile (OR 0.74, CI 0.60-0.91).

5.3.1.4 Concluding reflections

Despite challenges of using in-patient mortality, where researchers point to a lack of sensitivity (Girling et al., 2012, Shojania and Forster, 2008), our findings clearly demonstrate that RN reports of excellent patient safety and quality of care are associated with considerably lower odds of patient mortality. This suggests that positive RN reports of patient safety and quality of care might be useful as valid hospital level indicators of these measures of care.

However, as noted in the summary of Study II, using a single item to assess patient safety and quality of care provided little insight into how RNs actually made their assessments or what RNs see as underlying factors when reporting an excellent grade. It also gave little information as to factors in the work environment RNs see as enabling or hindering the provision of safe, high quality care. These questions warranted further investigation.

5.4 STUDY IV – BETWEEN A ROCK AND A HARD PLACE: RNS' ACCOUNTS OF THEIR WORK SITUATION IN CANCER CARE IN SWEDISH ACUTE CARE HOSPITALS

5.4.1.1 Aim

Prompted by the above questions emerging from Study III, I wanted to look further into contextual aspects of RNs' work on inpatient wards in acute care hospitals. We therefore sought to investigate how individual RNs experience their practice environment and what they describe about their work situation, in order to capture nuances and gain additional insight from RNs' own descriptions of their clinical practice.

5.4.1.2 Sample and method

We chose to focus on a sub-group of RNs who reported providing care to patients with cancer, either in specialized oncology wards or in general medical/surgical wards (N=7 561 RNs), using a similar sample selection procedure as in a prior study using the same database (Lagerlund et al., 2015). Since the experience of the nursing care environment might differ depending on specialty or type of patients, this sub-group was chosen both as an attempt to reduce potential variation as well as increase the clinical relevance of our findings. An additional rationale was the congruence with long-term research interests and experiences of cancer care in the research team, as noted previously. The proportion of patients with cancer on the ward was reported in 10% increments (Q44a-b). RNs who reported working on wards with $\geq 80\%$ patients with cancer (Q44a/Q44b) were categorized into a Specialized Cancer Care group (SCC) (n=1 432), while RNs who reported working on wards with 10-70% cancer patients were categorized into a General Cancer Care group (GCC) (n=6 129).

In this study, we explored RNs' own descriptions of their work situation by using the Sweden-specific final open-ended question in the RN-survey, in which RNs were asked to share any additional thoughts about the survey or their work situation (Q55). By excluding RNs who did not respond to the open-ended question, or whose responses only related to

commenting on the survey itself, data from 298 SCC RNs and 1 328 GCC RNs remained. Through a randomization procedure we selected 200 RNs in proportion to each group; 18% from the SCC (36 RNs) and 82% from the GCC (164 RNs). This was done to assure heterogeneity in the final sample and avoid biasing the sample to the context of SCC. We chose to analyze 200 responses since the free-text accounts were relatively short, ranging from 1-2 pages, to ensure a robust sample. Data from the study sample of 200 RNs was analyzed as one group with SCC and GCC categorizations invisible during analysis.

5.4.1.3 Analysis

The analysis process was guided by a Framework Approach (Ritchie and Spencer, 1994). We began with preliminary themes constructed based on what is already known from the research literature. As shown in the upper part of Figure 2, we used the five dimensions of the PES-NWI as part of the initial coding framework. Since these and other questions in the RN survey had guided respondents, we expected they might be further addressed in the open responses. Another category, ‘Sense of agency’ was also part of the initial framework. This category described RNs’ perceptions of their own ability and authority to influence their clinical practice environment (Hansson, 2014). It derived from a prior qualitative analysis of free-text responses from another subset of RNs from the same database, conducted as part of an undergraduate thesis I supervised (Hansson, 2014). Finally, text that did not fit into the other categories was sorted into a seventh category ‘Other’.

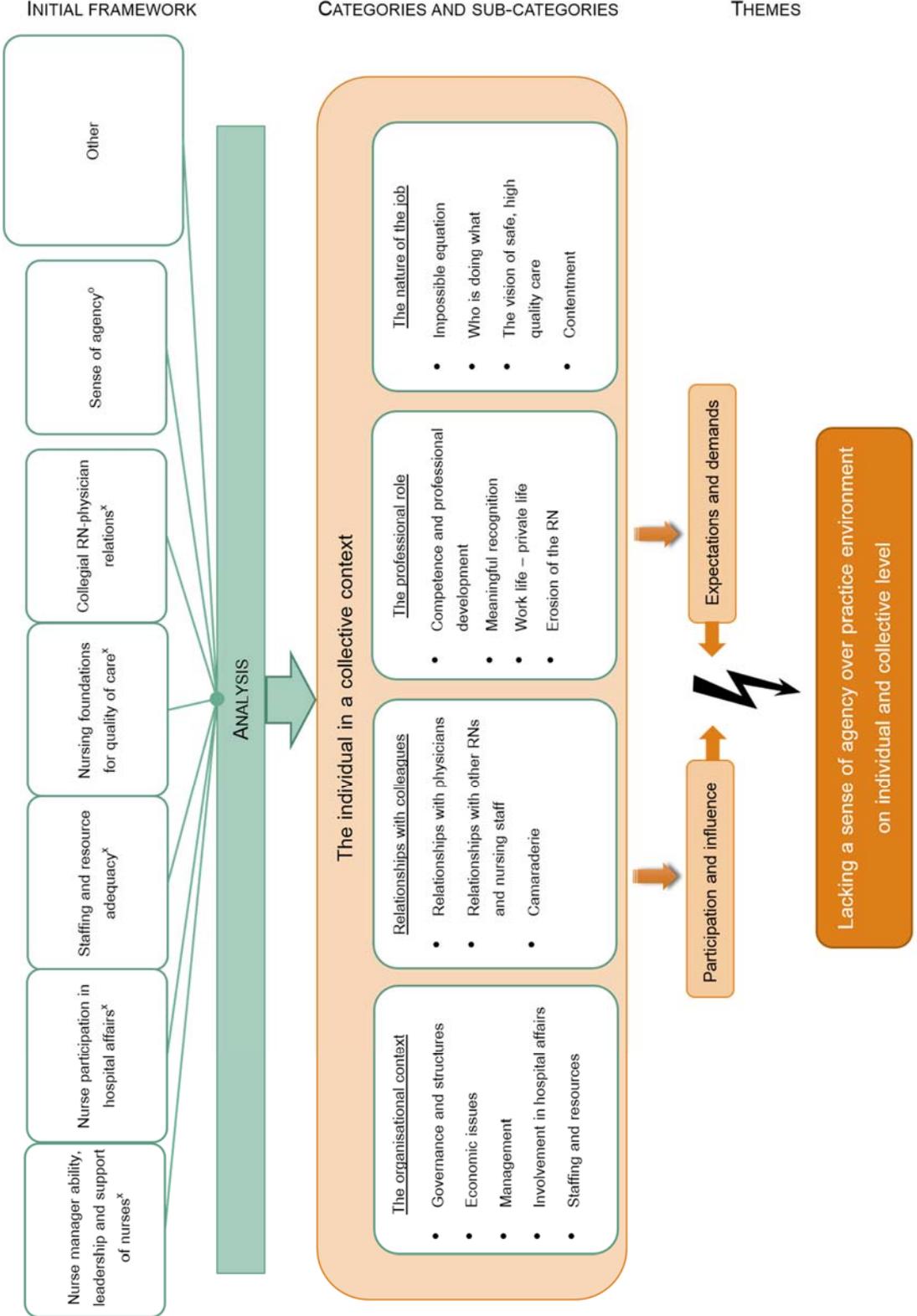
Analysis began as I transcribed non-digital responses, and entered all responses into the NVivo 11 software. I read and re-read all free-text responses to become familiar with their content, making notes of recurring issues in the data as well as my reflections. We noted early on that much of the data was coded as ‘other’ since it did not fit into the other initial categories, which resulted in an iterative process of re-sorting and re-coding data while constructing and developing the thematic framework. The coding scheme, analysis, and results were discussed in recurrent meetings with co-authors throughout the analysis process. The final framework is shown in the lower part of Figure 2. To assure stability of our findings, after completing analysis of the sampled responses, we read through other, un-analyzed responses from the full GCC/SCC groups, although this did not add to or change our analysis.

On completing the analysis, we sought ways of making sense of the data and found Antonovsky’s key concepts (1987) – comprehensibility, manageability, and meaningfulness – useful as means of further understanding and discussing the findings. These concepts are described further below.

5.4.1.4 Findings

An overall impression of the RNs’ free-text responses was their strength of feeling and sense of engagement, which could be seen in their use of emotive language (e.g. “I love working as a nurse...”), using capital letters and/or underscoring (e.g. “TIME for each patient...”), or exclamation marks (e.g. “...each weekend with three nights!!!”) to emphasize their points.

Figure 2. Overview of analysis and findings in Study IV



^xFrom the PES-NWI
^oFrom our preliminary analysis prior to this study

These RNs appeared to describe their work situations from three different perspectives – as persons, as professionals, and as employees – as their responses were written from a personal, subjective point of view, often using the first-person singular, but also as part of a collective – using a plural “we”, represented by the underlying theme *The individual in a collective context* (Figure 2).

RNs, in this study, described experiencing expectations and demands – from management, patients and their families, other staff groups, the nursing profession as well as their own individual ambitions – to uphold standards of safe, high quality care. Concurrently, they described working in an environment where they experienced no real means of influencing the prerequisite conditions for providing safe, quality care. This created a tension between the expectations and demands on one hand, and the perceived lack of influence on the other. We found the idiomatic expression of being stuck ‘between a rock and a hard place’, appropriate for symbolizing this tension. The RN in the quote below described it as an ‘impossible equation’:

“During the years I’ve worked as an RN, the same job is to be done in shorter time with fewer hands. It’s an impossible equation. I often feel like there aren’t enough resources, so that despite skipping my break and having a shorter lunch [break] I haven’t managed/haven’t had time to do what I think is necessary to be considered good care. It’s very unsatisfying!”
(#13)

Our finding of RNs’ experienced lack of a sense of agency, on both individual and collective levels, seem to suggest organizational factors might be impeding RNs’ ability to use their competence in clinical decision-making as well as in governing practice within their professional scope.

In Study IV, both findings and empirical data are presented in relation to Figure 2, I chose here to instead present a few examples from empirical data, with quotes illustrating central points. Numbers in parenthesis refer to different respondents.

Comprehensibility, Manageability, and Meaningfulness

Originating from sociologist Aaron Antonovsky (1987), he described three key components included in an overarching Sense of Coherence (SoC). *Comprehensibility* is described as the extent to which one feels that stimuli from internal and external environments is making cognitive sense. *Manageability* is described as the extent to which one perceives adequate resources to be available to meet demands from the environment. *Meaningfulness* is described as the extent to which one feels that events are worthy of commitment, of investing time and energy in. Antonovsky’s concepts are further discussed in Section 6.2.2.2.

By applying Antonovsky’s concepts on a structural, rather than individual level, we found that RNs seemed to experience work situations which, although often described as meaningful, for the most part, appeared neither comprehensible nor manageable, as illustrated

e.g. in the previous quote. Another RN also describes difficulties with manageability and questions the many expectations put on RNs:

“How many tasks can be assigned to an RN without errors ‘reasonably’ occurring? You often point to the few RNs who can juggle 10 things at once, as if they were the role models for an RN today...” (#45)

RNs described working in dysfunctional systems with unclear leadership on different levels of the hospital organization. The perceived lack of visible leadership seemed to lead to structural problems being left to the individual to deal with, which in turn appear to affect both comprehensibility and manageability. RNs could express frustration at not being recognized as individual professionals with specific skills and competencies, but instead being seen as interchangeable “pawns”, deployed with little apparent strategy or long-term planning, as illustrated in the following quote:

“I feel like the management closest to us, those managers support the staff. But the overarching management (running the hospital) don’t give a crap about us. They don’t respect us, they see us as marionettes, we are exchangeable, experience and knowledge have no value.” (#144)

Manageability, according to Antonovsky (1987), is contingent on the comprehensibility of the situation, and how these concepts are applied on an organizational level. The imprecise use of competencies within the hospital organization, and the recurrently described experience of nursing and nurses being undervalued with their competence not well understood (the sense of being undervalued illustrated e.g. in the quote above), seems to point to potential signs of an organization struggling to effectively deploy and manage work force competencies that do not seem to be fully understood. One RN illustrates the unclear use of competencies in the following quote:

“...on the ward where I work, I think that a lot of one’s time is spent on doing the work of other people (doctors and a potential secretary). As RN you are everyone’s service woman or man... (and a real lack of up-to-date documents/guidelines leads to uncertainty. Even job descriptions and written documents about roles and responsibilities)” (#55)

Higher level management were described as not having enough insight into everyday clinical work on the wards to be able to develop relevant policy guidelines which consequently made the guidelines hard to follow in clinical practice. One RN illustrated these discrepancies as different organizational levels not using a ‘common language’:

