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An Analysis of Nurse-Related Sentinel Adverse Events in New Zealand Public Hospitals

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This research constitutes the first New Zealand study to explore nurse-related-sentinel adverse events in public hospitals. As nurses are the largest group in the health care workforce and provide 24 hour care in hospitals they are in a key position to improve the quality and safety of health care and thereby reduce patient error.

Using a qualitative approach, the study provides an in-depth exploration and interpretation of the nature, frequency, severity and outcomes of nurse-related sentinel adverse events to develop an understanding of the individual, organisational and structural factors impacting on the provision of safe care in hospitals.

Part one of the study comprised document analysis of the Health and Disability Commission reports for the years 2000 to 2010 that included nurse-related sentinel adverse events in public hospitals. Part two comprised individual interviews with the nurse leaders in two hospitals to ascertain their views about the implementation of the Commissioner’s recommendations contained in the reports. James Reason’s theory of accident prevention, including his “Swiss cheese model”, provided a conceptual framework for the study.

The overarching findings were that 71% of the reported sentinel adverse events resulted in the patients dying and that despite the reports highlighting the nurses’ breaches of patients’ rights, in the vast majority of cases they were not held accountable for their practice. Instead medical professionals or the District Health Boards were found culpable. Analysis of nurses’ unsafe acts showed the vast majority (92%) involved lack of or poor assessment and 74%
involved lack of or poor communication between health professionals. While medication administration only accounted for 12% of the unsafe acts, all of the patients died.

Two important findings from the analysis of the timing of the sentinel adverse events were that the majority occurred outside normal office hours (45%) and at weekends (43%) when there was less support for nurses from senior staff. The second important finding was the relationship between the time the sentinel adverse events occurred and the time from admission. Fifty-six per cent of the 93 events occurred within three hours of admission to hospital, and 88% occurred within 10 hours of admission.

This study was undertaken to develop an understanding of nurses’ contributions to sentinel adverse events in public hospitals and the nature, frequency, severity and outcomes of nurse-related sentinel adverse events. It was anticipated that by developing this understanding strategies could be developed and put in place to reduce errors in hospitals and consequently enhance patient safety.
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CHAPTER ONE: INTRODUCTION

The aim of this thesis is to understand nurses’ contributions to sentinel adverse events (SAEs) in public hospitals, and the nature, frequency and severity of nurse-related SAEs. A SAE is defined for the purposes of this study as an “…unanticipated occurrence involving death or major permanent loss of function”, or an event that happens as a result of “…wrong-site, wrong-procedure, or wrong-patient surgery” (Reis, 2008, p. 195).

As nurses are the largest group in the health care workforce and provide 24 hour care in hospitals, they are in a key position to improve the quality and safety of health care and thereby reduce patient error. To achieve this it is critical to first of all develop an understanding of how nurses contribute to SAEs in hospitals.

My own concern for patient safety, and the nurse-related errors I have observed as a Nurse Consultant in a large public hospital, have motivated me to undertake this research. In the course of my work a number of nursing colleagues and patients have expressed concern and frustration about the serious consequences of such errors. The level and extent of the distress experienced by those affected is significant and their suffering contributes to their burden of loss. For nurses involved in such an event guilt and shame are common experiences.

To gain a clear understanding of the nurse-related SAEs occurring in hospitals throughout New Zealand, this study has analysed the publicly available Health and Disability Commission (HDC) reports from the years 2000 to 2010. The decision to use the HDC reports was made because the reports are available for such use, they provide in-depth coverage of individual cases, and they cover SAEs across the whole country. However, it is
acknowledged that these reports represent only those SAEs reported to the HDC and not all such events occurring in public hospitals.

The reports were accessed by the researcher from the HDC. All reports generated from 1 January 2000 to 31 December 2010 were reviewed for references to nurse-related SAEs occurring in public hospitals as the vast majority of New Zealanders access hospital care through the public system. It was decided to focus only on SAEs as these represent the most serious adverse events effecting patients and allow a deeper understanding of the safety issues in New Zealand hospitals. The 11 year period was chosen because the Health and Disability Commissioner Act of 1994 (HDC Act) was reviewed in 1999 and in 2000 a number of the recommendations from the review had been implemented. By making the end date 31 December 2010 it enabled the largest possible sample of reports to be analysed before completion of the project.

The primary question for the study is “What are the nature, frequency and severity of nurse-related sentinel adverse events occurring in public hospitals in New Zealand?” The following two secondary questions emerged during early discussions about the research, “What is the role of nurse leaders in implementing the Health and Disability Commissioner’s recommendations?” and “What are the barriers to the implementation of the Health and Disability Commissioner’s recommendations?” This study was undertaken to answer these clinically grounded research questions with the aim of contributing to knowledge that will lead to improvements in the quality and safety of care.

At a time of international nursing shortages (Buchan & Aiken, 2008) and high turnover of hospital patients with complex needs (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002), it is
essential that the quality of care is improved and strategies are developed to reduce the high personal and financial costs associated with errors in hospitals.

Multiple factors contribute to each SAE occurring in a hospital. In addition to the unsafe acts performed by nurses and other health professionals, organisational and structural factors also contribute to SAEs. An in-depth analysis of SAEs by Vincent, Taylor-Adams, and Stanhope (1998) found a series of events and departures from safe practice, such as incorrectly labelled drug charts, resulted in medications being administered to the wrong patients. “After-hours” care, when there is less support for nurses is also associated with an increased rate of error (Barba et al., 2006). Hospitals have been found to function less effectively on weekends than on weekdays (Bell & Redelmeier, 2001) and there is a greater risk associated with admissions and/or discharges at night, which may reflect inconsistencies in after-hours care (Laupland, Shahpori, Kirkpatrick, & Stelfox, 2008). Despite the many studies that report research that has focussed on errors, there is a dearth of literature examining nurse-related SAEs.

The safety of patients has become a focus of health systems internationally and developing a fuller understanding of nurses’ contributions to the nature, frequency and the severity of SAEs is critical for this. With increasing media coverage of adverse events, the public has become more aware of the number of SAEs occurring in hospitals. Despite numerous studies leading to the development of strategies, and interventions designed to decrease adverse events there remains a lack of evidence of the benefits of such interventions (Woodward et al., 2010).

This study analyses the HDC reports that are prepared following investigations of complaints made by patients and their families about what they perceive to be errors in the care that they
received in New Zealand hospitals. The findings will contribute to the generation of knowledge that will have relevance to both New Zealand and international audiences.

This study is the first to examine nurse-related SAEs in a New Zealand context and the first to analyse HDC reports to develop an understanding of the individual, organisational and structural factors impacting on the provision of safe care in hospitals.

**THESIS STRUCTURE**

This section outlines the structure of the thesis. Chapter one has introduced the topic and the research questions the other chapters will be structured as follows:

**Chapter Two: The New Zealand Regulatory Framework**

Chapter two provides a context for the study in terms of outlining the HDC complaints process available to the public. It discusses the role of the Health and Disability Commissioner (the Commissioner) and the legislation that supports the role. It also outlines the relevant sections of the Health Practitioners Competence Assurance Act (HPCA Act) of 2003 and the responsibilities that the Nursing Council of New Zealand (Nursing Council) have under this Act.

**Chapter Three: Literature Review**

Chapter three reviews relevant literature pertaining to adverse events, and sentinel adverse events, that have occurred in New Zealand hospitals. It includes adverse events and sentinel adverse events; adverse events in New Zealand hospitals; medication errors; communication; staffing shortages; and unsafe practices by nurses.
Chapter Four: Conceptual Framework

Chapter four discusses the theory of James Reason that was used as the conceptual framework for this study. It includes his “Swiss cheese model” (1990) and the person and systems approaches he has developed. The chapter also includes an overview of studies where Reason’s model has been applied in research related to nurses and it concludes with an explanation of why this theory has relevance for this study.

Chapter Five: Methods

Chapter five discusses the research strategy used for this project. It outlines the two parts that comprise the strategy and the methods used to collect and analyse the data in each part. It also discusses the ethical considerations and the position of the researcher as both “nurse” and “researcher”.

Chapter Six: Sentinel Adverse Events

This chapter presents the results from the analysis of the data extracted from the HDC reports for the period 2000 to 2010 inclusive. The chapter presents the results of the analysis of the breaches of the Code of Health and Disability Services Consumers’ Rights (the Code of Rights) of 1996, the nurses’ unsafe acts, and the nature, frequency, timing and outcomes of the SAEs.

Chapter Seven: Commissioner’s Recommendations

This chapter presents the results of the document analysis of the Commissioner’s recommendations made in the 93 reports. The first section of the chapter analyses the number of recommendations and the types of recommendations made by the Commissioner.
The second section discusses the recommendations in relation to the nurses’ unsafe acts as discussed in the previous chapter.

**Chapter Eight: The Nurse Leaders’ Responses**

This chapter presents the findings from the analysis of the data from the nurse leaders’ interviews. The first section of the chapter presents the interpretation of the nurse leaders’ responses related to their role in implementing the Commissioner’s recommendations. The second section of the chapter presents the nurse leaders’ responses to the recommendations and their perceptions as to whether the recommendations were able to be implemented.

**Chapter Nine: Discussion**

Chapter nine discusses the key findings from this study in relation to the existing literature and outlines the original contributions it makes to knowledge. It also discusses the findings in relation to Reason’s analytical framework and the contribution it makes to Reason’s Swiss cheese model. The strengths and limitations of the study approach are described before the chapter concludes by making recommendations for policy, practice and education.

**CONCLUSION**

This chapter has introduced the study, including the research questions, and outlined the structure of the thesis. The following chapter will discuss the regulatory environment that governs the Commissioner’s role and the complaints process.
CHAPTER TWO: THE NEW ZEALAND REGULATORY FRAMEWORK

This chapter provides a context for the study in terms of the national complaints procedures for health and disability services and the regulatory framework that regulates nurses’ work. It will discuss the role of the Health and Disability Commissioner (the Commissioner), the legislation that supports that role, and the role of the Nursing Council.

Under the HDC Act of 1994 the Commissioner was appointed to protect health consumers and to provide an independent service to patients and their families with grievances against public and private health care providers.

The genesis of this position followed the recommendations of the 1987 to 1988 New Zealand Cervical Screening Inquiry which investigated research where women with abnormal cervical smears had deliberately not been treated despite the researchers knowing that these abnormalities could potentially lead to cervical cancer (Cartwright, 1988).

Serious adverse outcomes revealed in the Cervical Screening Inquiry played a pivotal role in developing legal frameworks for human ethics committees that required health professionals to be accountable for their practice in New Zealand. The publicity and the reporting of the inquiry caused a shift in the trust the public previously had in the health professions.

The inquiry headed by District Court Judge Silvia Cartwright (1988) who later became High Court Justice, Dame, and Governor-General of New Zealand, strongly recommended that a Health Commissioner be appointed and a statement of patients’ rights promulgated. Judge
Cartwright recommended in her report that patients’ rights be enforced and protected by legislation and a complaints system be established and overseen by the Commissioner.

**HEALTH AND DISABILITY COMMISSIONER ACT**

The initial Bill was introduced to the House by the then Minister of Health, Helen Clark, in 1990. Following the health reforms in 1993 the Bill was broadened to cover disability services and disability services consumers. After the bill had been through three readings in parliament the Bill was passed and the HDC Act was enacted in October 1994. The HDC Act created the Office of the Commissioner whose mandate was to promote and protect the rights of health and disability consumers and to that end facilitate a fair, speedy and efficient resolution of complaints processes. The first Commissioner was appointed in December 1994 and was commissioned by the Minister of Health to develop the Code of Health and Disability Services Consumers’ Rights (the Code of Rights) (Health & Disability Commissioner, 1996) as recommended by Judge Cartwright.

A review of the HDC Act was undertaken in 1999 to evaluate the work of the HDC and determine if changes needed to be made. From this review a number of amendments were made to the HDC Act. The changes included more flexibility for the HDC when assessing, referring and investigating complaints (Health & Disability Commissioner, 1999). The HDC Act was further reviewed in 2004, and 2009 giving the HDC an even wider range of powers to resolve complaints (Health & Disability Commissioner, 2004, 2009).

Prior to the implementation of the HDC, health professional regulatory bodies dealt with misconduct of health professionals. The regulatory bodies received and investigated complaints and managed preliminary proceedings (Burgess, 2008). Their role was to
determine whether the reported misconduct of health professionals was proven and if so what disciplinary measures should be taken.

The appointment of the Commissioner in 1994 changed the process for the handling of complaints about health professionals. All complaints, including misconduct, would now be investigated by the HDC. When there has been a breach of the Code of Health and Disability Services Consumers’ Rights the HDC investigates the complaints and where they are proven, the health professional is referred to the Director of Proceedings. The Director of Proceedings has three options, to prosecute, refer the charges to the Human Rights Review Tribunal if it does not involve a registered health professional, or refer the charges to the Health Practitioners Disciplinary Tribunal (HPDT) if it does.

If the HDC decides that the Commissioner does not have authority to investigate a complaint, because it has not involved a patient, it may be referred to the regulatory authority for assessment of the health professional’s competency. If the Professional Conduct Committee of the regulatory authority determines the health professional poses a serious risk to the public, it has the power to recommend to the regulatory authority that the practitioner is suspended or it can refer the charges to the HPDT.

The introduction of the Health Practitioners Competence Assurance Act of 2003 (HPCA Act) established the HPDT and further changed the way that disciplinary processes would be undertaken by the regulatory bodies.

**CODE OF HEALTH AND DISABILITY SERVICES CONSUMERS’ RIGHTS**

Prior to the Code of Rights the ethical and professional responsibilities for health care providers were scattered amongst a variety of agencies, poorly defined, often unwritten, and
legally unenforceable except by the disciplinary process. The Code of Rights did not create new professional responsibilities, but rather “codified” or “affirmed” pre-existing patients’ rights and set out the corresponding providers’ responsibilities (Health & Disability Commissioner, 1996).

The Code of Rights sets out the rights of all consumers of health and disability services, and the obligations and duties of providers, to comply with the regulations as stated in the HDC Act. The Code of Rights contains 10 rights including the right to be treated with respect and dignity, the right not to be discriminated against and the right to receive an appropriate standard of care.

The Code of Rights applies to all registered health professionals, such as doctors, nurses and dentists by imposing legal duties on these health care providers in respect of each Right. However, when investigating a breach the HDC may take into account factors such as provider’s resource constraints or the consumer’s clinical circumstances that may have affected the provider’s ability to take “reasonable actions in the circumstances” (Health & Disability Commissioner, 1996, p. 2). The HDC can also refer complaints about specific health professionals to regulatory authorities if it is deemed necessary.

**RESPONSIBILITIES OF THE HEALTH AND DISABILITY COMMISSION**

The role of the HDC is to provide New Zealanders with an efficient process that protects consumers and allows their complaints to be heard. The HDC endeavours to resolve individual complaints where possible and provides learning experiences by making those cases that have required investigation, available publicly.
The HDC acts as an independent watchdog and examines the health care services provided, the systems within the health care organisation, and the individuals involved when a complaint is received. As mentioned above, the HDC complaints investigation role relates to alleged breaches of the Code of Rights.

The HDC receives around 5,000 enquiries and more than 1,300 complaints a year (Health and Disability Commissioner, 2010). When the HDC receives a complaint the complaints process is set in motion. There are four stages in the complaints process (see Figure 1).

**Figure 1. Complaints Process**

Stage 1
- Complaint is made

Stage 2
- Complaint is investigated

Stage 3
- Problems are identified

Stage 4
- Recommendations are made

**Stage 1**

When a complaint is made the HDC has various options to secure a fair, simple, speedy and efficient resolution. These options range from providing advice and information, to referring the case for formal investigation. For example, in some cases the Commissioner may take no action, where the length of time from when the event occurred makes an investigation impracticable, or the complainant does not wish to proceed with the complaint. In other cases the Commissioner may deem that the complaint should be referred to an organisation that is better suited to manage it. Where there is a complaint that is likely to lead to resolution, the HDC will gather any additional information required to assist with the mediation process. The Commissioner can refer the complainant to the provider to resolve
the concern(s) raised or refer the complainant to advocacy to obtain assistance in resolving the complaint. The final option is to refer the complaint for formal investigation.

Stage 2

If an investigation is required, information is gathered by the HDC from sources such as: Documentation, files, the coroner, and interviews with those involved in the SAE. If a further opinion is required, it may be sought from an independent expert advisor who can advise the Commissioner as to whether there has been a breach of the Code of Rights. The expert advisors usually have a medical or nursing professional background and qualification and have experience in the clinical area of the complaint. Conflicts of interest are excluded before expert advisors are appointed.

Complaints that are investigated offer an opportunity not only for learning, but also for increased accountability. An individual or organisation that has seriously breached the Code of Rights may face disciplinary action. Very serious cases are referred to the Director of Proceedings (a position within the HDC) for prosecution, which may result in the loss of the registered health professional’s right to practise. This protects the public from providers and/or individuals whose practice is significantly below the expected standard and who are at risk of causing further harm to consumers.

Stage 3

The investigation aims to identify poor practice and poor systems and the reasons for near misses, preventable injuries and deaths. The Commissioner first provides a provisional opinion then makes a final opinion about the complaint in light of the expert advisors’ opinions and the wider investigation.
Stage 4

The Commissioner makes recommendations at the conclusion of the investigation regarding improvements to systems and practices for the organisations and/or individuals. While the Commissioner provides these recommendations under the HDC Act there is not a requirement for organisations and individuals to provide evidence that the recommendations have been implemented. However, more recently the Commissioner has proposed that a compliance process will be introduced and providers will be randomly audited to provide evidence that the recommendations have been fully implemented (Health and Disability Commissioner, 2010, p. 30).

The HDC collaborates with many agencies during an investigation. Processes for reporting, investigating, and sharing information about adverse medical incidents have been established between the Commissioner and other professional bodies for example the Accident Compensation Corporation (ACC) (Cull, 2001). This is to avoid duplication of processes and the length of time the investigations take through accessing information that has already been gathered by other professional bodies. The Commissioner has wide discretion to refer a matter to an appropriate person or authority and professional bodies are routinely notified of breach findings by the Commissioner. In addition ACC may be sent opinions relating to complaints that are the subject of a compensation claim. The Commissioner may contact the ACC “…if it appears from the complaint that the consumer may be entitled to cover under the Accident Compensation Act 2001” (Health and Disability Commissioner Act, 1994, p. 29 section 34 (21)(b)).
Following the New Zealand Royal Commission in 1967, the Accident Compensation Commission Act of 1972 (ACC Act) was entered in the statute books. The model was based on a social insurance model that provided cover regardless of fault or injury. The ACC Act, however, did not come into effect until 1974 after extensive changes had been made. This resulted in a more comprehensive system. Further amendments led to the ACC Act being replaced by the Accident Compensation Act of 2001.