“My experience is that we as RNs don’t share a common language with hospital management. We ‘on the floor’ feel like a lot of what is imposed on us to do are ‘desktop products’ not well anchored in the realities of care provision. Economic issues are always more important than good nursing care and a good work environment. But that’s my perspective; if you ask the hospital management they think they’re working hard to improve care for our patients.” (#91)

Feelings of disenfranchisement and lack of a sense of collective and individual agency seemed to erode the RNs' roles as professionals. Antonovsky argues that having a voice in what one does increases one's desire to engage and invest energy in it, in other words, experiencing agency increases a sense of meaningfulness (Antonovsky, 1987). The described tensions between expectations of providing safe, quality care and limited means to influence prerequisite conditions seem to limit manageability. In the following quote, the (un)manageability of the situation seem to affect the RN's description of meaningfulness:

"I love working as a nurse, but it wears you down when you feel that your work situation – like lack of staff, materials and other resources, poor support from management – keep me from doing my work in the way I want to..." (#29)

Although negative accounts were predominant in these data, there were also descriptions of positive features of their work, which to some extent seemed to balance the more negative aspects. The RNs' sources of meaningfulness appeared often related to positive interactions with patients, the RN profession being important, rewarding, and interesting, as well as to a sense of camaraderie among colleagues, as expressed by this RN:

"We are an incredibly good work group, we have fun together, and that means you can cope with this, sometimes chaotic, situation." (#167)

Positive descriptions of inclusive ways of organizing work, where decisions have a clear rationale and staff deployment signals comprehension of differences in professional competencies, could be seen as examples of work environments supporting manageability and comprehensibility. After a reorganization to a more inclusive way of working at the ward, one RN shared the following reflections:

"...[the ward re-organization] has freed up a lot of time, lessened the running around and the stress, and has led to a more even workload across all shifts without employing more staff. Collaboration and the team spirit have become better and clearer, everyone can put forth ideas and suggestions for improvements and complaints in a simple manner – and then solve it together. I absolutely believe this benefits the health and safety of the patients! And of course even RNs' own health, since we can work at a calmer pace, get to take our breaks and make our voices heard, and feel that we are involved in deciding how the care should be organized." (#159)

5.4.1.5 Concluding reflections

Although RNs in this study often described aspects of their work as meaningful, on the whole their experiences of their work situation seemed barely comprehensible and rarely manageable. The lack of a sense of agency could potentially erode RNs' sense of meaningfulness and readiness to engage and invest in their work. These findings can be used by hospital organizations to explore factors with the potential to impede RNs' ability to fully contribute to their organizations.

6 DISCUSSION

As in all research, there are potential limitations and methodological challenges to consider when interpreting the results presented in this thesis. Therefore, this section starts with a review of overall design, methods, and measures used in this thesis, and continues on to a discussion of the findings (section 6.2.) followed by a discussion of potential implications for practice (Section 6.3.) and future research (Section 6.4.), before ending with the conclusions (Section 6.5.).

6.1 METHODOLOGICAL CONSIDERATIONS

6.1.1 Overall design

Cross-sectional design, as used in RN4CAST, collects all data at one given time-point. It is useful when investigating complex relationships between different factors present in a context, such as organizational and nurse-related factors as was the case in RN4CAST. A common criticism of this design relates to temporality since it precludes the possibility to establish whether the ‘exposure to conditions’ precedes the ‘outcomes’ of interest, which in turn means causality can only be inferred and not proven. However, by mapping relationships and associations not previously identified, cross-sectional studies provide valuable knowledge for further investigation. Administrating the survey at a single point in time is relatively cost-efficient, and enables consistent data collection from large samples, as was the case in the Swedish RN4CAST survey.

6.1.2 Sample and sampling procedure

The Swedish recruitment strategy, based on the member registry of SAHP, could potentially bias the sample. However, at the time of recruitment, over 80% of clinically active RNs were members of SAHP. The return rate of nearly 70% indicates good coverage of RNs who are clinically active and working with inpatient care in Sweden. In addition, the non-responder analysis performed by Statistics Sweden did not detect any bias relating to known factors such as age, sex, or workplace.

Among the RN4CAST countries, Sweden had the highest response rate, which may relate to the chosen recruitment strategy (Edwards et al., 2002) of contacting participants via the union, rather than via hospital management, as was the case in most other participating countries. However, this recruitment strategy had a notable limitation as it inhibited collection of ward-level data, since that level of detail was not available in the SAHP member register. Organizational culture, such as aspects of work environment or patient safety culture have been shown to influence RN reports differently on ward-level compared to hospital or departmental level (Leineweber et al., 2016).

6.1.3 Contextual relevance

In a multi-national project such as the RN4CAST, the common study protocol and RN survey which shared content and structure in all participating countries, was central to enable

comparison among settings and countries as well as with prior research. Despite the initial challenges of translation and adaption of the survey to make it relevant in a Swedish hospital context, the high score on the S-CVI and a relatively low internal attrition (2-3%) on the survey suggest most items were perceived as relevant by the responding RNs in Sweden.

Research presented in this thesis is highly relevant to the Swedish context, not only because of the scope – using a national sample of RNs from all acute care hospitals – but also because there had not been much prior research in this area from Sweden. We have investigated perspectives of RNs working directly with inpatient care in medical and/or surgical wards in acute care hospitals. Although the results originate in a specific clinical context, the continuously growing body of international research from other settings, countries, contexts, and times suggests they are relevant beyond this specific study context.

Although the survey was distributed in 2010, the research questions themselves are not limited to a particular time, compared to questions where the underlying construct is subject to rapid change. For example, it might be more challenging to investigate usage of IT-solutions if the question relate to the relationship between user and a particular IT-system. In addition, the RNs' accounts of poor working conditions, analyzed in Study IV, are still echoed in current debates in media, as well as in recent reports (Mörtvik, 2018, SCB, 2017) which supports the continued relevance of the data in this thesis.

6.1.4 Measurement issues

6.1.4.1 Using global questions

Using **single-items** to measure some aspects of work is common in research, although it may entail potential limitations. One consideration is a lack of specificity; the global nature of the assessment does not provide further insights into what respondents include or exclude when considering how to rate (Sloan et al., 2002). However, the global nature of a single-item assessment could also be seen as a positive feature, as the respondents are required to consider their situation, decide what is relevant or not, and then provide the rating (Sloan et al., 2002, Youngblut and Casper, 1993). For example, the single item assessing job satisfaction (Q7), requires respondents to reflect on their work situation as a whole, considering both negative and positive aspects (Nagy, 2002).

When assessing the quality (Q15) and safety (Q18) of patient care on their ward through two single-items, it was not apparent through their ratings whether RNs only considered the care they themselves provided or also considered care provided by others. However, in cognitive interviews, performed by Statistics Sweden prior to survey distribution, seven RNs were asked to describe their reasoning as they completed the rating. All seven participants responded that they included the care they provided themselves as well as care delivered by others. Although these interviews are not necessarily representative of all participants, their responses do give some insight.

6.1.4.2 *The work environment-instrument*

The **PES-NWI-instrument** (Lake, 2002, Li et al., 2007) assesses the presence of a number of positive aspects of work environments. As previously mentioned, there were several other instruments originating from magnet hospital research that also measure different aspects of a productive and positive nurse practice environment. However, the RN4CAST consortium chose to use the PES-NWI, since central members of the consortium had extensive experience from using it in research and to allow comparison with a robust international database (see e.g. Lake, 2007, Swiger et al., 2017, Warshawsky and Havens, 2011). Another consideration was instrument length; while still lengthy, the 32-item PES-NWI instrument was shorter than its 49-item predecessor (NWI-R) (Aiken and Patrician, 2000), and shorter instruments have been shown to increase response rates (Edwards et al., 2002).

Initially using only the PES-NWI dimensions as the analytic framework in Study IV, we realized that recurrent issues in the data, which did not fit in this coding framework, were often related to RN autonomy and control over practice. These aspects had been part of the original NWI-instrument but were, according to Lake, excluded from the PES-NWI because they did not cluster empirically in the psychometric analysis (Lake, 2002). As RNs often highlighted the importance of autonomy and control over practice in their professional role, seen in Study IV as well as in other studies (Ahlstedt et al., 2018, Attree, 2005, Hansson, 2014, Kramer and Schmalenberg, 2008, Traynor et al., 2010), added insights might have been gained had such aspects been included in the RN survey.

Testing the psychometric validity of three instruments (including PES-NWI) developed from the original NWI instrument, Cummings et al. (2006) found that all three instruments performed poorly, due to either theory or measurement issues. Because of their low validity, Cummings et al. did not recommend using the scale composite scores, but suggest instead that analyzing single items might be useful (Cummings et al., 2006). In Study II, we used three of the subscales in PES-NWI and calculated mean scores for each dimension to enable multivariate regression analysis. To support this, we tested the reliability of the subscales through an internal consistency test, Cronbach's α , which showed the three subscales each had a coefficient between 0.76-0.89, which is considered good (Clark and Watson, 1995), and in line with other studies (Fuentelsaz-Gallego et al., 2013, Li et al., 2007).

6.1.4.3 *Patient outcome measures*

One concern in using **measures of patient mortality** is related to the ability to be sensitive enough to differentiate between 'signals' (preventable deaths) and 'noise' (inevitable deaths) (Girling et al., 2012, Shojania and Forster, 2008). In Study III, we used 30-day inpatient mortality for a specific sub-group of patients, those who had undergone common vascular, orthopedic, and general surgical procedures. In addition to minimizing residual variation, or 'noise' resulting from differences in patient characteristics, we sought to improve chances of detecting variation which might be considered hospital related, i.e. potentially avoidable deaths by adjusting for a range of patient risk factors (e.g. age, sex, and co-morbidities)

(Silber et al., 2007, Silber et al., 2009). Much of the criticism relating to mortality as an outcome measure concerns standardized hospital mortality or other types of aggregated measures of over-all patient mortality to provide hospital performance measures for benchmarking purposes (Lilford and Pronovost, 2010). However, we used mortality for a selected subgroup of patients, rather than aggregated or standardized. In addition, the mortality rates were adjusted for risk factors at the patient, rather than hospital level, which means the above-mentioned criticism, is not relevant to interpretation of our results.

To reduce possible confounding effects of differences in patient characteristics, one suggested strategy is to utilize patient outcome-measures that more closely involve nursing care activities, i.e. nursing sensitive measures. An important point raised by Welton (2011), is that nursing care activities performed by nurses are often not included in reimbursement systems or in patient registers which make them less readily available as administrative data to use in patient outcomes analyses. Nursing-sensitive measures, such as pressure ulcers, falls or hospital-acquired-infections that are likely to render administrative audit trails, might give further insights into the mechanisms between nursing care provided and related outcomes for patients (Griffiths et al., 2008). However, at the time of RN4CAST data collection, measures such as those mentioned above were not routinely collected.

6.1.4.4 Using open-ended responses

As noted in section 4.5.3., using open-ended responses may induce respondents to share reflections and experiences that are not easily captured in closed response alternatives (Miles and Huberman, 1994). O’Cathain and Thomas (2004) argue that using an open-ended question in a survey might balance the power relationship between researcher and respondents. Since closed questions might be said to represent the researchers’ agenda even if based on empirical data, including open-ended questions allow respondents to comment on the survey, ask for clarification, or elaborate on questions where response alternatives were perceived to be insufficient (O’Cathain and Thomas, 2004). In the RN4CAST survey, the limited response alternatives of e.g. satisfaction with schedule-flexibility (Q9a) as well as many of the items regarding RNs’ practice environment (Q5-Q6) were among the recurrently addressed issues in RNs’ responses to the final open-ended question (Q55). Criticisms of open-ended questions often concern practical challenges; where the cost of extra time or lack of experience in analyzing free-text responses may deter researchers from using open-ended questions in surveys (Krosnick and Presser, 2009).

Another issue I found, when we analyzed RNs’ free-text responses in Study IV, was our inability to probe respondents further, asking follow-up questions and asking respondents to elaborate their thoughts and reasoning. However, the manageable length of responses enabled us to include more responses than might have been possible in a primarily qualitative study. Over 3 000 of the 11 015 RNs participating provided comments in some form in the open-ended question. The chosen recruitment strategy in Sweden – recruitment through the union rather than via hospital management – might have enhanced RNs’ willingness to share their

experiences, also knowing from the information letter that we would not present their accounts in a way that would let their employers know their identities.

6.1.5 Concluding reflections

Strengths of the methods used in this thesis include the use of qualitative and quantitative approaches to analyses, as well as the triangulation of data sources and formats to investigate RNs' assessments and experiences of the patient care context. We used routinely collected hospital data on patients and their outcomes from hospital care, as well as two different forms of survey responses, that is, closed item responses and open-ended responses. The reports from closed response alternatives facilitated quantification and investigation of statistical relationships between different variables as well as cross-referencing subjective and objective measures. The open-ended responses allowed RNs to describe their experiences in their own words, which was valuable to explore and gain further knowledge of RNs' work environment and working conditions.

6.2 DISCUSSION OF FINDINGS

I will begin this section by summarizing the thesis findings in relation to each of the research questions, followed by my conceptualization of key concepts (6.2.2). This is followed by a general discussion of key findings from this thesis in relation to: providing safe patient care (Section 6.2.3), maximizing RN contribution (Section 6.2.4), and recruitment and retention (Section 6.2.5). Roman letters in parenthesis refer to the different studies, I-IV.