The introduction of the ACC Act of 1972 changed the tort-based system for compensating for personal injuries, to the social insurance model which has remained in place despite a number of revisions (Burgess, 2008). The legislation precludes injured or aggrieved patients from pursuing legal actions through the justice system.

The primary function of the ACC is to provide cover for all patients that have suffered personal accidental injury. In addition, it covers patients that have suffered injuries from medical misadventure. While the ACC has no disciplinary authority over health professionals, recent changes to the Injury Prevention, Rehabilitation, and Compensation Amendment Act (No. 2) 2005 require the ACC to report any injury claim that is considered to be a result of medical error, to the relevant registration body and the Commissioner (Accident Compensation Act, 2001, p. 81 section 50(2)). The ACC must also report medical mishap trends to the relevant registration bodies, the Commissioner, the Director General of Health, and the employers of registered health professional (Paterson, 2002). While it is the ACC’s mandate to investigate injuries it is important to note that the role is about compensation, not complaint resolution (Paterson, 2004).
HEALTH PRACTITIONERS COMPETENCE ASSURANCE ACT

The Health Practitioners Competence Assurance Act (HPCA Act) entered the statues in 2003 “providing mechanisms to protect the health and safety of the public and ensure that health practitioners within their professions are competent and fit to practice” (Health Practitioners Competence Assurance Act, 2003, p. 13). The HPCA Act focuses on the various health professionals’ competence to practice and their scopes of practice. The HPCA Act is a useful tool for the prevention of adverse health outcomes because it holds health professionals and health professional bodies, such as the Nursing Council, accountable for their regulations. More importantly the HPCA Act can be applied when an investigation is being conducted by the HDC or professional bodies into the competence of a health practitioner.

Under the HPCA Act of 2003 the Health Regulatory Authorities are charged with prescribing practitioner qualifications, registering practitioners, issuing annual practising certificates, and setting boundaries for practice and competencies. Professional conduct committees within the regulatory authorities investigate individual practitioner’s competence and conduct following complaints received from the Commissioner or directly from the public.

While the Minister of Health has a power of audit, the regulatory authorities have autonomy in making decisions such as setting scopes of practice and their fees. The Minister of Health appoints all the members of all regulatory authorities although under the HPCA Act there is regulatory provision for the Minister to approve (and then appoint) health professional members who have been elected by members of the profession. This regulation has been applied with respect to the Nursing Council of New Zealand and the Medical Council of New Zealand.
NURSING COUNCIL OF NEW ZEALAND

As mentioned above, the Nursing Council is the regulatory authority responsible for the registration of nurses. In 2003 the HPCA Act replaced the Nurses Act of 1977, which had previously governed the Nursing Council’s activities. Its primary function, as set out in the HPCA Act, is to protect the health and safety of members of the public. To ensure that nurses are competent and fit to practise the Nursing Council provides guidelines and standards for clinical practice, competence requirements, sets scopes of practice, and accredits and monitors education providers. In addition, the Nursing Council’s role is to investigate complaints or notifications of health, conduct and competence concerns of nurses (Nursing Council of New Zealand, 2008).

CONCLUSION

To provide a context for this study, this chapter has set out the role of the Commissioner and discussed the procedures used to investigate complaints. As well it has outlined the regulatory framework that controls nurses’ practice. The following chapter will review the literature related to SAEs occurring in hospitals and nurses’ involvement in SAEs.
CHAPTER THREE: LITERATURE REVIEW

This chapter provides an overview of the literature related to sentinel adverse events (SAEs) occurring in hospitals and current models used to analyse these. Relevant current literature pertaining to nurses involvement in SAEs is also explored. An extensive search of the literature was undertaken early in the research process using the following databases: Medline (Ovid), Embase, Scopus, Google Scholar, CINAHL Plus. When the initial search terms “sentinel events” and “nurses” were included the search returned 1,190 articles. A search was undertaken in Medline (Ovid) using the following keywords with appropriate truncation: “Sentinel/serious/severe/major adverse events or sentinel event”. The search was limited to “english only” and initially articles published from “1990 to current”. These terms were then combined with “nurs” and “hospital” and resulted in 80 articles and of these 31 met the criteria. Subsequent searches in three further databases using the same search strategy identified the following numbers of articles that meet the criteria: Embase 27 of 230; Scopus 14 of 149; and Google scholar 161 of 482. A final search undertaken in CINAHL Plus included the subject heading “sentinel event” in combination with the previous search strategies and resulted in 83 of 178 articles that met the criteria.

During data analysis each of the databases was also searched to elicit specific literature pertaining to ‘unsafe acts’. Using the following keywords with appropriate truncation: “Act+behaviour+conduct+nurs+practice+unsafe+unsafe” and “act +unsafe +behaviour +unsafeconduct+unsafe practice”. The search resulted in the identification of 37 articles, and of these 23 articles made reference to the word unsafe. A search was also conducted on each of the databases to elicit specific literature pertaining to ‘breaches’. The following key words were used with the appropriate truncation: “Breach/Code of Patient Rights and nurs”. The
search resulted in the identification of 12 articles and of these one made reference to nurses breaching the Code of Rights.

After removing duplicates, each publication was reviewed to identify the author(s), the study period and the data source. The articles were retained if they reported research or were critical reviews of the literature that had relevance to the research question for this study. Due to the paucity of published literature relating to the research question, a number of articles referencing more general experiences of “sentinel events” were included in subsequent searches. Each of the databases was also searched to elicit specific literature by James Reason in relation to safety in health care and adverse events, as Reason is one of the seminal authors in this area. For example, the search in Google scholar identified that Reason’s publication: “Human error: Models and management” (Reason, 2000) had been cited 7,317 times.

ADVERSE EVENTS AND SENTINEL ADVERSE EVENTS

While there has been an increase in the overall literature relating to nurses and errors in practice, there has been a dearth of literature examining nurses’ specific involvement in adverse events. Most of the international literature since the late 1990s has focused on medical errors and systems errors due to a belief that errors arise from the interactions of components within a system, but this does not take into account individuals’ contributions to errors.

Whilst the initial search was confined to research between “1990 to current” the foundational concepts of patient safety were identified in the studies by Beecher and Todd (1954) and Dripps, Lamont, and Eckenhoff (1961) who provided early insights into the number of
patient deaths associated with anaesthesia and surgery. They examined patients’ records over a 10 year period to determine the role anaesthesia had in surgical mortality. These studies determined that errors of omission or commission were apparent in all the deaths, but they did not address individuals’ practice errors, and recommended that more detailed death reports be provided to increase understanding. This was further advanced by Cooper, Newbower, Long, and McPeek (1978) who used the aviation-inspired critical incident analysis technique to analyse how specific systems can result in accidents and injuries.

The seminal work by Professor James Reason (1990) extended this approach by analysing the role of systems and the human contributions to adverse and sentinel adverse events in the fields of aviation, engineering and health care. Reason’s (1990, 2000) development of the “Swiss cheese model” sought to describe the trajectory of error that causes accidents/adverse events and shaped the way that health care quality and safety personnel view adverse events. Reason’s Swiss cheese model is widely used in aviation, engineering as well as in health care. Reason’s theory will be discussed in more detail in the following chapter.

Professor Lucian Leape, an internationally recognised leader in patient safety, further advanced Reason’s work (Leape et al., 1991). Similar to Reason (1990), his focus for improving the safety of patient care was directed at a systems approach to decrease adverse events. Leape et al. (1991) examined the role that reporting systems in hospitals have for identifying adverse events and he stressed the importance of reporting adverse events that result in serious injury or death. This work has resulted in the further development of reporting systems in health care. Leape’s 1994 publication that reported on errors in medicine focused on a non-punitive systems approach for preventing medical errors rather
than focussing on individuals’ performance. Leape (1994) purported that the modification of systems can minimize the occurrence of errors.

Following Reason’s (1990) and Leape et al. (1991) work, improving voluntary and mandatory reporting systems to decrease adverse events, became the central focus for achieving patient safety. Their work is supported by a number of authors (Aspden, Corrigan, Wolcott, & Erickson, 2004; Bates et al., 2003; Bates, Leape, & Petrycki, 1993; Brennan et al., 1990; Brewer & Colditz, 1999; M. Cohen, 2000; M. R. Cohen, 2000; Cullen et al., 1995; Flowers & Riley, 2001; Hanna, Griswold, Leape, & Bates, 2005; Jha et al., 1998; Kohn, Corrigan, & Donaldson, 2000; Naveh, Katz-Navon, & Stern, 2006; Runciman, 2002; Suresh et al., 2004; Weingart et al., 2005) who argued that developing voluntary and mandatory reporting systems is a way of providing useful information to improve the safety of patients in hospitals. Despite the development of electronic reporting systems, Cullen et al. (1995) supported that most adverse events still remain undetected due to the reliance on voluntary reporting.