6.2.1 Overview of thesis findings in relation to research questions

1. How are structural factors related to RNs' assessments of their work environment?

We found that the influence of hospital structural factors not readily susceptible to change, i.e. size, geographical location, and teaching status, on RNs' assessments of their work environment was small and of questionable relevance. Thus, these factors are unlikely to have a hampering effect on efforts to improve the work environment (Study I).

2. How are organizational features, such as patient safety culture, structural and work environment characteristics, related to RN assessments of quality of care and patient safety, statistically, and according to RNs' own descriptions?

Hospital size was the only structural factor studied which was found to influence RNs' assessments of the quality of care on their ward, such that RNs working in smaller hospitals rated quality of care slightly higher than did RNs working in medium or large sized hospitals. However, the influence was, as previously noted, small (Study I). Perceiving the presence of sufficient staffing and resources to be able to do one's job and provide quality patient care was most influential on RNs' assessments of patient safety. Other important factors included supportive nurse leadership, good working relations with physicians, and that hospital management showed patient safety to be of high priority (Study II). The RNs' own accounts

described working in dysfunctional organizations, with unclear leadership, unclear distribution of responsibilities among different staff groups, and mixed experiences of teamwork with physicians. RNs also recurrently highlighted problems of inadequate conditions and insufficient staffing to fully use their professional competence and provide what they saw as good quality care (Study IV).

We have identified important organizational factors, described above, related to the safety of patient care, as assessed by RNs from their strategic position at the ‘sharp end’ of care. Their importance is supported by RNs’ own accounts of their work situations, where the lack of those factors are described to negatively affect RNs’ abilities to provide safe care to patients.

3. How are organizational features related to RNs’ assessments of their own well-being and job satisfaction?

Hospital size, teaching status, and geographic location were found to have no significant influence on RNs’ reported job satisfaction, their intention to leave their current workplace, or their level of burnout. Although the overall influence of structural factors was small, we found that more RNs in urban areas reported they would seek a new RN position in another hospital compared to RNs working in hospitals in less populated areas, which might well be related to the proximity of alternative hospitals (Study I).

In free text, RNs described how the lack of adequately supporting organizational conditions was wearing them down; it seemed to erode them in their professional RN role. Their accounts could reveal that pressured work situations not only affected their ability to perform at work, but also had a negative impact on their private life – e.g. being unable to enjoy activities during their time off, due to lack of energy. Positive factors mentioned, such as camaraderie among colleagues, positive interactions with patients, and the perception of having a meaningful, interesting, and important profession, appeared to have potential to balance negative aspects to some extent (Study IV).

Results show that hospitals in rural compared to urban areas might face similar challenges, but may require different approaches and strategies to improve RN recruitment and retention. Recognizing and identifying external and internal factors in the local context that might increase RNs’ willingness to stay may be useful (recruitment and retention explored further in section 6.2.5).

4. How are subjective RN assessments of patient safety and quality of care related to the objective measure 30-day inpatient mortality?

We found RNs’ subjective assessments of excellent patient safety and quality of care to be related to considerably lower odds of patients dying within 30 days of admission. This suggests RNs’ assessments may be utilized as valid indicators to inform hospital managers on policy decisions regarding patient care (Study III).

5. *How do RNs describe experiences of their work and their work environment?*

RNs described their experiences— as persons, professionals, and employees – of working in hospital organizations with inadequate leadership on many levels of the organization. They expressed frustration at not being able to use the full scope of their professional competence due to poor prerequisite conditions and lack of comprehension of nursing and RN competence within their organizations. RNs perceived a tension between expectations and demands to uphold standards of safe quality care on one hand, and working in an environment where they experienced no real means of influencing conditions needed on the other. The experienced tension appeared to lead to RNs lacking a sense of agency, on both individual and collective levels (Study IV).

The findings suggest organizational factors might impede RNs' ability to make full use of their competence in clinical decision-making as well as in governing practice within their professional scope.

6.2.2 Conceptualization of key concepts

In my research, it has become evident that the same context or 'space' in which staff and patients interact, might contain aspects that are valued differently and whose meanings vary depending on whose perspective is represented. In the literature, this interactive 'space' is referred to in many different ways – front line, sharp end, coalface, bedside, care-, practice- or work environment to name a few (Braithwaite et al., 2011, Hughes, 2008, McHugh and Stimpfel, 2012).

6.2.2.1 Three perspectives

The three perspectives I refer to in this thesis – RNs as persons, as professionals, and as employees – were identified during the final phases of working with Study IV, which means they have neither guided research questions in any of the studies nor interpretation of the results in Study I-III. However, I found this a useful way to explore RNs' different roles in the care context, where different roles might imply different interests or priorities, which might sometimes appear to go in separate directions. The three concepts in themselves, in this thesis, aim to reflect different ways of looking at the same environment, rather than representing any specific psychological, sociological, philosophical, or disciplinary theoretical construct.

In this section, I will outline my conceptualization of the different perspectives, which I then refer to when discussing the findings (section 6.2.3-5) since, as noted above, focus of interests might differ among the three perspectives. These concepts, which all can be found within the same RN, are discussed separately here for the sake of clarity.

When analyzing RNs' own accounts in Study IV (see section 5.4), we noticed that the responses were written from different roles or perspectives. RNs would use a personal – first-

person – perspective often reflecting themselves as *persons*. This could be the case when they wrote about issues related to e.g. the intercept between work and home life, but also how their job affected them, as persons. RNs also referred to being a *professional*, as part of a larger professional collective ‘we’. The collective included RN colleagues in the same hospital, but also extended beyond the current workplace, describing issues related to the RN-profession as a whole, e.g. status of nursing, professional development, and a ‘collective voice’. The third perspective RNs used in their accounts, was as *employee* – as working in and being a member of an organization, describing issues related to e.g. the organizational infrastructure, work schedules, and hospital financial aspects.

The environments

Applying the perspectives to consider the context of care, the ‘work’ environment for an employee, is a context which in Sweden is regulated by legislature clarifying employers’ responsibilities in providing a safe work environment, with the purpose of preventing worker ill-health and work-related accidents. It includes aspects such as appropriate physical environment including sufficient lighting, ventilation, and noise-reduction and access to necessary resources and equipment. RNs as persons might also be included in the ‘work’ environment since e.g. ill-health from stress or overwhelming workload will intersect work and private life as it affects the RNs as both persons and employees.

When exploring a professional perspective, an appropriate ‘practice’ environment may be important. Although the practice environment may include to some extent aspects similar to a ‘work’ environment, it might also include aspects more directly related to the practice of a certain profession. Some aspects were mentioned under section 3.3.2, and might include e.g. quality working relationships with physicians as team members, or the possibility to discuss nursing issues with other RNs as well as the ability to govern and influence the conditions needed for their work. Thus, a practice environment might include organizational factors that enable the provision of professional nursing care.

There might also be instances where the three perspectives share mutual interests in the same ‘space’, here a physically safe space for preparing medication might be such an example. Preparing, administrating, and disposing of e.g. cytostatic medication includes high risks of RNs being exposed to harmful toxins. From an employee perspective, a safe space with necessary equipment (e.g. gloves, gown, eye-protection, and mask), is included in the employers’ responsibilities in keeping with the requirements regulated by law. From a professional perspective, the safe space might also include the possibility of working without being interrupted, e.g. to ensure correct dosages. From a person perspective, the consequences of poor conditions for preparing toxic medications might include hair-loss, headaches, and skin rashes.

6.2.2.2 *A salutogenic approach*

Here, I will briefly elaborate on the concepts *comprehensibility*, *manageability*, and *meaningfulness* (defined in section 5.4.1.4), followed by a short discussion of how I will use

them in the discussion of findings. Although these concepts guided neither design nor analysis in any of Studies I-IV, we found them useful as a means of further understanding the findings in Study IV. Exploring them further in this thesis, I will apply them, when I find it relevant, to discuss the thesis findings (sections 6.2.3-5), and to explore the findings from a salutogenic perspective.

The concepts originate from sociologist Aaron Antonovsky's theory of a 'salutogenic' approach (Antonovsky, 1987), which can be seen in contrast to a pathogenic problem-oriented, approach. Seeing health as something more than the mere absence of sickness, Antonovsky proposed using a salutogenic approach to explore the question of '*what predicts to a good outcome?*' (Antonovsky, 1987, p. 7), even in the presence of stressors. In answer to this, he described three key components included in an overarching Sense of Coherence (SoC): comprehensibility, manageability, and meaningfulness, which are defined in relation to Study IV (Section 5.4).

In connection to work and an organizational context, Antonovsky described how the SoC at work could be affected, harmfully or beneficially, through the nature of the working environment (Antonovsky, 1987). Continuing the work of Antonovsky's ideas, Jenny et al. (2017) argue that to be salutogenic, work needed to be both comprehensible, manageable as well as meaningful. They highlight balance of workload, consistency, and opportunities to participate in decision-making, as supportive of all three concepts.

In this thesis, following Tishelman's (1990) suggestion from almost 30 years ago, we found it valuable to apply Antonovsky's key concepts to RNs' descriptions of their experiences of their work situation and care provision. We also extend the use of two of the concepts, comprehensibility and manageability, to also include the organization as a whole. Similar to the concept of 'organizational learning' (Lyman and Moore, 2018), I will use the salutogenic concepts to refer to organizational comprehensibility and manageability. One might consider organizational comprehensibility to manifest in the organizations' reasoning or rationale – the 'why' - used in decisions, plans and prioritizations, whether through management decisions or through hospital level policy decisions. Organizational manageability might be seen in the 'how' of organizational infrastructures, resource allocation, staff deployment – that is 'how' the organization manages its operations.

6.2.3 Providing safe patient care at the 'sharp end'

In this subsection, I focus on aspects influencing RNs' assessments and experiences relating to the safety and quality of patient care at the 'sharp end'.

As outlined in the Background, the main objective for acute care hospitals is to provide care to patients, and underpinning this is the fundamental aim of ensuring the delivery of safe, high quality patient care to the population (Vincent, 2010). In acute care hospitals, RNs constitute the majority of healthcare staff (National Board of Health and Welfare, 2018). In addition, given that they provide 24-hour patient care and are one of the professions with

most continuous contact with patients during their hospital stay, RNs are an essential and necessary part of the solution to reaching these objectives and aims (Page, 2004).

In an environment that constantly changes in response to both external and internal factors, hospital organizations are dependent on competent, adaptive, inventive professionals to deliver safe, quality care, as part of a resilient organization (Hunte et al., 2013). Although RNs' central position in patient care makes them strategically placed to act as safeguards for patients (Page, 2004), they need adequate basic working conditions to do so.

6.2.3.1 Adequate staffing and resources

The single most influential work environment factor on RNs' view of patient safety on their ward, related to adequacy of staffing and resources (Study II). As expressed in RNs' accounts, working in slimmed-down organizations meant that on shifts short on staff, patient care was compromised as RNs were not able to adequately monitor and assess the conditions of multiple patients (Study IV), also illustrated in the quote in the Background, section 3. The potential for RNs to use their overview of patient care activities to monitor and observe patients to detect early signs of complications has been recognized as a key strategy to improve patient safety (Henneman et al., 2012, Kutney-Lee et al., 2009). From both an employee and RN professional perspective in any setting which relies on interdependent working relationships, sufficient staffing is central to allow each team-member to do their jobs to the best of their ability without the added pressure of compensating for the work of others (Kalisch and Lee, 2011).

Apart from not being able to properly monitor the patients, insufficient staffing forces RNs to ration their time between patients' different needs, which leads to necessary care being left undone (Duffy et al., 2018, Griffiths et al., 2018). Low staffing, mediated by the effect of missed nursing care, is also linked to patient mortality (Ball et al., 2018). Therefore, in attempts to lower costs of care provision, hospital organizations as well as other healthcare service providers, need to weigh potential short term financial gain against the consequences of low RN staffing on patient care (Needleman et al., 2006), and possible long term consequences with costs for other segments of healthcare and society.

In efforts to mitigate consequences of nurse shortages, some healthcare organizations substitute and/or complement, RNs with less qualified staff (Clausen, 2017, Donnelly, 2016, Sartori, 2014). In a recent retrospective longitudinal study, Griffiths et al. (2018) investigated relationships between daily levels of RN staffing, nursing support staff and hospital mortality. They found that although low levels of support staffing (e.g. assistant nurses) were related to increased mortality, high levels of support staffing were also related to increased mortality. Griffiths et al. (2018) also found that for each day a patient was exposed to RN staffing below the ward mean, the hazard of death was increased by 3%. In contrast, each additional hour of RN care in the first five days of a patients' hospital stay, was related to 3% reduction in the hazard of death. With the results showing the potential consequences of reduced nurse staffing, the authors conclude that the study does not provide support for the use of less

qualified staff to compensate for RN shortages (Griffiths et al., 2018). In line with this conclusion, a recent systematic review from the same research group showed there is currently no conclusive evidence to suggest that substituting RNs with additional support staff increases the quality of care or decreases the amount of missed care (Griffiths et al., 2018).

Although it seems necessary for hospitals organizations and others to explore professional roles and new ways of providing care (Allen, 2014), it also seems pivotal that these efforts should be guided by the aim of shaping care delivery to meet the increasingly complex needs of patients, rather than in reaction to a shortage of RNs. In addition, developing new models of care delivery needs to include proper systematic evaluation of staff interventions and assessment of patient care results, to be able to differentiate between what is helpful and what is harmful to patients in need of care.

6.2.3.2 The role of management and organizational leadership

To create an organizational culture of safety, action and support from all levels of management is important (Vincent, 2010). One of the most influential factors on RNs' assessments of patient safety related to hospital management showing, through their actions, patient safety was a top priority (Study II). The importance of leadership, whether participative (Zaheer et al., 2015), transformational (Boamah et al., 2018), or relational (Wong et al., 2013) has been recurrently shown to impact on staff perceptions of safety culture. In addition, enactment of safety priorities by management influences staff safety behavior, such as error and incident reporting (Van Dyck et al., 2013).

In addition to the influence of the overarching, hospital level leadership, support from ward management was also highly influential on RNs' ratings of safety (Study II). Although we cannot say what RNs in Study II perceive as a supportive or visible leadership, potential clues might be gained from RN-responses in Study IV. There, they describe an absence of good leadership suggesting that these RNs identify qualities such as accessibility, visibility, engagement, "walking the talk" and commitment to effective communication as important, which is similar to findings in other studies (Gardner, 2010, Kramer et al., 2007).

6.2.3.3 Teamwork with other staff

Management supporting RNs as professionals in their clinical judgments, enable them to act as a 'safety net' between doctors and patients (Kramer and Schmalenberg, 2008). However, RNs' accounts suggest that other staff seemed to rely on RNs' ability to "catch" potential errors, sometimes to the detriment of RNs' own work. From a professional perspective, perceiving a lack of respect from colleagues may adversely affect productive teamwork and inter-professional collaboration, which are frequently identified strategies to increase patient safety (Salas and Frush, 2012, Taylor et al., 2015).

Collaboration with physicians was another influential factor related to RNs' ratings of patient safety (Study II). Studies show successful inter-professional collaborations and efficient

teamwork with physicians reduce adverse events (Jain et al., 2006), patient mortality (Neily et al., 2010), and increase quality and safety of care (Leonard et al., 2004). Kalisch and Lee found that successful teamwork was also related to the perception of adequate staffing (Kalisch and Lee, 2009), suggesting that in addition to quantity of staff, the quality of working relationships also impacts on a sense of manageability. A recent ethnographic study of RNs' work motivation in a Swedish acute care hospital ward, found collegial relationships to be fundamental to the experience of interpersonal support (Ahlstedt et al., 2018). Physicians respecting RNs as colleagues and trusting their knowledge in their daily work was especially highlighted.

In contrast, in our data we found descriptions of complicated working relationships with physicians (Study IV). Communication failures, experienced lack of respect for RNs, as well as unrealistic expectations of RNs as providers of administrative service to physicians were described as common causes of frustration in their work (Study IV). In the literature, unsupportive organizational structures, failure to share information, and professional silos creating a 'we' and 'them'-mentality have all been identified as barriers to achieving effective teamwork (Hall, 2009, Weller et al., 2014).

6.2.3.4 The work: as done and as imagined

RNs described inefficient and sometimes irrelevant policy guidelines and routines as difficult to adhere to in their clinical practice, and as a potential consequence of the perceived distance between the ward level staff and higher levels of management (Study IV). Hollnagel (2015, Ch.18) uses the terms "work-as-done" (WAD) and "work-as-imagined" (WAI), to describe different perspectives of work at the 'sharp end' of care. Ward staff working at the 'sharp end' experience WAD through direct actions and feedback, while hospital management positioned at the 'blunt end' of care, generally experience WAI. Hollnagel (2015) argues that the 'blunt end' of care involves an inherent challenge in forming relevant policies and guidelines without detailed knowledge or direct experience of WAD at the 'sharp end'. In addition, the gap between the different ends of care might impede valuable insights and feedback from reaching hospital management, e.g. about whether policies are implemented as intended or if guidelines were relevant for the context as expected (Wears et al., 2015).

Here, from the perspective of the employee, the effect of a gap between ward and hospital management might be similar to the situation in other large organizations. Absence of relevant channels for communication between management and staff would presumably be problematic since distance makes it challenging to assess employee performance. From a professional perspective, a discordant gap between the 'blunt' and 'sharp' ends might result in staff actively working around perceived barriers. Although 'work-arounds' can entail creative problem-solving or improvisation to circumvent a hindrance or obstacle in workflow with a positive result for patients (Debono et al., 2013), 'work-arounds' can also include violations or deviations from guidelines and protocols which can have a direct or indirect negative effect on patient care (Spear and Schmidhofer, 2005). The term 'work-arounds' is also used to describe the consequences of guidelines and policies perceived as irrelevant or

impractical from the ‘sharp end’, which hospital management view as essential to ensure patient safety (Halbesleben and Rathert, 2008).

6.2.4 Maximizing value from RNs’ contributions

One incentive for hospital organizations to improve working conditions for RNs is the potential to maximize benefit to patients by means of RNs’ full professional contributions to care; what is referred to in economic terms as getting a higher ‘return on investment’, or the most value for cost. As stated in an OECD report and mentioned in the Background, costs of unsafe care far exceed those for preventive measures (Slawomirski et al., 2017), which implies that, in addition to patient benefit, there might be financial gains from improving the prerequisite conditions for staff’s care provision.

In this section, I will discuss the findings in relation to conditions for practicing professional nursing.

6.2.4.1 Organizational conditions

In RNs’ descriptions, organization of the work environment, as the context that enables or hinders provision of safe, quality care, in many cases was described as providing less than optimum conditions for professional nursing practice (Study IV). Inadequate or poor leadership seems to affect both comprehensibility and manageability, as unclear decision rationales and vague descriptions of responsibilities leave room for misinterpretations. Added to which the expectations of individuals appeared also to differ by staff groups, as to who should or should not be responsible and accountable for different tasks (Study IV). From a professional perspective, lacking supportive, visible leadership has been found to impinge on RNs’ ability to exercise their clinical judgment, since management support is perceived as an important part of professional autonomy (Kramer and Schmalenberg, 2008). From both an employee and a person perspective, confidence in authentic, visible and accessible leadership has also been related to the experience of less workplace bullying (Spence Laschinger and Fida, 2014), increased sense of work-family balance (Munir et al., 2012) as well as reduced length of sickness absence (Nyberg et al., 2008).

In a few but notable accounts, inclusive ways of working were described by RN respondents in positive terms. The organizations were said to include managerial prioritizations that signaled equal value of different staff groups, recognizing specific competencies in different professions, and organizational decisions that were communicated with clear rationales (Study IV). In combination with RNs’ assessments of excellent safety and quality of care (Study III), which seemed to presuppose exceptionally good circumstances, the descriptions of inclusive ways of working might be seen as examples of how organizations can support comprehensibility, manageability and meaningfulness in nursing work and facilitate RNs’ full professional contribution to patient care.

6.2.4.2 *Sense of agency*

RNs described experiences of expectations and demands – from management, patients and families, other staff groups, from the RN profession, as well as their own individual ambitions – to uphold high standards of safe, quality care. Their concurrent descriptions of working in an environment where they experienced little or no means of influencing the conditions needed to meet these expectations seemed to lead to RNs experiencing a lack of agency (Study IV). The lack of influence over prerequisite conditions seemed to suggest potential organizational factors impeded RNs’ ability to make full use of their competence to benefit patients (Study IV). From the perspective of both employee and professional at work – the experience of manageability relates to the experience of having a voice and possibility to call upon resources beyond one’s own to meet demands in the context (Antonovsky, 1987). The discordance of working in a situation where there are expectations and demands to maintain high standards of care on one hand, while not perceiving real means of influencing the needed prerequisite conditions on the other, seemed to reduce manageability and to erode RNs in their professional role (Study IV). Since having a voice in what one does influences one’s desire to invest energy (Antonovsky, 1987), lacking a sense of agency might also affect RNs’ sense of meaningfulness in their work.

‘Moral distress’ was described by Andrew Jameton as: “*when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action*” (Jameton, 1984). Although this description has been criticized as focusing on the presumption of antecedent certainty of knowledge of what to do, rather than ‘distress’ as its characterizing quality (Hanna, 2004), it seems to relate to RNs’ experiences of lacking agency in their profession. Their perceptions of not being able to provide care to the best of their ability, leaving their shifts feeling dissatisfied (Study IV) might enhance this type of distress and affect RNs as persons too (Weber, 2016).

6.2.4.3 *Organizational participation and influence*

Initiatives and interventions to change patient care routines on the wards were described as sometimes supported by the ward manager, but limitations in her/his scope of authority and influence in the organization could be said to prevent the implementation of new ideas (Study IV). Attree (2005) discusses an interesting comparison between two management principles, and their relationships to the experience of decision latitude (i.e. one’s scope of influence and control). Attree compares the “Fordist”-principle, related to tight control by managers and “post-Fordist”-principles, related to reliance on skilled worker autonomy and self-motivation – to discuss experienced “illusion of control” among the 142 RNs that was interviewed, and their lack of a sense of control over practice. Attree describes how, in a bureaucratic organization, power and control often remains centralized to top levels of management, while responsibility and accountability is not (Attree, 2005). Perhaps in Study IV, in addition to the RNs’ experiences of lacking influence, the “illusion of control” might also apply to the situation of ward managers.

An intrinsic part of comprehensibility is the extent to which stimuli from internal or external environments makes cognitive sense; whether it can be understood logically, rationally and consistently (Antonovsky, 1987). An “illusion” of control, rather than authentic control, whether on managerial or individual level, might thus have a negative effect on comprehensibility, but also on manageability if support is not available as expected when requested. Experiencing neither comprehensibility nor manageability may consequently affect a sense of meaningfulness, for both ward managers and RNs.

Building a culture of safety involves enabling professionals to deliver safe, quality care. It also includes promoting an organizational culture where staff can speak up about safety concerns and know that their concerns will be taken seriously (Schwappach et al., 2018). From an employee perspective, being able to voice concerns regarding safety is fundamental to the governance of any high-risk organization where operational safety is a key ingredient (Chassin and Loeb, 2013).

6.2.4.4 Understanding and valuing nursing and RN competence

The perception of both nursing and RNs as undervalued and with their competence not well understood within the hospital organization was described directly, as well as indirectly through the imprecise use of competencies, and inefficient deployment of staff (Study IV). Two components of organizational justice, as defined by Colquitt (2001), seem relevant to these RNs’ experiences; the perception of procedural and distributional justice. Procedural justice reflects the perceived fairness in decision-making processes and the extent to which they are open to voice and input, and if they are unbiased, accurate, and consistent over time. Distributional justice reflects perceived fairness in how resources are allocated, and whether the allocation corresponds to one’s perceived contribution to the organization (Colquitt et al., 2013). In the RNs’ descriptions, the perceived lack of a sense of agency might be said to relate to procedural (in)justice, while the experience of nursing as undervalued might relate to distributional (in)justice). Experiencing organizational injustice, whether procedural or distributional, might potentially reduce RNs’ sense of manageability as professionals if the organization does not respond to concerns raised. Presumably this might also be relevant from the perspective of an employee, since experiencing organizational injustice has been found to be related to overall work motivation (Sulu et al., 2010).

Practicing nursing includes both visible and invisible activities (Star and Strauss, 1999) where invisible cognitive, clinical assessments are often part of visible activities such as dispensing medication or changing dressing on a wound (Page, 2004). Maben (2008) argues that the invisible nature of much of RNs’ work means it becomes subordinate to other activities, which are more visible and readily recorded or measured. One might assume that in the process of allocating resources, organizations may unintentionally undermine or obstruct nursing work while prioritizing more visible, task-oriented activities. This may perhaps be reinforced by many healthcare reimbursement-systems, which tend to promote recording of discrete activities and readily measured care, e.g. specific surgical procedures or medical treatments (Welton, 2011). Poor organizational comprehensibility might thus have an

inadvertent effect on RNs' manageability in providing care, as well as the organizational manageability of providing relevant conditions for care.

6.2.4.5 RN influence on professional nursing practice to promote safe, high quality care

We found that RNs' subjective assessments of patient care were strongly related to objectively measured 30-day inpatient mortality (Study III), which indicates that RN ratings could be used as valid indicators of quality and safety of care at an overall hospital level. In addition to RNs' assessments of patient safety, their reports of quality of care as well as adequacy of staff have elsewhere been shown to be related to objective patient outcomes (McHugh and Stimpfel, 2012, Tvedt et al., 2014). Taking these findings together strengthens the validity of RNs' assessments of conditions for care and points to the value of integrating RNs in the organization of care. Feedback on, and response to, operational failures, such as failing or missing equipment, missed medications or treatments (Tucker and Spear, 2006), is crucial in organizational efforts to improve quality and safety of patient care. In addition, to minimize negative effects of staff 'work-arounds', an open communication structure supporting rapid feedback between organizational layers might increase overall efficiency. Utilizing RNs' assessments of patient care might also support both comprehensibility and manageability since both concepts are related to the experience of decision latitude and being able to influence one's work (Antonovsky, 1987).