The Institute of Medicine (IOM, 2004) was commissioned by the United States Department of Health and Human Services to investigate the patient safety reporting systems currently being used in the 21 states and to identify the key aptitudes required for an Electronic Health Record to maintain patient safety. The IOM also provided guidance for the type of information that should be reported in an Electronic Health Record and the standardisation of the information. The IOM (2004) argued that a standardised approach to collection and reporting of adverse events would facilitate the development of valuable statistics and would provide a greater understanding of how and why adverse events occur.
While this report primarily focused on reporting systems, medical errors and standards of safety, it did not address nurses’ contributions to errors. Leape furthered this work when he worked with the World Health Organization when he developed guidelines to improve the reporting of adverse events and learning systems (World Health Organization, 2005). In his more recent work Reason (2008) contended that reporting systems allow for the detection of errors and highlight where the gaps are. He argued that it is the ability of a system to deliver care safely that depends on the outcome for the patient rather than the treatment that is provided by health professionals.

Kohn et al. (2000) agreed that it is the systems and processes that can contribute to unsafe conditions for patients. In addition, their study recognised that nurses do have a role in health care errors but argued that the contribution of latent factors in the organisations were the causes of the errors. While this study examined systems issues and how establishing safety systems in health care organisations would improve practice it did not however address individual contributions.

Two studies were commissioned by the Harvard Medical School using a two-stage sampling process. The first study by Brennan et al. (1991) investigated the incidence of adverse events and the negligence of patients in hospitals. They analysed 30,121 clinical records from 1984 that were randomly selected across 51 acute care settings in New York. The study focused on medical injury and malpractice litigation resulting from the patients’ hospitalisations. The results identified that adverse events occurred in 3.7 per cent of the hospitalisations. More importantly, it identified that many of these injuries resulted from medical mismanagement and substandard care.
In the second study Leape et al. (1991) used data from the same hospitals and from the same years analysed the nature of adverse events in hospitalised patients. Analysis of the records confirmed the previous study’s findings that 3.7% of adverse events resulted in disabling injuries and were caused by medical mistreatment. The study then analysed the adverse events and the causes of the medical errors. The adverse events were classified according to the type of injury with the most common being related to medications (19%). While these studies identified the incidence and nature of adverse events were related to medication, surgical and medical management errors they did not identify the unsafe acts that caused the events. Furthermore these studies did not identify the nurses’ involvement in the adverse events.

**ADVERSE EVENTS IN NEW ZEALAND HOSPITALS**

P. Davis, Lay-Yee, et al. (2001b) reported on a feasibility study that analysed the occurrence, causation and prevention of adverse events in three New Zealand public hospitals. They audited 1,575 medical records from admissions during 1995 in three hospitals. The medical charts were reviewed using a standardised protocol to identify if information recorded in the medical records was sufficient to be able to identify an adverse event that had occurred. P. Davis, Lay-Yee, et al. concluded that the information in the medical records was sufficient to identify and analyse adverse events in New Zealand public hospitals.

Following this feasibility study P. Davis, Lay-Yee, Briant, et al. (2001) reported on the principal findings from a national survey of adverse events in New Zealand public hospitals undertaken from July 1999 to May 2000 in a two stage-retrospective review of a sample of medical records. They reported on the occurrence and impact of adverse events that had occurred in 13 New Zealand hospitals during 1998. The first stage analysed the occurrence
and impact of the adverse events. From the medical records of 6,579 patient admissions they identified (12.9%) of the adverse events were related to admission, 35% were preventable and 15% resulted in permanent disability or death. Of those that resulted in permanent disability or death, the patients’ hospital stay averaged a total of nine days.

The second stage analysed the preventability and clinical context of the adverse events. Further analysis of the adverse events identified that half were associated with surgery, and one third with medical errors. Systems issues were identified in both stages of the study and were associated with nearly half of the preventable events. P. Davis, Lay-Yee, Briant, et al. (2001) concluded that preventable adverse events significantly impact on patient outcomes and that as systems errors were identified as being a significant proportion of the events that occurred, this was an area that needed improvement.

P. Davis, Lay-Yee, et al. (2001a) reported on a further study that analysed the timing and location of adverse events. One hundred and forty admissions during 1995 were identified during an audit of three New Zealand public hospitals. Half of the admissions resulted in disability and increased length of stay in hospital. While these studies by P. Davis, Lay-Yee, et al. identified systems issues and doctors’ roles in adverse events, the studies did not identify nurses’ involvement in adverse events.

Gorman, Kolbe, Callaghan, and Scott (2008) in their review of the literature, discussed the New Zealand health care system and the reporting of errors. Gorman et al. contended that there are three areas that need investigating for health care to be successful. The first was to investigate the monitoring systems used to detect errors, the second was to ensure that training and employment models were streamlined and the third was to audit the outcomes of clinical decision-making. They concluded that a systems analysis of these areas would
provide a benchmark for measuring quality health care in New Zealand. Whilst they reported on possible factors to improve health care outcomes these authors also focused on doctors and did not take into account the role that nurses had in errors.

**MEDICATION ERRORS**

Brennan et al. (1991) in their Harvard medical study reported that 30% of hospitalised patients died from drug related injuries and that if they didn’t die they were disabled. They reported that there were significant differences in the rates of adverse events among the different clinical specialties. Findings from two observational studies reported by Schneider, Cotting, and Pannatier (1998) and Tissot et al. (2003) found that in hospital wards that were similar, such as the acute-care wards, there was a large variance in the rates of medication errors, 14.9% to 32.4%. An earlier study by Hunt and Parkes (1999) reported that one in five medication adverse events resulted when nurses prepared and administered medications. This prompted a review of how medications were administered. Likewise Wirtz, Taxis, and Barber (2003) concluded that the highest rate of drug errors occurred when nurses prepared and administered medications to patients. While these studies identified issues related to nurses’ roles in medication errors they did not focus on the specific actions of the nurses involved.

Bates et al. (1998) in an earlier study, discussed the move to electronic medication administration in hospitals. They evaluated non-intercepted and intercepted medication errors when ordered electronically by physicians and pharmacists. They concluded in their study that medication errors were decreased by half when orders were made via computers. Kaushal, Shojania, and Bates (2003) in a systematic review analysed five trials assessing computerised physician order entry and seven assessing clinical decision support systems.
They further concluded that electronic medication ordering can reduce medication errors however, they only examined physicians’ involvement in the errors.

R. G. Hughes and Ortiz (2005) summarised current literature on nurse-related medication errors. They reported that adverse drug events occur in one in every three adverse events and happen primarily when a nurse administers medications to patients. They further reported that some unsafe acts resulted in errors as described by Reason (1990) and that these errors had involved violating a policy or procedure to possibly save time. R. G. Hughes and Ortiz (2005) suggested that the reason for most medication errors was system failures such as: Inaccessibility of patient information; insufficient knowledge about medications; medication orders that were indecipherable; and failures when administering the medications. They argued that system changes needed to be made to detect and prevent medication errors and that having non-punitive reporting of medication errors would help to promote a culture of safety within organisations. They concluded that nurses can play a defensive role in the thwarting of medication errors and suggested that nurses should be more vigilant in this role. This concurs with Leape et al. (1991) who also contended that non-punitive reporting of errors should be adopted as the approach for preventing adverse events.

New Zealand authors McBride-Henry and Foureur (2006) undertook a literature review of articles that reported medication errors and examined the role that nurses had in these errors. From the analysis of the articles they reported that one in five medications administered by nurses resulted in medication errors. They concluded that nurses are the main administrators of medications and have a better understanding than others of medication administration systems. Therefore, they argued, nurses need to be involved in the development of systems and policies to ensure that the right systems are designed to prevent errors. While this review
examined the role that nurses had in medication errors it did not examine the nurses’ practice that caused the errors to occur, but rather focused on system failures as the cause of errors (McBride-Henry & Foureur, 2006).

Hendrickson (2007) conducted a review of errors that had occurred in operating rooms. He reported that medication errors are the fourth most commonly reported sentinel events. Hendrickson argued that improving how verbal and written medication orders are communicated would prevent further such errors in the operating room.

COMMUNICATION

Adverse events that have resulted from communication failures have been investigated by a number of authors (Greenwood & Heninger, 2010; Kempe et al., 2006; Kristensen, Mainz, Bartels, & Allé, 2007; Lacey & Cox, 2009; Laws & Amato, 2010; Lingard et al., 2004; Miller, 2005; O’Daniel & Rosenstein, 2008; Porteous, Stewart-Wynne, Connolly, & Crommelin, 2009; Stewart, Wyatt, & Conway, 2011; Youngberg & Hatlie, 2004). Thomas, Sexton, and Helmreich (2003) found in their cross-sectional survey of three hundred and twenty participants (90 physicians and 230 nurses) that the value placed on communication by the different health professions influenced the functioning of the team. When asked to rank the importance of communication with team members, physicians ranked communication at 73% whereas nurses in their response ranked communication within the team at 33%. These authors concluded that the lack of value that nurses placed on communicating with team members could be a result of a role-related culture that has influenced the lack of collaboration between health professionals. They reported that the lack of value placed on effective communication by nurses has resulted in inadequate clinical information being relayed to appropriate clinical staff which has led to errors occurring.
K. S. N. Callaghan, Roskvist, and Hunt (2008) reported on a pilot study that investigated the perceptions of health care workers regarding communication and who is in charge of directing communication when decisions are being made about patient care. They argued that unlike aviation where the authority and responsibility for communicating decisions that are made to team members is specified in legislation. The line of responsibility for communicating decisions made in health care is ambiguous and often unknown. They concluded that health care workers are unclear of who has overall responsibility for communicating care that is being provided to patients.