Manageability, according to Antonovsky (1987), is contingent on comprehensibility. The RNs' experienced lack of well-informed strategic deployment of staff point to signs of organizations which struggled to manage what they did not fully comprehend (Study IV). In addition, a lack of understanding and knowledge of nursing and RN competence might undercut management efforts to make well-informed allocations of resources. Another potential influence might come from managers' perceptions of what RN's role in patient care is and what it can be. Comparing perceived consequences on patient care from a nursing shortage, Buerhaus et al. (2007) surveyed RNs, physicians, chief nursing officers (CNOs) and chief executive officers (CEOs). Interestingly, they found that physicians and CEOs did not seem to associate the nurse shortage with negative impacts on the early detection of patient complications, nor on RNs' ability to uphold patient safety. The authors conclude that these disparate perceptions might be important barriers to nurse retention and improvements in patient safety and quality of care (Buerhaus et al., 2007). Their conclusion reinforces the importance of understanding the role of RNs and nursing, as discussed in the previous section.

Similarly, Braithwaite et al. (2011) compared patient safety-suggestions from managers, staff groups and two patient safety specialists. While patient safety specialists suggested implementing reviews and guidelines, and incident reporting, the staff groups instead suggested improvements in staffing levels and working conditions, as well as better equipment and infrastructure (Braithwaite et al., 2011).

In building a culture of safety, a fundamental principal is that patient safety is everyone's responsibility (Vincent, 2010). Responsibility does not belong to any one particular profession or any one level of management in the organization, patient safety instead builds on teamwork and an integrated organizational culture where everyone is aware of their own responsibility and safety behavior (Vincent, 2010). In view of the studies by Braithwaite et al. (2011) and Buerhaus et al. (2007) regarding discrepancies in perceptions of roles and improvement suggestions, it is important to integrate multiple perspectives to promote more well-informed decisions and improvements rooted in a collective effort, with potential to support both organizational comprehensibility and manageability.

6.2.4.6 Planning and work schedules

Scheduling for sufficient staffing on different shifts in a 24-hour care setting requires careful and strategic planning (Kullberg et al., 2016). Work hours and work schedules can be seen as a tangible connection between RNs as persons in their private sphere, and RNs as employees and as professionals in the work context. In our research, RNs described challenges related to balancing their work and private life. Their perceived lack of influence over their work schedule and work hours was described as especially challenging (Study IV), and has been shown to influence RNs' job satisfaction (Ball et al., 2017, Dall'Ora et al., 2015) as well as their intention to leave (Leineweber et al., 2016). The possibility to change their scheduled hours to accommodate different family situations or to be able to maintain a social life outside work was described as lacking (Study IV). Correspondingly, being able to adjust work hours to accommodate one's private life has been found to be related to a higher sense of job satisfaction and well-being (Joyce et al., 2010).

From each perspective – employee, professional, and person – different aspects of control over work hours and where time is spent may reflect different prioritizations of interests. From the perspective of RNs as persons, being able to choose, influence, and/or adapt the work schedule and work hours to enable a good fit with their private life seems of essential value for an overall sense of quality of life. From an employee perspective, the ability to influence a work schedule needs to be negotiated through rules and regulations stipulating volume and length of work hours. Work schedule flexibility may also affect one's overall sense of job satisfaction and might influence both intention to leave, as well as return to a nursing position (Sjögren et al., 2005). While from the perspective of RNs as professionals, where the main objective is to deliver safe quality patient care it might be preferable to be able to adopt a work schedule, which favors continuity of care or increases safety by scheduling care teams with specific members always working together (Auerbach et al., 2012).

As pointed out by Kullberg et al. (2016) in a recent Swedish study, ward managers have the delicate task of navigating scheduling needs from the care ward perspective, to ensure patient care, while also considering individual staff preferences. In their study, they investigated the impact of fixed versus self-scheduling on several factors including working conditions. They found that fixed scheduling resulted in less overtime as well as fewer opportunities for staff to

change shifts, while self-scheduling resulted in management more frequently asking staff to change shifts on short notice (Kullberg et al., 2016). Although, the study did not investigate job satisfaction, Kullberg et al.'s results seem to suggest that fixed schedules might be preferable from a patient care perspective, but perhaps not from the perspective of RNs as persons. Balancing potentially conflicting interests, may influence comprehensibility, manageability, and meaningfulness, but in different ways from different perspectives.

6.2.5 RN retention and recruitment

In health care provision, which is known to be knowledge-intensive, RNs and other healthcare professionals are fundamental assets in the hospital organizations' production of care (Davenport, 2005). In times of nurse shortages, healthcare organizations look to find strategies to maintain a stable RN workforce (WHO, 2016). Although some of the findings discussed in previous subsections also appear to influence job satisfaction and intention to leave - in this section, I will discuss how these and other findings relate to the retention and recruitment of RNs.

Although there is much research on RNs' intention to leave and different influential factors, there seem to be little clarity on how the different factors relate to one another. However, job satisfaction and burnout, are two factors found to contribute in different ways to RN retention.

6.2.5.1 Job satisfaction

Factors RNs described which appeared to have a positive influence on their job satisfaction and sense of meaningfulness related, as previously noted, to the perception of camaraderie among colleagues, experiencing meaningful interactions with patients as well as an overall sense of contentment with their choice of career as RNs (Study IV). The positive factors also appeared to balance some of the negative aspects of their work. Research on job satisfaction has identified several organizational factors, which appear similar across different countries and clinical contexts. Factors such as supportive leadership, meaningful relationships with colleagues and patients, opportunities for professional practice, work schedule, and level of autonomy were among the most frequently highlighted (Kuhar et al., 2004, Lu et al., 2012, Tourangeau et al., 2010).

Factors relating to the influence of work on private life also affect the level of RN job satisfaction (Leineweber et al., 2014). For example, Molinari (2008) found that RNs working in rural hospitals scored higher in job satisfaction if they also reported enjoying a rural lifestyle, and Cortese (2010) found that RNs working in organizations supporting work-family balance also scored higher on sense of job satisfaction. However, even though many factors have been shown to be related to job satisfaction, the relative importance of different factors from different perspectives, e.g. persons, employees and professionals, seems less clear.

6.2.5.2 *Burnout*

Despite our finding that burnout levels were not statistically associated to hospital structural characteristics in our data (Study I), burnout remains an important factor to recognize for hospitals aiming to improve RN retention, since it is closely connected to experiencing job dissatisfaction and intention to leave the workplace (Kalliath and Morris, 2002, Marques-Pinto et al., 2018). Burnout is described as a “*psychological syndrome in response to chronic interpersonal stressors on the job*” (Maslach et al., 2009, p. 90), where manifesting symptoms include extreme fatigue and losing one’s idealism and passion for one’s job. Although our data of RNs’ open-responses do not permit assessment of potential burnout experiences per se, RNs recurrently described that they experienced their work as stressful, feeling overwhelmed, listless, and depleted at the end of their workday (Study IV), suggesting that these RNs work in environments where there might be risk of developing symptoms of burnout (Ekstedt and Fagerberg, 2005).

Here, burnout or the risks for burnout seem to connect two RN perspectives. From a professional perspective, the RN might, through sustained exposure to stress and feeling overwhelmed from their work as RNs, be at risk of burnout and become emotionally detached and less responsive towards patients (Ekstedt and Fagerberg, 2005). From a person perspective, as burnout affects the well-being of RNs, it seems the most potentially devastating consequences of burnout might befall the RNs as persons –the individual ‘behind’ the professional, who needs to heal and get well, if they are to be able to return as a professional and employee. Further, RNs also expressed sadness from a waning sense of passion and enjoyment of their work, which seemed to erode them in their professional role (Study IV). An erosion of their professional role, in turn might negatively influence their sense of meaningfulness and willingness to engage and invest in their work.

6.2.5.3 *Remaining at work*

RNs working in urban areas reported that, if they were to leave their current workplace, they would seek a position as RN in another hospital, twice as often as other respondents (Study I). Although showing somewhat contradictory results regarding the effects of geographical locations on RNs’ job satisfaction (Baernholdt and Mark, 2009, Molinari and Monserud, 2008, Rechel et al., 2016), research literature is in agreement that rural and urban hospitals face different challenges in recruitment and retention, which might affect the effectiveness of the improvement efforts employed.

The analysis presented in Study I also indicated that RNs working in small, rural hospitals were slightly older and more experienced, compared to RNs working in large, urban hospitals. Since younger and less experienced RNs have been shown to be more mobile and ready to change workplace (Currie and Carr Hill, 2012, Wieck et al., 2010), hospital organizations in urban areas may need to pay special attention to their working conditions if RNs are to remain in their jobs. It has been suggested that retention efforts should focus on minimizing stress, heavy workloads, and burnout, since these are commonly reported among

those leaving the RN profession early in their careers (Flinkman et al., 2010, Rudman and Gustavsson, 2012).

From an employee perspective, universal aspects such as a less overwhelming work situation or improved work environment might increase retention to some extent. Whereas from a professional perspective, other aspects – e.g. being able to use one’s specific professional competence, may potentially be equally or more important, e.g. as also seen in feature of the magnet hospitals. A recent Swedish study highlights the importance of a quality inner work-life and work motivation for RNs to remain in their job. The researchers found that respectful and collegial teamwork with physicians, visible progress through feedback from their work, and being able to work independently with other RNs increased RNs’ work motivation and willingness to stay (Ahlstedt et al., 2018).

With the aim of increasing retention of RNs as well as improving recruitment, supporting RNs’ overall sense of comprehensibility, manageability and meaningfulness in their work may be a potential strategy for hospital organizations. Presumably, a more stable and better utilized RN workforce may support organizational manageability in turn, by way of RNs participating and influencing the organization of care.

6.3 IMPLICATIONS FOR PRACTICE

This thesis has shown that factors most related to patient safety, from the perspective of RNs working at the ‘sharp end’, are related to adequacy of staffing and resources, teamwork as well as visible and supportive management on all levels of the hospital organization. Results from this thesis also show that RNs can be useful as valid indicators to inform decisions regarding patient care. However, absence of adequate conditions for care and RNs’ experienced lack of a sense of agency, on both individual and collective levels, suggests there might be organizational impediments to RNs’ ability to influence the conditions needed for care and to make full use of their professional competence to maximize their contribution to patient care.

To increase hospitals organizations’ “return on investment” from their largest staff group, management at all levels need to recognize RNs’ central role in patient care. By providing adequate and appropriate prerequisite conditions, RNs become better equipped to make use of their competence in both preventive patient safety monitoring, but also by providing professional nursing care of high quality, both potentially reducing e.g. unnecessary re-admissions.

The average length-of-stay in Swedish hospitals are among the shortest among the OECD countries (OECD, 2017). The short stays increase the need for patients to receive competent, relevant, timely, effective, efficient, and safe care. To be able to provide such care, RNs and other hospital staff need adequate working conditions. Facilitating staff involvement in organizing care, may decrease the gap between perspectives of work at ‘the sharp end’ of care, i.e. between work-as-done and work-as-imagined, to improve relevance and accuracy of policy decisions, routines and guidelines.

Different examples of hospitals trying to mitigate the shortage of RNs by setting up ‘RN-free’ wards, as was seen in several Swedish hospitals recently, signals serious disregard for the research evidence, spanning over four decades, on the impact of nurse-staffing on patient outcomes. Hospital organizations need to use available research to make evidence-informed decisions and systematically evaluate staffing experiments, to make sure patients are not exposed to increased risk of harm.

This thesis has shown that geographical location of the hospital had little influence on RNs’ ratings of their work environment, or their intentions to leave their current workplace. Our results suggest that rural hospitals may, compared to urban hospitals, face similar challenges in recruitment and retention of RNs, but that they may need different strategies adapted to their local environment to focus efforts on efficient factors.

6.4 FUTURE RESEARCH

The research presented in this thesis provided insights into important aspects of the work environment, from the perspective of RNs, and working conditions related to the safety and quality of patient care. The findings have also generated new questions relating to the complexities of the work environment and the potential value of investigating other perspectives where interests, values, and meaning may differ. The potential limitations in the research presented here also provide opportunities for further development and exploration.

- In Study II, the choice of instrument to measure presence of the different aspects of the work environment limited the possibility to investigate the relative importance of the different factors for the responding RNs. To increase precision in efforts to improve the work environment, exploring the relative value of different factors from different perspectives would be of interest. Some factors may outweigh others in importance and/or effectiveness, which may affect what results, can be expected from improvement interventions. We also need to explore how factors interact, as some may appear more important than others under certain conditions, and some potentially become of less concern depending on the impact of another factor. In addition, since much of previous research has been cross-sectional, knowledge seems limited as to whether some factors are more stable than others are if measured over time.
- Building on findings from Study III and the few notable positive descriptions in Study IV – what organizational factors might be related to the assessment of excellent patient safety and quality of care? What do RNs see as underlying a rating of excellent quality and safety? Are there specific features that can be isolated from the organizational context, to identify successful examples of organizing work that can be shared with other organizations? What roles do RNs have in an environment where patient safety and quality of care is assessed to be excellent? In addition to patient mortality, are ratings of excellent care related to nursing-sensitive measures of patient outcomes e.g. failure-to-rescue, hospital-acquired-infections or falls? Might there be positive outcome measures sensitive to professional nursing care, to complement the common patient safety measures, which paradoxically seem to measure the absence rather than the presence of safety? It would be valuable and urgent to study creative organizational solutions conducive to professional practice at the bedside, in a systematic way, to ensure better use of resources and professional competence to increase resource efficiency as well as benefits for patients.
- In Study IV, RNs described frustration from not being able to influence the conditions for care, even when they expressed concern in situations with increased risk of patient harm. Exploring further RNs' strategic position at the 'sharp end' might facilitate utilization of RNs' role in identifying operational failures and harmful 'work-arounds' at the 'sharp end'. Could organizational efficiency be improved by utilizing RNs' assessments and reports of their workplace in a more systematic manner?

- While RNs have a central role in providing patient care, they are not the only staff group operating in that realm. From what I have found, research investigating the care context from the perspectives of all who interact in that environment still appear limited. Are there potentially different ‘cultures’ or work environments on different wards, or among different professions or different staff groups? Would similar positive work environment factors be identified in other staff groups? Are there potential ‘magnetic’ features operating across staff groups, across organizational levels or wards? How would improvements in RNs’ work environment affect other staff groups? Might it lead to an improved work environment in general, and perhaps ease recruitment and retention of other professionals too?
- This research has focused on RNs working with inpatient care in acute care hospitals; however, since RNs are active in a wide range of settings it would also be valuable to investigate other contexts of care. Are similar factors recognized as important in another context where the RNs’ role might be different?
- In Study II, we found RNs rated patient safety as better when providing most patient care themselves. What does that mean in an international context where the RN role, responsibilities, and the content of their work differ? This is particularly interesting as in the RN4CAST, the interpretation of what ‘a nurse’ is, and what she/he does or does not do as part of their job, varied among the participating countries. How are RNs’ competences utilized in other countries?
- In Study IV, the financial limitations and organizational cutbacks were recurrent issues. I would also like to explore economic issues regarding the utilization of the RN workforce, e.g. is a more efficient and effective use of the RN workforce capacity detectable in financial terms? In addition, do organizations with successful work environments utilize/deploy RNs differently than do organizations with poor work environments? What variations in professional nursing environments are recognizable in Sweden? Are such environments related to differences in costs spent or gained? How do patients experience ‘successful work environments’? Does it increase quality and safety of patient care?

In order to increase usefulness of research in clinical practice, I would argue the importance of integrating multiple perspectives when exploring organizational factors and their impact on different outcomes to better reflect the different stakeholders involved. To provide relevant evidence-based support to inform policy and practice decisions, it might be useful to adopt a systems approach in research to allow complexities of care to complement and support understanding of the processes involved in a hospital organization.

6.5 CONCLUSIONS

This thesis aimed to investigate RNs' assessments and experiences of their work environment and patient care – as persons, as professionals and as employees – and to explore how those assessments and experiences relate to patient safety, quality of care and the conditions for care provision. We used qualitative and quantitative research approaches, as well as triangulation of data sources and formats to investigate RNs' assessments and experiences of the patient care context. We used routinely collected hospital data on patients and their outcomes from hospital care, as well as two different forms of survey responses; closed item responses and open-ended responses.

We found that the influence of hospital structural factors (i.e. size, geographical location (urban/rural), and teaching status) on RN assessed work environment, their own work situation and the quality of care was small and of questionable relevance. Thus, structural factors, not readily changed, are unlikely to hamper efforts to improve the work environment. In the work environment, the most influential factor on RNs' assessments of patient safety on their ward related to the perception of having adequate staffing and resources to be able to do their job and to deliver quality care to patients. Other important work environment factors were supportive and visible management on both hospital and ward level, as well as having good working relationships with physicians. These results point to malleable factors in the work environment that are susceptible to change, in order to improve patient safety.

We found that RNs' subjective assessments of excellent patient safety and quality of care on their ward were related to considerably lower odds of patients dying within 30 days of admission, an objectively measured outcome. This point to the usefulness of RNs' assessments as hospital-level indicators to inform policy decisions on patient care. However, in RNs' own accounts we found that RNs experienced, on one hand, expectations, and demands to uphold high standards of safe, high quality care for patients while on the other hand, they described working in an environment where they perceived no real means of influencing the prerequisite conditions. The tension between expectations and demands and the lack of influence, led to RNs lacking a sense of agency, on both individual and collective levels. These results suggest that there might be organizational factors impeding RNs' ability to make full use of their professional competence in clinical decisions and govern their scope of practice.

As this thesis draws on findings from RNs reporting from 'inside' their organizations, hospital organizations could utilize RNs better to make well-informed decisions on the organization of care, with relevant and competent knowledge of care at the bedside. Maximizing RNs' contributions to care requires not only supporting their sense of agency, but also providing appropriate and adequate conditions (e.g. staffing and resources) and supportive organizational structures (e.g. supportive leadership, and teamwork). In efforts to improve RN retention and to ensure safe, high-quality care to patients, hospital organizations could use these research findings to identify and foster organizational conditions that support RNs' full professional contribution to patient care.

SVENSK SAMMANFATTNING

Demografiska förändringar och en ökande population kroniskt sjuka och multisjuka patienter skapar en växande efterfrågan på specialistvård. Den rådande bristen på sjuksköterskor innebär dock en utmaning för vårdgivare att matcha den ökande efterfrågan på vård med tillräckliga personalresurser. Tidigare forskning har visat att sjuksköterskor ofta anger brister i arbetsvillkoren som orsak att vilja lämna yrket i förtid, och missnöje med sitt arbete i sin tur har visat sig vara relaterat till sämre resultat för patienter. Genom att studera och öka kunskapen om arbetsförhållanden inom vården kan forskningen bidra med värdefulla insikter som kan förbättra vårdgivares möjligheter att rekrytera och behålla sjuksköterskor, och därigenom även säkerställa kvaliteten och säkerheten i patientvården. Det finns dock begränsad kunskap om vilka organisatoriska förutsättningar som behövs, ur sjuksköterskors perspektiv, för att kunna vårda patienter på ett bra och säkert sätt.

Det övergripande syftet med denna avhandling är att undersöka sjuksköterskors upplevelser av sin arbetsmiljö – ur sjuksköterskans perspektiv som individ, professionell och anställd – och ta reda på hur deras bedömningar och upplevelser är relaterade till patientsäkerhet, vårdkvalitet, och organisatoriska förutsättningar för att kunna vårda patienter.

Avhandlingen bygger på data från den svenska delen av det internationella, EU-finansierade projektet 'Registered Nurse Forecasting' (RN4CAST). Svenska data inkluderar enkätsvar från 11 015 sjuksköterskor som arbetar med vård av inneliggande patienter på medicinska/kirurgiska vårdavdelningar på samtliga akutsjukhus i Sverige. Den svenska databasen innehåller även data från det nationella patientregistret samt data om sjukhusen.

Resultaten visade att sjukhusens strukturella egenskaper, så som storlek, placering (storstad/glesbygd) och huruvida sjukhuset var ett universitetssjukhus, hade relativt liten inverkan på sjuksköterskors bedömning av sin arbetsmiljö, sin arbetssituation och vårdkvaliteten på sin avdelning. Faktorer med stor inverkan på sjuksköterskors bedömningar av patientsäkerhet var relaterade till upplevelsen av att sjukhusledningen visade att man prioriterade patientsäkerhet, att det fanns ett stödjande nära ledarskap, och att det fanns ett bra samarbete med läkare. Störst inverkan på patientsäkerhetsbetyget hade dock uppfattningen om det fanns tillräckligt med personal och resurser på avdelningen för att kunna utföra arbetet och kunna ge vård av hög kvalitet.

Utmärkt patientsäkerhet och vårdkvalitet, enligt sjuksköterskors bedömning, var relaterat till betydligt lägre odds för att patienter skulle avlida på sjukhus inom 30 dagar efter inskrivning. I deras egna berättelser framgår att sjuksköterskorna upplevde förväntningar och krav – från

chefer och ledning, patienter och deras familjer, från andra yrkesgrupper, från den egna yrkeskåren samt från sjuksköterskornas egna individuella ambitioner – att upprätthålla hög kvalitet och säkerhet i patientvården. Samtidigt beskrev de att de arbetade i en miljö i vilken de upplevde små möjligheter att påverka förutsättningarna som behövdes för att tillgodose kraven och förväntningarna. Spänningen som uppstod mellan förväntningarna och kraven å ena sidan, och avsaknaden av inflytande över nödvändiga förutsättningar å andra sidan, verkade leda till att sjuksköterskor upplevde bristande formellt handlingsutrymme och yrkesmässig befogenhet att kunna påverka, både som individer men också som yrkesgrupp.

Avhandlingen har påvisat statistiskt signifikanta samband mellan sjuksköterskors subjektiva bedömning och det objektiva patientsäkerhetsmåttet, vilket tyder på att deras bedömningar är giltiga för att mäta vårdens kvalitet och säkerhet. Sjuksköterskors bedömningar kan följaktligen utgöra ett viktigt underlag i organisatoriska beslut om patientvården. Emellertid visar avhandlingen också att sjuksköterskornas beskrivningar av bristfälliga nödvändiga förutsättningar och upplevelserna av begränsat yrkesmässigt handlingsutrymme att kunna påverka villkoren för vårdarbetet, tyder på att det kan finnas organisatoriska faktorer som försvårar möjligheten för sjuksköterskor att nyttja hela sin professionella kompetens till gagn för patienterna.

Denna avhandling använder resultat som bygger på sjuksköterskors rapporter 'inifrån' sjukhusorganisationerna. Det innebär att sjukhusen själva har möjlighet att använda 'sina' sjuksköterskor för att utveckla och komplettera beslutsunderlag med relevant och kompetent kunskap om den direkta patientvården. Sjuksköterskor är den yrkesgrupp som utgör största andelen av sjukhusens personal, och sjuksköterskors kompetens är en central komponent i vården av patienter. För att kunna optimera sjuksköterskors bidrag till patientvården krävs inte enbart möjligheter till yrkesmässigt inflytande i vården, det ställer också krav på tillhandahållande av nödvändiga förutsättningar (t.ex. tillräckligt med personal och resurser) samt stödjande organisatoriska strukturer (t.ex. stöttande ledarskap, och samarbete).

För att säkerställa säker patientvård av hög kvalitet, kan sjukhus använda avhandlingens resultat för att identifiera, tillämpa och anpassa organisatoriska system/förutsättningar som möjliggör för sjuksköterskor att nyttja hela sin professionella kompetens vilket kan bidra till att vården står bättre rustad att möta såväl nuvarande som framtida utmaningar.

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“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair...”

- ‘A Tale of Two Cities’ by Charles Dickens, 1859

The roller-coaster ride of the last eight years has been intense, professionally as well as personally. Starting a family and starting a doctoral education in parallel has its definite challenges, but thankfully still more benefits. As I finish my thesis, now at the end of my doctoral education, I think back on the last eight years and all I can say is ‘wow... what a ride!!’

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APPENDIX

1. INFORMATION LETTER

2. SWEDISH RN4CAST SURVEY

(Maslach Burnout Inventory is not included due to copyright reasons)

Hur påverkar vårdorganisationen hälsa och säkerhet för patienter och personal?

Bakgrund och syfte

Sjuksköterskor har en viktig, ansvarsfull och krävande yrke. På Karolinska Institutet deltar vi därför i ett EU-samarbetsprojekt, RN4CAST, för att öka vår kunskap om relationen mellan hur omvårdnaden på sjukhus organiseras och det som händer patienter senare i sin sjukdom. Vi skriver därför till dig som arbetar på sjukhus för att få ta del av din expertis och synpunkter om din arbetssituation.

Tidigare forskning från huvudsakligen Nordamerika har visat att det finns starka samband mellan sjuksköterskors bedömning av vårdorganisatoriska faktorer och patientens hälsa och säkerhet. Detta samband gäller också för sjuksköterskans egen hälsa. Dock har detta inte systematiskt undersökts i länder med liknande villkor som Sverige, och vi saknar också information om hur sjuksköterskor i Sverige upplever sin arbetssituation jämfört med sjuksköterskor i andra länder.

En undersökning av dessa frågor genomförs i 12 europeiska länder, såväl som i Kina, Botswana och Sydafrika. Detta görs i syfte att få kunskap om i vilken utsträckning arbetssituationen och organisationen på sjukhus påverkar patientutfallet och personalens hälsa. Resultaten av detta EU-projekt som helhet ska användas för att bl.a. kunna förutse framtidens sjuksköterskebehov, där även kvalitet på vården inräknas. I Sverige kan denna studies resultat ge:

- ett underlag för konkreta förändringar i vårdorganisation och arbetssätt,
- kunskap för att kunna förbättra vårdkvaliteten
- kunskap för att minska misstag i vården som drabbar personal och patienter.