Porteous et al. (2009) confirmed this in their review of literature related to the lack of communication amongst health professionals. They reported that one of the communication issues was the inadequate handover of patients between health professionals. Porteous et al. designed the clinical handover checklist “iSoBAR” (identify–situation–observations–background–agreed plan–read back) to assist nurses to effectively communicate patient information during shift handovers. They concluded that using a clinical handover checklist would provide a standardised approach to relaying information and therefore address ineffective communication at least between nurses.

Scanlon and Karsh (2010) in their review of the literature related to human factors and error reported that despite the development of these tools there was a resistance to checklists by frontline workers. Frontline workers, they argued, did not want to be told how to do their jobs. It is yet to be determined if the theory of effective communication resulting from a clinical handover checklist will have an impact on patient safety. While these authors identified communication as a leading cause of adverse events they did not identify the relationship that communication had with other factors such as nurses performing an
adequate assessment of patients in order to be able to communicate the correct information that needed to be relayed.

**STAFFING SHORTAGES**

In addition to studies that have focused on systems issues, reporting of adverse events, and clinical practice as a cause of errors, studies were also found that suggested inadequate staffing could be a cause of error (Aiken, Clarke, & Sloane, 2000, 2002; Aiken, Clarke, Sloane, et al., 2002; Aiken, Havens, & Sloane, 2000; Atwater et al., 2006; Buchan & Aiken, 2008; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002; Rikli et al., 2006; Safe Staffing/healthy Workplaces Committee of Inquiry, 2006; Siferd & Benton, 1992; Thyer, 2003; Virtanen et al., 2009). Ebright, Urden, Patterson, and Chalko (2004) argued that by putting nurses in unsupported environments where there are staffing shortages and a lack of resources they are at risk of causing error. Rogers, Hwang, Scott, Aiken, and Dingess (2004) reported that extended shifts and overtime caused by a shortage of experienced registered nurses significantly increased the risk for errors occurring. They also reported that there was a possible link between the environmental conditions that the nurses were exposed to and the threat to patient safety. In an earlier study Needleman et al. (2002) reported that when there were inadequate numbers of nurses rostered on a shift, and nurses were not able to spend sufficient time caring for patients, there was an increased risk that patients would have complications or die. While these studies identified that organisations need to set targets to improve workplace environments they attributed low staffing levels to the cause of errors and did not look at the specific actions of the nurses involved that caused the error to occur.
Professor Linda Aiken is a leading nursing expert on the impact of the nurses’ work environment on patient safety. Earlier studies by Aiken, Clarke, and Sloane (2002) and Aiken, Clarke, Sloane, et al. (2002) argued that by increasing nurse staffing in hospitals patient safety would improve. These studies found that staffing levels are a key driver of errors that occur within hospitals. In a recent study Aiken et al. (2011) reported on the impact of work environments on hospital outcomes in nine countries. Survey data from nurses in 1,406 hospitals, collected between 1999 and 2009, were analysed. The study concluded short staffing resulted in a reduction in the quality of care nurses provided to patients. In each of the countries surveyed one-quarter to one-third of the hospitals were identified as having work-force shortages. While these studies by Aiken et al. argued that increasing nurse staffing would result in a decrease in errors, they did not take into account the role that nurses had in errors.

After hours care, when there is less support for nurses, has drawn increased scrutiny in recent years. Laupland et al. (2008) in their study reported that the excess risk associated with admission or discharge at night merits further exploration as to whether it may reflect inconsistencies in after-hours care (Barba et al., 2006). They also reported that hospitals function less effectively on weekends than on weekdays (Bell & Redelmeier, 2001). The reduction in clinical personnel on weekends has been found internationally to lead to gaps in hospital defences (DeCoster, Roos, Carriere, & Peterson, 1997; Lamn, 1973) and shortfalls in care (G. R. Baker et al., 2004; Watson, 2006). Rogot, Fabsitz, and Feinleib (1976) and Evans, Chalmers, and Capewell (2000) argued that these staffing patterns may explain, to a certain extent, why there is a higher hospital mortality rate at night and weekends. Similarly data from other clinical studies suggest that hospitals function less effectively after hours (Asch & Parker, 1988; Siferd & Benton, 1992). Laupland et al. (2008) and Barnett, Kaboli,
Sirio, and Rosenthal (2002) in their studies found an association between admission to intensive care units outside the hours of a normal working week and an increased risk of mortality. While these studies identified that the low levels of staff after hours attributed to the cause of errors they did not look at the specific actions of the nurses involved that caused the error to occur.

**UNSAFE PRACTICES BY NURSES**

Unsafe practice is a term that has been associated with poor staffing levels and a lack of resources in health care. Rinker (1988) suggested that a lack of resources, support and underfunding resulted in nurses’ unsafe practices. Of importance was the comment made by Rinker that the regulation of nursing practice was not effective and that unsafe practices were continuing to occur and not being addressed.

In an early study by Meurier, Vincent, and Parmar (1997) a sample of 175 nurses was selected from those who worked in clinical areas and nurses that were attending an “examining and assessing” course at the National Health Service in the United Kingdom. The nurses were asked to describe an error, excluding drug errors, where they had made a wrong decision or an act of omission. The data were analysed according to the following categories: Communication, assessment and planning, intervention, and evaluation. Meurier et al. reported that the majority of the errors occurred during intervention with patients and were linked with the other categories such as communication, assessment and planning. The causes of the errors were reported to have involved several factors: Lack of support from management/senior staff, and the stressful environment that the nurses were working in.
Seventy-nine percent of the nurses reported that the lack of experienced staff and the number of patients that were assigned to them created a stressful environment and were key factors in the “causation” of the errors made. It was concluded that putting measures in place to address these issues would reduce the incidence of errors. While this study examined inappropriate nursing decisions that resulted in errors, it did not identify the nurses’ clinical errors.

The Royal Bristol inquiry report (Secretary of State for Health, 2001) highlighted the issue of inadequate care and patient safety. Of importance were the competence of the health professionals and the lack of responsibility taken by individuals to maintain their skills and knowledge. This impacted on their ability to work as a team and thus had implications for their performance and the care that was delivered to the patients. One hundred and ninety-eight recommendations were made which included health professionals being accountable and responsible for their own competence. The inquiry concluded that health care professionals significantly influence the standard of care, and that the prevailing culture within health care organisations needs to be understood for changes in practice to occur.

Benner (2001) explored organisational culture in hospitals and the influence the environment has on medical errors and she compared systems errors in hospitals with industries other than health care. In a further study in (2002) she analysed the reports from 21 cases in nine State Boards that involved nursing errors. These cases were of actual or potential harm to patients that had been reported to the Board. The cases were analysed to develop a taxonomy of “nursing error” that caused actual or potential harm to patients. Eight categories of nursing errors were identified: Lack of judgement; lack of intervention on the patient’s behalf; medication errors; lack of prevention; missed or mistaken orders; and documentation errors.
(Benner et al., 2002). Benner found errors resulted when both system and individual practice responsibilities failed.

Benner et al. (2006) research into nursing errors led to further development of the national data base. She argued that there was a significant lack of understanding of the causes of safety errors and credible evidence for the prevention and remediation of these errors. Whilst Benner’s research contributed to knowledge on the reporting of errors at the practice level, she did not address nurses’ unsafe practices that ultimately led to errors.

Callaghan, Hunt, and Windsor (2007) reported that rigorous systems need to be employed to ensure that the competency of health professionals is maintained and that the delivery of safe care is dependent on the professional’s competency. They argued that research in New Zealand has highlighted the prevalence of human error in practice as in P. B. Davis et al. (2003). Of importance is the definition of professional competency and the contribution it has made to the quality of care that is delivered to patients. They concluded that professional competency standards need to be considered across the wider multidisciplinary team rather than siloed within professions. While these authors reported that professional competency was important to maintain safe practice, their focus was primarily on the professional competency of medical personnel, nurses’ competency and the effect it had on patient safety was not reported.

Luhanga, Yonge, and Myrick (2008) used a grounded theory approach in their study with 22 nursing preceptors. Interviews were conducted with the preceptors who worked in acute care hospitals. They reported that the preceptors described specific behaviours that caused them to identify unsafe practice in the student nurses such as a lack of competency and poor communication with staff and patients. Luhanga et al. concluded that safe practice can only
occur if preceptors are responsible for identifying and fostering behaviour that is consistent with professional expectations and for modelling that behaviour themselves. While these studies identified that unsafe practices were a result of a lack of support and resources they did not take into account the role that student nurses’ had in errors.

Saintsing, Gibson, and Pennington (2011) reported on an integrative review that explored the errors of novice nurses in the first years of their nursing career. They reported that novice nurses who did not have the expert skills required to make good decisions were at greater risk of making errors.

Benner et al. (2011) reported an ethnographic study of critical and acute care nurses from eight different hospitals in the United States. The study is stories told by nurses’ that were analysed using Benner’s framework to understand nursing knowledge and practice. Benner found that skilful clinical reasoning by nurses was a form of practical reasoning, and that in particular situations this could help make sense of a patient’s changing condition.

This finding is consistent with Gray (2001) who much earlier argued that good decision making by nurses is based on knowledge that informs policies and reduces poor decision making in clinical practice. Nevertheless, reliance only on policies, protocols and taxonomies to practise clinically does not reduce the importance of using best judgement in situations of uncertainty (Benner et al., 2011). Benner et al. (2011), among others, argued for the importance of nurses’ ability to critically reason to reduce errors (Dreyfus, 1992; Scully, 2010; Sullivan & Rosin, 2008; Tannenbaum, 1994; Weick & Sutcliffe, 2001; Weiss, Malone, Merighi, & Benner, 2002) however these studies do not demonstrate an association between these factors. Quirke, Coombs, and McEldowney (2011) in their review of the literature on suboptimal care reported that a number of factors caused delays in care, such as diagnosis,
treatment, referral and/or inadequate patient management. While the authors identified the factors that influenced sub-optimal care they did not examine the role that nurses had in providing sub-optimal care to patients.

**CONCLUSION**

This review of the literature has shown that there is a growing interest in patient safety and that there is evidence to suggest that some progress has been made in reducing errors in health care. However, there remains a dearth of literature that investigates nurses’ involvement in SAEs. In the review of the literature practice responsibility has been discussed but the link to poor practice, and how nurses should be accountable, has not been identified. This study will address nurses’ contributions to SAEs using Reason’s (1990) conceptual framework for the analysis and this will be outlined in the following chapter.
CHAPTER FOUR: CONCEPTUAL FRAMEWORK

This chapter introduces the theoretical models that were considered as possible frameworks for analysing the research and then discusses James Reason’s theoretical model of accident causation, the conceptual framework adopted for this research.

Norman (1983) reported on the categorisation of errors, in which he presented an analysis of 1000 incidents. Underpinning the analysis was a psychological theory of schema activation. He argued that action sequences are triggered by knowledge structures which are organised as memory units and called schemas. The mind, he suggested, contains a hierarchy of schemas that are invoked or triggered if particular conditions are met. Norman’s theorises that behaviour is the primary reason for errors occurring. Norman’s single cause approach would not have allowed the broader analysis required to understand nurses’ contributions to errors in hospitals.

The second behavioural theorist considered was Rasmussen (1982). He constructed the SRK (skill, role, knowledge) theory that predicts that errors depend on individuals’ behaviour. Errors are also affected, he argued, by experience and familiarity with the situation encountered. He contended that personnel with experience do not tend to commit the same kinds of errors as those who are novice. He suggested three levels of cognitive control: Skill-based, rule-based, and knowledge-based, behaviour with behaviour being the driver that causes errors to occur. As for Norman’s (1983) approach this theory was not selected as a conceptual framework for this research as it too focused on behaviour. Such an approach would have limited the analysis thus reducing the contribution of the findings.
The third theoretical model considered was Bird and Germain’s (1992). They reported on accident ratios (major versus minor) and extended Heinrich’s classical safety pyramid theory (Heinrich, 1931). Bird and Germain (1992) researched the relationship of accidents to whole populations of workers. Whilst the application of the pyramid theory identified accident injuries and revealed types of employee injuries, it represented only the accident ratios and could not analyse how errors occurred. On this basis the accident ratio model was considered insufficient for the analysis of nurses’ contributions to errors.

Theories derived from critical events in aviation include ‘Normal Accident theory’ (Perrow, 1981) and the critical incident analysis technique (Cooper et al., 1978). Following a major nuclear generating station accident at Three Mile Island, Perrow developed Perrow’s Normal Accident Theory. Perrow (1981) identified that “normal accidents have four characteristics: Signals which provide warnings; equipment failures; operator errors; and negative synergy” (p. 17). A normal accident occurs, he argued, when these four “interactive” parts produce a particular interaction which triggers an accident to occur. Perrow’s approach identified how systems can both cause and prevent accidents. Similarly Cooper et al. (1978) sought to investigate how specific systems can result in accidents and injuries. Because both models only examined accident causation at a systems level they were not able to allow the depth of analysis necessary for this research.

Consideration was given to the use of a human factors approach, however this approach focuses on the multidisciplinary team when analysing the causality of error whereas the research questions for this study centre specifically on nurses’ contributions to errors.

Of all the theories relating to error, Reason (1990) provided a model for understanding the issues that contribute to a trajectory of error for hospital patients. Reason’s seminal work on
the theory of human errors and the “Swiss cheese model” was selected for this study as it provided a conceptual framework to analyse the SAEs in terms of the nature, frequency and severity of nurses’ unsafe acts that contributed to the SAEs. Reason’s model is discussed in more depth below.

**REASON’S THEORY**

Reason (1990) proposed that human errors in health care can be viewed in two ways, from a person approach and from a systems approach. The person approach focuses on individuals’ errors and violations when providing health care services and the systems approach traces the causal factors related to an organisation’s systems. Reason purports that understanding these differences has important practical implications for coping with the ever present risk of errors in clinical practice. For each approach he has a model of error causation and a specific way to manage the errors that result. Reason’s person and systems approaches provide a way of understanding why “unsafe acts” occur. Reason explains unsafe acts as slips, lapses, mistakes and violations. Reason’s early research focused primarily on a systems approach although increasingly over the last decade he has stressed the importance including a person approach when developing safety cultures in hospitals. He maintains that both approaches are necessary, and that taking a systems approach alone is limiting and that a balance between the two needs to be found. Reason (2008) argues that it is also important to study the factors that are implicated in human errors.

**The Person Approach**

The person approach is the traditional approach that focuses on unsafe acts. Reason describes unsafe acts in health care, as errors or procedural violations by doctors, nurses, and
other allied health professionals. He proposes that unsafe acts can be attributed to a lack of attention, poor motivation, carelessness, negligence and recklessness. These unsafe acts, he suggests, are “active failures” committed by health care workers who are working at the bedside and they have immediate consequences for patients. Reason purports that unsafe acts fall into two categories, errors of omission where there is failure to perform an appropriate action, and errors of commission where an inappropriate action is performed, such as when a person has the right idea but performs the wrong action. Reason argues that traditionally the person approach was the common approach used in health care as it is easier to blame individuals for something that has gone wrong rather than trying to make organisations accountable.

Reason contends that using methods such as discipline when responding to adverse events tends to treat errors as moral issues assuming that “bad things happen to bad people” (Reason, 2000, p. 768). A further weakness in the person approach is the focus on the error as this isolates the unsafe acts from the wider systems context. Despite the faults associated with this approach, as mentioned above, it has remained the dominant approach used by health care organisations when addressing unsafe practice.

The Systems Approach

The fundamental principle of the systems approach is that humans are fallible, and therefore errors will occur even in the best run organisations. Reason (1990) suggests that to prevent errors, the development of safer systems has to occur. The systems approach identifies errors as consequences of unsafe acts. Reason hypothesises that it is systemic factors such as the processes within organisations that cause recurrent errors to occur. These errors he contends often result from the latent conditions in a system. The errors, he argues, are not random but
are a result of recurring patterns that have been taking place over a period of time. The central idea of the systems approach, when preventing errors, is that it focuses on ensuring that there are barriers and defence systems put in place to protect against errors. When using the systems approach individuals are not blamed but systems are analysed as to why and how they have failed. Similar circumstances can cause the same type of errors to occur despite different people being involved. Reason proposed that by taking a systems approach defensive systems could be put in place.

Defensive systems have moveable holes in them (see Figures 2 and 3 below) that are not stationary but are continually moving all the time and their locations shift. He illustrates this concept by using the holes in a piece of Swiss cheese. Reason (1990) developed his Swiss cheese model to explain the occurrence of systems failures. Likewise he uses this model to explain how in a complex system, hazards can be prevented from causing errors by putting in place a series of defences. Each defence has unintended weaknesses or holes, hence the similarity with Swiss cheese. These weaknesses are inconstant with the holes opening and closing at random. At the times when all the holes are aligned the weaknesses in the barriers are exposed causing a trajectory of error. In the first iteration of the model (see Figure 1), latent errors were placed as antecedents of the accident trajectory at the far left, and unsafe acts such as active errors, were represented by a separate slice.
The second iteration of the model places the set of barriers depicted as slices of cheese between harm and the patient. The current version of the Swiss cheese model (see Figure 2), published by Reason in 2000, is a simplification of his first model developed in 1990. The causal pathways in the second model have been removed from the first model (see Figure 1).
The metaphor of the Swiss cheese model suggests that one piece of cheese does not cause a “bad outcome” but that if there are more slices of Swiss cheese and there is a gap in time where the holes in the Swiss cheese line up (see Figure 3) then a “bad outcome” can occur. Similarly with system failures, one failure does not result in an error, however when there are multiple system failures then there is a trajectory of accident opportunity. More importantly, when this occurs it brings with it hazards and errors that produce victims. Proactive rather than reactive risk management occurs when there is an understanding of the latent conditions.

Reason hypothesized that most accidents can be traced to one or more of four levels of failure: Organisational influences, unsafe supervision, preconditions for unsafe acts, and the unsafe acts themselves (Reason, 1990). An organisation’s defences against failure are modelled as a series of barriers, with individual weaknesses in individual parts of the system that continually vary in size and position. The system as a whole produces failures, he argues, when all individual barrier weaknesses align, permitting a “trajectory of accident opportunity” (Reason, 2000, p. 769) leading to a failure.