Förfrågan om deltagande

Vi ber dig dela med av dina erfarenheter och synpunkter kring patientvård och säkerhet, din arbetssituation och omvårdnadsorganisation, och miljön på din arbetsplats!

Du har blivit utvald eftersom du ingår i Vårdförbundets medlemsdatabas som arbetande inom ett akutvårdssjukhus. I urvalet ingår ca 32 000 sjuksköterskor. Enligt medlemsregistret arbetar du som sjuksköterska på det sjukhus och den klinik som anges på enkätens framsida. Om dessa uppgifter INTE stämmer var god och ange på enkätens första sida namnet på sjukhuset och kliniken där du för närvarande arbetar.

Alla svar är viktiga

För att resultaten ska bli tillförlitliga är det viktigt att få svar från så många som möjligt. Din medverkan är frivillig men ditt svar kan inte ersättas med någon annans. Vi hoppas att du ska se värdet med att göra din röst hörd genom att delta i denna undersökning. Deltagandet i denna studie innebär endast att du besvarar denna enkät. Flera insatser kommer inte att begäras av dig inom studiens ram.

Du kan välja att besvara frågorna via Internet. Frågorna finner du på webbadressen www.insamling.scb.se. Logga in med användar-id och lösenord.

Användarid:

Lösenord:

Om du väljer att besvara pappersblanketten skickar du in den i det portofria svarskuvertet.

Hur går studien till?

Statistiska centralbyrån (SCB) har fått i uppdrag att genomföra denna undersökning bland sjuksköterskor som arbetar på slutenvårdavdelningar vid svenska sjukhus. Projektet utförs i Sverige av omvårdnadsforskare vid Karolinska institutet i samarbete med Vårdförbundet.

De namn och adressuppgifter som behövs till datainsamlingen hämtas från Registret över totalbefolkningen. Numret högst upp på blanketten är till för att SCB under insamlingen ska kunna se vilka som har svarat och vilka som ska få en påminnelse.

Detta händer med dina svar

De svar du lämnar kommer att kompletteras med uppgifter från Vårdförbundets medlemsdatabas. Det är uppgift om kön, ålder, sjukhus, och klinik.

Svaren i enkäten kommer att sammanställas på sjukhus- alternativt klinikknivå och analyseras tillsammans med uppgifter om utfall för patienter (t.ex. vårdtider, dödlighet och komplikationer) såväl som nivån av yrkesrelaterad sjukdom för vårdpersonal. I resultatredovisningen kan inte enskilda sjukhus, kliniker eller individer identifieras.

Resultaten från undersökningen ska användas på Karolinska Institutet och för det europeiska projektet (RN4CAST) vid Katholieke Universiteit Leuven - Centre for Health Services and Nursing Research och Biostatistical Centre, Belgien. Det material som forskarna får tillgång till är avidentifierat, vilket innebär att personnummer, namn och adress har tagits bort.

Vill du veta mer?

Studiens resultat publiceras på svenska såväl som engelska i olika vetenskapliga tidskrifter. Vår ambition är att så många som möjligt får möjlighet att ta del av det vi lär oss genom studien. Om du undrar något om insamlingen av enkäten, kan du kontakta xxxx xxxx, tel nr xx-xx xx xx, e-post xx.xx@xx.xx

Om du undrar något om studien, kan du kontakta Leg. Ssk Dr Rikard Lindqvist, projekt koordinator, e-post-adress xx.xx@xx.xx

Carol Tishelman
Professor i omvårdnad, Karolinska Institutet



A. Om ditt arbete

5	Utifrån din nuvarande arbetssituation, markera i vilken utsträckning du håller med om följande påståenden	Stämmer inte alls	Stämmer inte särskilt bra	Stämmer ganska bra	Stämmer mycket bra
		1	2	3	4
a)	Det finns tillräckligt med servicefunktioner (t.ex. transportörer, städpersonal, kökspersonal, m.m.) för att jag ska kunna tillbringa tid med mina patienter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Läkare och sjuksköterskor har bra arbetsrelationer sinsemellan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Arbetsledningen stöttar sjuksköterskorna.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Det finns fungerande program för fortlöpande utbildning eller kompetensutveckling för sjuksköterskor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Det finns möjligheter till karriärutveckling, inklusive klinisk karriärutveckling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Det finns möjligheter för sjuksköterskor att delta i beslutsfattande angående policyfrågor (t.ex. klinisk standard, beslut kring arbetsorganisation, o.s.v.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Läkarna värdesätter sjuksköterskors observationer och bedömningar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Det finns tillräckligt med tid och möjligheter för att diskutera omvårdnadsproblem med andra sjuksköterskor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Det finns tillräckligt med sjuksköterskor på arbetsplatsen för att kunna ge vård med god kvalitet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Min närmaste överordnade sjuksköterska är en bra chef och arbetsledare.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k)	Den sjuksköterska som har det yttersta omvårdnadsansvaret på sjukhuset är synlig och tillgänglig för personalen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l)	Det finns tillräckligt med personal för att klara av arbetet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m)	Läkarna erkänner sjuksköterskornas insatser i vården.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n)	Man får beröm och erkännande för ett väl utfört arbete.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o)	Sjukhusledningen förväntar sig omvårdnad av hög kvalitet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p)	Den sjuksköterska som har det yttersta omvårdnadsansvaret på sjukhuset har lika mycket makt och auktoritet som andra höga chefer på sjukhuset.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q)	Sjuksköterskor och läkare arbetar mycket tillsammans som ett 'team'.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r)	Det finns möjligheter till karriärutveckling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s)	Det finns en tydlig omvårdnadsvision (t.ex. mål, filosofi, ideal) som genomsyrar hela vårdmiljön.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





6	Utifrån din nuvarande arbetssituation, markera i vilken utsträckning du håller med om följande påståenden	Stämmer inte alls	Stämmer inte särskilt bra	Stämmer ganska bra	Stämmer mycket bra
		1	2	3	4
a)	Jag arbetar med sjuksköterskor som är skickliga kliniker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Läkarna respekterar sjuksköterskor som yrkesgrupp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Min närmaste överordnade sjuksköterska stödjer omvårdnadspersonalen i deras beslut även när det uppstår konflikt med en läkare.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Ledningen lyssnar och reagerar på personalens bekymmer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Det finns ett fungerande system för kvalitetssäkring/utveckling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Sjuksköterskor deltar i verksamhetens interna styrning (t ex i arbetsgrupper och kommittéer som fattar övergripande administrativa och/eller kliniska beslut).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Sjuksköterskor och läkare samarbetar väl.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Det finns program för att stödja nyanställda sjuksköterskor (t.ex. mentorer/handledare/faddrar o.s.v.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Omvårdnaden utgår från ett omvårdnadsperspektiv (istället för en medicinsk modell).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Sjuksköterskor har möjligheten att delta i arbetsgrupper som rör verksamheten och/eller omvårdnad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k)	Läkarna värderar sjuksköterskor högt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l)	Det finns skriftliga och uppdaterade vård- och omvårdnadsplaner för alla patienter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m)	Ansvar för enskilda patienter fördelas så att det gynnar kontinuitet i vården (t.ex. samma sjuksköterska vårdar samma patient i möjligaste mån under vårdtiden).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Hur nöjd är du med ditt nuvarande jobb på detta sjukhus?	<input type="checkbox"/> Inte alls nöjd <input type="checkbox"/> Inte så nöjd <input type="checkbox"/> Ganska nöjd <input type="checkbox"/> Mycket nöjd			
8	Hur bedömer du arbetsmiljön på din arbetsplats (t. ex. tillräckligt med resurser, förhållande med arbetskamrater, stöd från ledningen)?	<input type="checkbox"/> Dålig <input type="checkbox"/> Någorlunda <input type="checkbox"/> Bra <input type="checkbox"/> Utmärkt			





9	Hur nöjd är du med följande aspekter av ditt jobb?	Inte alls nöjd	Inte så nöjd	Ganska nöjd	Mycket nöjd
		1	2	3	4
a)	Flexibilitet i arbetsschema.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Möjligheter till karriärutveckling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Självständigheten i arbetet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Din status som sjuksköterska.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Lön.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Möjligheter till fortsatt utbildning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Semester.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Sjukledighet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Studieledighet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10a	Om möjligheten fanns, skulle du sluta arbeta på detta sjukhus inom närmaste året p.g.a. missnöje? Om ja:	<input type="checkbox"/> Ja <input type="checkbox"/> Nej → <i>Gå till fråga 11</i>			
10b	Vilket slags arbete skulle du söka?	<input type="checkbox"/> Som sjuksköterska på annat sjukhus <input type="checkbox"/> Som sjuksköterska men ej på sjukhus <input type="checkbox"/> Skulle inte alls arbeta som sjuksköterska			
11	Om du sökte annat arbete, hur lätt tror du det skulle vara att hitta ett acceptabelt arbete som sjuksköterska?	<input type="checkbox"/> Mycket svårt <input type="checkbox"/> Ganska svårt <input type="checkbox"/> Ganska lätt <input type="checkbox"/> Mycket lätt			
12	Skulle du rekommendera ditt sjukhus som en bra arbetsplats till en sjuksköterskekollega?	<input type="checkbox"/> Definitivt inte <input type="checkbox"/> Troligtvis inte <input type="checkbox"/> Troligtvis ja <input type="checkbox"/> Definitivt ja			
13	Skulle du rekommendera ditt sjukhus till dina vänner eller släktingar i behov av sjukhusvård?	<input type="checkbox"/> Definitivt inte <input type="checkbox"/> Troligtvis inte <input type="checkbox"/> Troligtvis ja <input type="checkbox"/> Definitivt ja			





**14 Markera alternativet som bäst beskriver
HUR OFTA du känner så i förhållande till ditt
nuvarande jobb på detta sjukhus.**

Aldrig Några gånger per år eller mindre En gång per månad eller mindre Några gånger per månad En gång per vecka Några gånger per vecka Dagligen

0 1 2 3 4 5 6

a)	<input type="checkbox"/>						
b)	<input type="checkbox"/>						
c)	<input type="checkbox"/>						
d)	<input type="checkbox"/>						
e)	<input type="checkbox"/>						
f)	<input type="checkbox"/>						
g)	<input type="checkbox"/>						
h)	<input type="checkbox"/>						
i)	<input type="checkbox"/>						
j)	<input type="checkbox"/>						
k)	<input type="checkbox"/>						
l)	<input type="checkbox"/>						
m)	<input type="checkbox"/>						
n)	<input type="checkbox"/>						
o)	<input type="checkbox"/>						
p)	<input type="checkbox"/>						
q)	<input type="checkbox"/>						
r)	<input type="checkbox"/>						
s)	<input type="checkbox"/>						
t)	<input type="checkbox"/>						





14	Forts. Markera alternativet som bäst beskriver HUR OFTA du känner så i förhållande till ditt nuvarande jobb på detta sjukhus.	Aldrig	Några gånger per år eller mindre	En gång per månad eller mindre	Några gånger per månad	En gång per vecka	Några gånger per vecka	Dagligen
		0	1	2	3	4	5	6
u)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Översättning genomförd av Lennart Hallsten, 1984, uppdaterad 2010.

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B. Kvalitet och säkerhet

15	På det hela taget, hur skulle du beskriva omvårdnads kvaliteten på din avdelning/enhet?	<input type="checkbox"/> Dålig
		<input type="checkbox"/> Någorlunda
		<input type="checkbox"/> Bra
		<input type="checkbox"/> Utmärkt
16	Hur säker är du att dina patienter kan klara sin egenvård när de är utskrivna?	<input type="checkbox"/> Inte alls säker
		<input type="checkbox"/> Inte så säker
		<input type="checkbox"/> Ganska säker
		<input type="checkbox"/> Mycket säker
17	Hur säker är du på att sjukhusledningen kommer att agera för att lösa problem gällande patientvården som du rapporterar?	<input type="checkbox"/> Inte alls säker
		<input type="checkbox"/> Inte så säker
		<input type="checkbox"/> Ganska säker
		<input type="checkbox"/> Mycket säker
18	Hur skulle du betygsätta patientsäkerheten på din avdelning/enhet?	<input type="checkbox"/> Underkänd
		<input type="checkbox"/> Dålig
		<input type="checkbox"/> Godtagbar
		<input type="checkbox"/> Mycket bra
		<input type="checkbox"/> Utmärkt
19	Under det senaste året, tycker jag att vårdkvaliteten på mitt sjukhus har...	<input type="checkbox"/> ... försämrats
		<input type="checkbox"/> ... inte förändrats
		<input type="checkbox"/> ... förbättrats