Holes in the layers of defences are thought to arise for two reasons. The majority of adverse events involve two sets of factors active failures and latent conditions. As mentioned above the active failures happen as a result of slips, lapses, fumbles, mistakes, and procedural violations by the workers. On the other hand latent conditions are the inevitable “resident pathogens” within the systems. Latent conditions arise from decisions made by policy writers, designers, and top-level management and create conditions that promote unsafe acts (Reason, 1990). Erroneous decisions also have the potential to introduce latent weaknesses into the system. Latent conditions can result in two types of errors. The first type includes error provoking conditions such as understaffing, inadequate training for staff, lack of
equipment, and inexperienced staff. The second type includes errors resulting from accidents such as unworkable protocols and guidelines, and organisational deficiencies. These conditions can lie dormant for a long time before they combine with an unsafe act/active failure and local triggers to create an accident opportunity. Unlike unsafe acts or active failures, whose specific forms are often hard to foresee, latent conditions can be identified and remedied before an adverse event occurs.

As purported by Reason (2000) active failures are the unsafe acts committed by people such as nurses, at the site of occurrence and they have immediate consequences. The latent conditions in organisations occur from erroneous decisions made by people with indirect involvement, such as members of senior management. These latent conditions can include inadequate communication systems, poor planning, heavy patient workloads, inadequate training and supervision of staff, and failure of equipment. The latent conditions may lie dormant, but in emergencies or other crises, they may emerge precipitating unsafe acts.

Reason argues that it is the high reliability organisations, which have systems operating in hazardous conditions, that have fewer adverse events because the models they use constitute a resilient system. Such a system has intrinsic “safety mechanisms” and is able to withstand its operational dangers and still achieve its objectives (Reason, 2000). High reliability organisations use the systems approach to prevent errors. They are mindful of the possibility of failures and expect to make errors and train their workforce to recognise the possibility of errors and mitigate them. These organisations are not immune to adverse events but are able to use errors to build resilient systems.

Reason (2006) suggested that the pendulum had possibly swung too far in error prevention by focusing solely on collective responsibility and that by using this approach it may have
resulted in reaching the point of diminishing returns. He suggested that adopting a purely systems approach is not always sufficient to reduce errors. Reason further suggested that it was time to revisit the individual’s contribution to error.

Whilst errors cannot be completely eliminated they can be managed. In order for this to occur the nature and types of errors need to be understood and used as learning opportunities. Organisations that are vigilant can learn not only from the big errors that occur, but also from the smaller errors that have led to failures.

**APPLICATION OF THEORY IN NURSING RESEARCH**

Research conducted in the field of health services has applied Reason’s theory and model to their analysis of errors (Armitage, 2009; Perneger, 2005; Ren, Jenkinson, Wang, Xu, & Yang, 2008; Simon et al., 2009; Veltman, 2007; Waterson, 2009), however the use of Reason’s theory has not been used to understand nurses’ unsafe acts. In contrast Meurier (2000) applied Reason’s framework to understand the nature of errors in nursing. She selected just one case describing an adverse outcome or potential adverse outcome from over 20 cases. An in-depth analysis that focussed on: Latent failures, conditions of work, active failures, barrier/defences, and adverse events, was used to determine the chain of events that led to the incident.

Meurier concluded that this approach could assist in understanding how errors are made in practice. Whilst this was a very small study, with a single case analysed in-depth, it did not explore nurses’ unsafe acts but the factors that impacted on the nurses’ clinical environment. Henriksen, Dayton, Keyes, Carayon, and Hughes (2008) and McGillis Hall et al. (2010) also applied Reason’s theory to the clinical environment in an attempt to understand the factors
that directly and indirectly impact on nurses’ work-related performance. Offredy, Rhodes, and Doyle (2009) similarly used the Swiss cheese model to analyse clinical and patient safety incidents. This approach attempted to identify what had happened to cause the incident and to determine any underlying causes. Factors that could be described as latent conditions in the nurses’ work environment include poor skill mix, inexperienced staff, staff shortages, and inappropriate patient workloads. However, the parameters of this research did not allow for an exploration of these factors.

CONCLUSION

This chapter has discussed the theory developed by Reason as a means to understand the issues that contribute to the trajectory of person and systems error. A description of Reason’s Swiss cheese model portrays the complexity of the system and the role that individuals have in the causation of errors. The following chapter will describe how Reason’s theory was used for analysis of the data.
CHAPTER FIVE: METHODS

This chapter discusses the research strategy used for this project. It outlines the two parts that comprise the strategy and the methods used to collect and analyse the data in each part. It also discusses the ethical considerations and the position of the researcher as both “nurse” and “researcher”.

This study sought to explore the nature, frequency and severity of nurse-related SAEs in New Zealand public hospitals which treat New Zealand residents at no cost. To do this it drew on the HDC reports of SAEs. The definition of a SAE was determined by a group of researchers, who were all current health professionals, from a range of definitions found in the literature. The group included the author. After extensively reviewing the relevant literature the group adopted the following definition for the purposes of this thesis. A SAE is an “…unanticipated occurrence involving death or major permanent loss of function”, or an event that happens as a result of “…wrong-site, wrong-procedure, or wrong-patient surgery” (Reis, 2008, p. 195). Interviews were also undertaken with nurse leaders in two hospitals to ascertain their views about the implementation of the Commissioner’s recommendations in the reports.

RESEARCH QUESTIONS

The primary research question posed in this research was: “What are the nature, frequency and severity of nurse-related sentinel adverse events occurring in public hospitals in New Zealand?” The secondary questions were: “What is the role of nurse leaders in implementing the Commissioner’s recommendations” and “What are the barriers to the implementation of the recommendations?”
As explained in chapter 1 these research questions were developed following the occurrence of SAEs in the hospital in which I work and where nurses had been referred to the HDC by patients and/or their families or by the hospital. This study was undertaken to answer these clinically grounded research questions, and with the aim of contributing to knowledge that would lead to improvements in the quality and safety of care delivered to patients, and a reduction in errors in hospitals.

**METHODS**

Given the nature of the research questions the decision was made to use document analysis for part one of the study and individual interviews for part two.

**Part 1:**

**Data Collection**

The decision to use the HDC reports to investigate the nurse-related SAEs in public hospitals was made because the reports are readily available from the HDC and they provide detailed information on individual cases and include the Commissioner’s recommendations. While recognising that the reports represent only those adverse events reported to the HDC, and not all SAEs occurring in public hospitals, they do include SAEs from across all public hospitals in New Zealand. In addition there is consistency in the HDC reporting processes and the resulting reports, which would not be found using individual hospitals’ reporting mechanisms.
The reports were accessed by the researcher from the HDC. All reports generated for the eleven years 1 January, 2000 to 31 December, 2010 were reviewed for references to nurse-related SAEs that occurred in public hospitals, as the majority of the New Zealand population access hospital care through the public hospital system. It was decided to focus only on SAEs as these represent the most serious adverse events effecting patients and allow a deeper understanding of the safety issues in New Zealand hospitals.

The timeframe from 2000 to 2010 was chosen as the first review of the HDC Act (1994) had been completed in 1999 and by 2000 a number of the recommendations from the review had been implemented as previously discussed in the background chapter. Thus it was timely to include the HDC reports from this point and the end point was decided on to enable the largest possible sample to be analysed before completion of the project.

A total of 598 reports were identified in the eleven years between 2000 and 2010 and of these 218 involved public hospitals. The reports were then read to determine those that reported registered nurses and/or second level nurses (enrolled nurses) being involved in the SAEs. Enrolled nurses work under the supervision of registered nurses who ultimately have responsibility for the care of all patients. Ninety-three reports were identified as having met all the criteria.

**Data Analysis**

A data analysis tool (the Tool) was developed by the researcher for analysis of the reports (see Appendix A). Miles and Huberman’s (1994) method of document analysis was used to analyse the data extracted from the HDC reports.
Wolcott’s (2009) broad questions to guide qualitative researchers were used to guide the development of the questions for the Tool: “What was going on here? What are the factors influencing the circumstances? How do things happen as they do? What do people in this setting have to know?” (p. 37).

This approach facilitated the development of specific questions used in the Tool. These questions were then used as headings under which to code the text during this stage of analysis. To validate the process for extracting data from the reports, consultation was undertaken with the HDC’s Education Manager and the Director of Proceedings at the HDC office in Auckland. The purpose of the consultation was to identify the critical factors that the HDC focuses on in an investigation. The Tool was also discussed to ensure it included these key areas. The discussions confirmed the appropriateness of the Tool and the questions that were to be used to facilitate the extraction of the data from the HDC reports. One change was made to the Tool following the response from the HDC office. The change involved including a question asking if an SAE had previously occurred at the hospital being reviewed.

The next stage involved a pilot study of the first 10 reports to evaluate the data Tool. The first 10 reports were entered into the Tool to evaluate its effectiveness and to ensure the final version was considered credible. No changes were required to the Tool following the pilot study.

The headings on the Tool were entered into a computer Excel spreadsheet to record the text. The data were then entered into the spreadsheet where it was analysed and reported as figures and tables. Using Excel enabled the researcher to enter excerpts of text from the reports for further analysis. For example, if two pieces of text were similar, but the context was
different, the researcher was able to create a sub-category for the second piece of text (Bos & Tamai, 1999).