20	Följande påståenden handlar om dina åsikter kring patientsäkerheten på din arbetsplats	Stämmer inte alls	Stämmer ganska dåligt	Tveksamt	Stämmer ganska bra	Stämmer helt		
		1	2	3	4	5		
a)	Personalen känner att deras misstag vänds mot dem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
b)	Information som är viktig för patientvården faller ofta bort i samband med skiftbyte.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
c)	Saker och ting "faller mellan stolarna" när patienter flyttas från en avdelning/enhet till en annan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
d)	Personalen känner att de kan ifrågasätta beslut eller agerande 'uppifrån'.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
e)	På min avdelning/enhet diskuterar vi olika tillvägagångssätt för att motverka att misstag upprepas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
f)	Vi får återkoppling om förändringar som gjorts till följd av avvikelseapportering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
g)	Sjukhusledningens agerande visar att de prioriterar patientsäkerheten högt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
21	Hur ofta skulle du säga att något av följande händer dig eller dina patienter?	Aldrig	Några gånger per år eller mer sällan	En gång per månad eller mer sällan	Några gånger per månad	En gång per vecka	Några gånger per vecka	Dagligen
		0	1	2	3	4	5	6
a)	En patient får fel läkemedel, eller läkemedel vid fel tid eller i fel dos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	En patient får trycksår under vistelsen på avdelningen/enheten.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	En patient faller och skadar sig under vistelsen på avdelningen/enheten.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Vårdrelaterad infektion:							
d)	Urinvägsinfektion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Sepsis/blodförgiftning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Lunginflammation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Klagomål från patienter och/eller deras närstående.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Verbala hot/förolämpningar mot sjuksköterskor:							
h)	Från patienter och/eller deras närstående.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Från personalen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fysiskt våld mot sjuksköterskor:							
j)	Från patienter och/eller deras närstående.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k)	Från personalen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l)	Sjuksköterskor får arbetsrelaterade fysiska skador.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



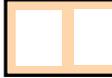


C. Om ditt senaste arbetspass på vårdavdelning vid detta sjukhus

22 Vilket av följande alternativ beskriver bäst ditt senaste arbetspass på vårdavdelning vid detta sjukhus?	<input type="checkbox"/> Dag <input type="checkbox"/> Eftermiddag/kväll <input type="checkbox"/> Nat
23 Ange antal timmar du arbetade under ditt senaste arbetspass på vårdavdelning vid detta sjukhus:	<input style="width: 40px; height: 20px; border: 1px solid black; border-bottom: 3px double black;" type="text"/> timmar
24 Arbetade du övertid/mertid under ditt senaste arbetspass på detta sjukhus?	<input type="checkbox"/> Ja <input type="checkbox"/> Nej
25 Under ditt senaste arbetspass, hur många patienter hade du huvudansvar för?	<input style="width: 40px; height: 20px; border: 1px solid black; border-bottom: 3px double black;" type="text"/> patienter <input type="checkbox"/> Hade inte huvudansvar
26 Är det antal patienter som du uppgav i fråga 25 en typisk arbetsbelastning för dig?	<input type="checkbox"/> Brukar ansvara för färre patienter <input type="checkbox"/> Brukar ansvara för ungefär samma antal patienter <input type="checkbox"/> Brukar ansvara för fler patienter
27 Av de patienter som du hade huvudansvar för under ditt senaste arbetspass, hur många... a) ... behövde hjälp med all ADL (d.v.s. hjälp med alla dagliga aktiviteter)? b) ... behövde tillsyn, kontroll eller behandling varje timme eller oftare?	<input style="width: 40px; height: 20px; border: 1px solid black; border-bottom: 3px double black;" type="text"/> patienter <input type="checkbox"/> Ingen patient <input style="width: 40px; height: 20px; border: 1px solid black; border-bottom: 3px double black;" type="text"/> patienter <input type="checkbox"/> Ingen patient
28 Hur skulle du beskriva din roll i omvårdnaden av de flesta patienter under ditt senaste arbetspass? <i>Markera det alternativ som passar bäst</i>	<input type="checkbox"/> Jag utförde den mesta av patientvården själv <input type="checkbox"/> Jag ansvarade för tillsyn av patientvård utförd av annan vårdpersonal och utförde en del patientvård själv <input type="checkbox"/> Det mesta av direkt patientvård utfördes av andra och jag utförde endast begränsade delar själv (t.ex. läkemedelsutdelning, vissa vårdmoment)
29 Under ditt senaste arbetspass, hur många patienter fanns på din avdelning/enhet totalt?	<input style="width: 40px; height: 20px; border: 1px solid black; border-bottom: 3px double black;" type="text"/> patienter <input type="checkbox"/> Ingen patient





30 Inklusive dig själv, hur många legitimerade sjuksköterskor deltog i direkt patientvård på din avdelning/enhet under ditt senaste arbetspass?		legitimerade sjuksköterskor	<input type="checkbox"/> Inga/noll
31 Hur många undersköterskor/biträden deltog i direkt patientvård på din avdelning/enhet under ditt senaste arbetspass?		undersköterskor och/eller vårdbiträden	<input type="checkbox"/> Inga/noll
32 Under ditt senaste arbetspass, hur ofta gjorde du någon av följande?	<p>Aldrig</p> <p>0</p>	<p>Ibland</p> <p>1</p>	<p>Ofta</p> <p>2</p>
a) Delade ut och/eller samlade in matbrickor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Utförde arbetsuppgifter som borde göras av andra yrkesgrupper.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Samordnade utskrivningar och transporter till andra enheter (inklusive till kommunal/privat äldreomsorg).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Rutinmässiga blodprovtagning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Transporterade patienter inom sjukhuset.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Städade patientrum eller rengjorde utrustning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Utförde arbetsuppgifter utanför kontorsarbetstid som brukar göras av andra yrkesgrupper under kontorsarbetstid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Skaffade fram material eller utrustning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Svarade i telefon och utförde andra sekreteraruppgifter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33 Under ditt senaste arbetspass, vilka av följande aktiviteter var nödvändiga men försumrades på grund av tidsbrist? <i>Markera alla lämpliga svar</i>			
Adekvat övervakning av patienter	<input type="checkbox"/>		
Hudvård	<input type="checkbox"/>		
Munvård	<input type="checkbox"/>		
Smärtlindring	<input type="checkbox"/>		
Tröst till/samtal med patienter	<input type="checkbox"/>		
Undervisning av patienter och närstående	<input type="checkbox"/>		
Behandlingar och andra vårdåtgärder	<input type="checkbox"/>		
Administration av läkemedel i tid	<input type="checkbox"/>		
Förberedelse av patienter och närstående inför utskrivning	<input type="checkbox"/>		
Adekvat dokumentation av omvårdnadsinsatser	<input type="checkbox"/>		
Upprättande eller uppdatering av vård- och/eller omvårdnadsplaner	<input type="checkbox"/>		
Vårdplanering	<input type="checkbox"/>		
Upprepad lägesförändring av patient	<input type="checkbox"/>		





D. Om dig

34 Är du kvinna eller man?

Kvinna

Man

35 Hur gammal är du?

år gammal

36a Har du gått din grundläggande sjuksköterskeutbildning i Sverige?

Ja → Gå till fråga 37

Nej

Om nej:

36b I vilket land har du gått din grundläggande sjuksköterskeutbildning?

37 Har du arbetat som legitimerad sjuksköterska i annat land än Sverige?

Ja

Nej → Gå till fråga 39

38 Bortsett ifrån Sverige, ange de senaste tre länder där du har arbetat som legitimerad sjuksköterska samt antal år du arbetade i respektive land?

LAND 1

ANTAL ÅR I LAND 1

LAND 2

ANTAL ÅR I LAND 2

LAND 3

ANTAL ÅR I LAND 3

39 Hur gammal var du när du fick din sjuksköterskelegitimation?

år gammal





40	Har du kandidatexamen i omvårdnad/vårdvetenskap?	<input type="checkbox"/> Ja <input type="checkbox"/> Nej
41	Hur nöjd är du med ditt yrkesval som sjuksköterska?	<input type="checkbox"/> Inte alls nöjd <input type="checkbox"/> Inte så nöjd <input type="checkbox"/> Ganska nöjd <input type="checkbox"/> Mycket nöjd
42	Arbetar du heltid på detta sjukhus?	<input type="checkbox"/> Ja <input type="checkbox"/> Nej
43a	Hur många år har du arbetat som legitimerad sjuksköterska totalt sedan examen?	<input type="text"/> <input type="text"/> år
43b	Hur många år har du arbetat som legitimerad sjuksköterska vid detta sjukhus?	<input type="text"/> <input type="text"/> år

E. Avslutande frågor

44	Vid ditt senaste arbetspass, <u>ungefär</u> hur stor andel av patienterna på din avdelning ...	0%	50%	100%
a)	... vårdades huvudsakligen på grund av en cancersjukdom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	... hade en cancerdiagnos men vårdades huvudsakligen på grund av annan åkomma/sjukdom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	Brukas det vårdas patienter med cancerdiagnos/ cancerdiagnos på din avdelning?	<input type="checkbox"/> Ja <input type="checkbox"/> Nej → Gå till fråga 47		
	Om ja:			
	I vilket/vilka vårdskeden av sin cancerdiagnos brukar patienterna vara?			
	<i>Besvara samtliga alternativ</i>	Ja	Nej	
		1	2	
a)	Diagnostik och/eller utredning.	<input type="checkbox"/>	<input type="checkbox"/>	
b)	Första behandling (initial kirurgi/radioterapi/kemoterapi).	<input type="checkbox"/>	<input type="checkbox"/>	
c)	Återfallsbehandling.	<input type="checkbox"/>	<input type="checkbox"/>	
d)	Behandlingskomplikation.	<input type="checkbox"/>	<input type="checkbox"/>	
e)	Symptomlindring och/eller tidig palliativvård.	<input type="checkbox"/>	<input type="checkbox"/>	
f)	Sen palliativvård/vård i livets slutskede.	<input type="checkbox"/>	<input type="checkbox"/>	
g)	Vårdas för annan anledning än cancer.	<input type="checkbox"/>	<input type="checkbox"/>	





<p>48 På din arbetsplats finns det någon...</p> <p>a) ... klinisk adjunkt/adjungerad klinisk adjunkt i omvårdnad/vårdvetenskap?</p> <p>b) ... klinisk lektor/adjungerad klinisk lektor i omvårdnad/vårdvetenskap?</p> <p>c) ... professor/adjungerad professor i omvårdnad/vårdvetenskap?</p>	<p>Ja</p> <p>1</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p>Nej</p> <p>2</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p>Vet inte</p> <p>3</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>49 Har ni ett datoriserat patientjournalssystem på er vårdavdelning?</p>	<p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Nej → <i>Gå till fråga 51a</i></p>		
<p>50 Hur nöjd är du med det datoriserade patientjournalssystemet på er vårdavdelning?</p>	<p><input type="checkbox"/> Inte alls nöjd</p> <p><input type="checkbox"/> Inte så nöjd</p> <p><input type="checkbox"/> Ganska nöjd</p> <p><input type="checkbox"/> Mycket nöjd</p>		
<p>51a Har ni andra datoriserade verktyg för att stödja dig i ditt arbete som sjuksköterska på er vårdavdelning?</p> <p>Om ja:</p>	<p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Nej → <i>Gå till fråga 53</i></p>		
<p>51b Vilket/vilka av följande datoriserade verktyg har ni på er vårdavdelning?</p> <p>Annan vård- och omsorgsdokumentation än patientjournalssystem.</p> <p>Remiss och svar (lab, röntgen, konsultation etc.).</p> <p>PAS – Patientadministration (kassa, tidbok, ekonomihantering etc.).</p> <p>Patientplanering (operationsplanering, beläggning etc.).</p> <p>Personaladministration (schemaläggning etc.).</p> <p>Gemensamt personalinformationssystem (intranät etc.).</p> <p>Elektronisk kommunikation mellan kommun, vårdcentral eller sjukhus.</p> <p>E-post.</p> <p>Office-system.</p>	<p>Ja</p> <p><input type="checkbox"/></p>	<p>Nej</p> <p><input type="checkbox"/></p>	<p>Vet inte</p> <p><input type="checkbox"/></p>
<p>52 Bortsett från datoriserat patientjournalssystem, hur nöjd är du med andra datoriserade verktyg på er vårdavdelning?</p>	<p><input type="checkbox"/> Inte alls nöjd</p> <p><input type="checkbox"/> Inte så nöjd</p> <p><input type="checkbox"/> Ganska nöjd</p> <p><input type="checkbox"/> Mycket nöjd</p>		





53 Utifrån ditt nuvarande arbete, i vilken utsträckning skulle du säga att sjuksköterskor använder en **GEMENSAM TERMINOLOGI** för omvårdnadsdokumentation om/för/kring/av de patienter som du kommer i kontakt med?

- Inte alls
- Inte i någon större utsträckning
- I ganska hög utsträckning
- I mycket hög utsträckning

54 I vilken grad tycker du att...

	I mycket hög grad	I hög grad	Delvis	I liten grad	I mycket liten grad
	1	2	3	4	5
a) ... ditt arbete påverkar ditt privatliv på ett positivt sätt?	<input type="checkbox"/>				
b) ... kraven i ditt arbete påverkar ditt privatliv på ett negativt sätt?	<input type="checkbox"/>				
c) ... ditt privatliv påverkar ditt arbete på ett positivt sätt?	<input type="checkbox"/>				
d) ... kraven från ditt privatliv påverkar ditt arbete på ett negativt sätt?	<input type="checkbox"/>				



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55 Har du tankar och funderingar om din arbetssituation eller denna studie som du vill dela med dig av och som inte fått utrymme i enkäten. Skriv gärna här

Tack för din medverkan!

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