Using the Code of Rights as the framework, the data from question nine and ten on the Tool were analysed to determine actual breaches of the Consumer Rights and the extent to which the Rights were breached. Not all of the reports documented breached rights. The data were then classified according to the number of breaches of the various Rights and who was found culpable.

A causal relationship between the nurses’ actions and the resulting outcomes of the SAEs, could not be determined, so Reason’s concept of unsafe acts (Reason, 1990) was adopted. The reports were then re-read to determine that all the nurses’ unsafe acts were included for analysis.

The data were analysed to determine the nature of the unsafe acts, the outcome of the SAEs, the timing of time of the SAEs, and the time of the SAEs in relation to the patients’ admission. The data were also analysed to determine the factors influencing the SAEs, and the nurses’ unsafe acts that contributed to the SAEs. The unsafe acts were then classified using the four main categories that emerged: Assessment, communication between health professionals, checking and backup, and medication administration. Tables were developed to report the four categories of unsafe acts. All the identified unsafe acts were reported under these categories.

The last stage of analysis of the reports involved classifying the recommendations made by the Commissioner. The four emergent categories were: Systems and processes, District Health Boards (DHBs), doctors, and nurses. The naming of the categories was determined
according to the focus of the recommendations. For example, the first category included recommendations directed at developing or implementing systems and processes, and the second category included recommendations for the DHBs to apologise to patients and/or their families and for the DHBs to review their complaints procedures. Likewise the last two categories included the recommendations that were focussed on individual doctors and nurses.

The recommendations were further analysed in relation to the unsafe acts. The recommendations were categorised and reported under the four categories of unsafe acts: Assessment; communication between health professionals; checking and backup; and medication administration to determine if there was any linkage between the recommendations and the unsafe acts that had occurred.

Part 2:

Data Collection

The decision was made to conduct individual interviews with 40 nurse leaders in two hospitals to explore the nurse leaders’ roles in implementing the Commissioner’s recommendations and any barriers that might exist to the implementation of the recommendations. The nurse leaders interviewed were employed in the two participating hospitals.

The first two public hospitals approached, a large metropolitan hospital and a smaller provincial hospital, agreed to participate in the study. These hospitals were chosen because they are located in different geographical regions but are similar to other acute public sector hospitals in New Zealand in relation to their workforce, consumer/patient expectations,
resource constraints, public sector/community accountability, and political environments.
The Chief Executives of the hospitals were approached by the researcher and signed a
locality assessment form agreeing to their participation and for their nurse leaders to be
interviewed for the project.

The Directors of Nursing in the two hospitals, at their monthly staff meetings, invited their
nurse leaders to participate in the study. Participant information sheets (see Appendix B)
were made available to the nurse leaders and those who volunteered to participate contacted
the researcher. Nurse leaders from each of the hospitals made contact and clarified any issues
that were unclear to them and were given the opportunity to ask additional questions about
the study. This process occurred first in the provincial hospital where 20 of the 35 nurse
leaders who volunteered to participate were selected purposively on the basis of their specific
areas of responsibility. These included the clinical areas of medical, surgical, obstetrics,
theatre, emergency, mental health, paediatrics and geriatrics. These areas were then matched
with the clinical areas of the 20 participants from the metropolitan hospital. Forty-eight nurse
leaders had volunteered from the metropolitan hospital. Written consent (see Appendix C)
was obtained before the interviews and all the participants agreed to their interview being
audio-recorded. Approval by the Northern X Ethics Committee (Ref NTX/07/12/127) (see
Appendix D) was granted for the interviews with the nurse leaders to be undertaken between

The inclusion criteria for nurse leaders required them to have leadership and professional
accountability for nursing services in their hospital. All the participants held leadership
positions and had direct interactions with front-line nurses who provided patient care. In
addition to their leadership responsibilities, the participants worked in partnership with other
nurses who focussed on issues such as strategy implementation, operational performance optimisation and achieving organisational goals. The decision to limit the sample of participants to two organisations was based on an understanding that nurse leaders in all the hospitals had requisite knowledge of how hospitals function at a systems level.

The semi-structured interview format was chosen as the method for data collection as it best suited the nature of the research questions. It allowed a flexible approach by the researcher who explored specific areas of interest through the use of vignettes and elicited further information following the participants’ initial responses. This is a common approach used by researchers to gain more in-depth information about their research topics (Lindlof & Taylor, 2002).

The Vignettes

The vignettes were constructed from the HDC reports. Parts of the reports were used in this process to develop the stories. Eight vignettes were developed relating to SAEs that had been described in the HDC reports. They included the specific circumstances that occurred in the events that led to the HDC investigations, and the Commissioner’s recommendations (see Appendix E).

Each vignette had relevance to the participants’ areas of responsibility. For example, a nurse leader in charge of a clinical medical service was given a vignette that had a medical focus and a nurse leader in charge of a maternity service was presented with a vignette that had an obstetric focus. The vignettes were a vehicle to focus the questions about the Commissioner’s recommendations within a context that they were familiar with. Finch (1987) and R. Hughes (1998) explained the use of vignettes as a means of portraying
scenarios in the form of short stories to examine and understand participants’ perceptions, beliefs and attitudes.

The central interview questions were the same for each participant (see Appendix F). For example, the question, “Could the recommendations be implemented?” was followed by, “If not, what were the factors precluding their implementation?” All central questions were piloted with two nurse leaders in the metropolitan hospital prior to the interviews being conducted with the participants.

The interviews were scheduled at a time convenient to the participants and were held in their offices at their hospitals. The first 20 interviews were conducted at the provincial hospital and the second 20 at the metropolitan hospital. The interviews lasted between 60 and 120 minutes, with most lasting 90 minutes. The audio-recorded data from each interview were transcribed within 10 days of the interview by a qualified transcriber who entered the data into a word document for the researcher to analyse. The audio-recordings were checked against the transcripts by the researcher to confirm accuracy and reduce the risk of transcription error.

Data Analysis

Thematic analysis was used to analyse the data from the nurse leaders’ interviews. Creswell (2003) suggests that this approach organises and gives meaning to data by focusing on identifiable themes and patterns. Tesch (1990) describes a systematic process of coding to guide data analysis and this was adopted for this study. Each of the interviews was transcribed and then read and re-read. Notes were made on the sides of the transcripts, similar tracts of texts were clustered together and codes were then assigned before the text
was entered into a spreadsheet. The codes were grouped and this process revealed a number of emergent themes. These included: The nurse leaders role; lack of involvement in decisions; and appropriateness of recommendations. The last theme included three sub-themes: Lack of commitment; lack of support; and inappropriateness of recommendations. Direct quotes from the data were used to illustrate points made when reporting the qualitative findings.

QUALITY IN QUALITATIVE RESEARCH

Qualitative researchers argue that the quality and rigour of their research should be judged on its own terms rather than measured against criteria used to judge the quality of quantitative research. Whilst various checklists for judging the quality of qualitative research have been developed, none has been universally accepted. A common set of criteria used to judge quality includes: Credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). These criteria refer to the degree to which the findings adequately represent multiple realities and report the event/s in question (credibility); are generalisable to other settings (transferability); can be replicated or reproduced (dependability); and are free from bias (confirmability).

The credibility of the analytical approaches for Part 1 and Part 2 was endorsed by my two supervisors and the validity of the tool used for data collection in part 1 was endorsed by the HDC’s Education Manager and the Director of Proceedings at the HDC office in Auckland.

In this study quality is based on the rigor and transparency of the methods of data collection and analysis, and most importantly, the ‘plausibility’ of the findings. Plausibility, or trustworthiness, is an interpretive judgment that is enhanced when the research methods
explore issues from different perspectives thereby gaining greater insights. The nurse leader interviews provided depth and more completeness to the findings and recommendations from the HDC reports.

ETHICAL CONSIDERATIONS

The primary ethical consideration in this study related to the sensitive nature of the issues the nurse leaders confronted as participants in the study. The participants were potentially a vulnerable group and attention was paid to their emotional safety, which included study protocols related to informed consent and the ability to take time out or withdraw from the interview without penalty. In addition, the study takes a partially retrospective view, and there was a possibility that some participants might experience distress as a result of discussing serious situations that could no longer be prevented or changed. The researcher offered assistance for the participants to access psychological services if they required this as a result of their participation in the study.

It is recognised that there can be both positive and negative emotional or psychological outcomes from participation in qualitative research (Morse & Field, 1998). It was crucial, therefore, that the researcher considered the possibility of participants experiencing negative emotions regardless of the potential positive outcomes for other stakeholders. Conversely, participation in a qualitative study may result in a long-term positive outcome related to the “telling one’s story” and the benefits of having one’s experiences and opinions validated. In addition, there may be an acknowledgement of a positive outcome for others in a similar situation as a result of the development and dissemination of the resulting new knowledge (Sandelowski & Barroso, 2002).
The second key ethical concern for this study was maintaining anonymity of the participants and the associated confidentiality of the data arising from the interview process (Orb, Eisenhauer, & Wynaden, 2000; Ramos, 1989). The identity of the participants is known only to the primary researcher, as all of the interviews were performed by the researcher. The interviews were given a numeric identifier related to the order in which they were undertaken and the audio-recordings of the interviews were deleted after transcription was completed. The participant consent forms were kept on University premises and separate from the transcriptions and any other identifying documents.

As mentioned above ethical approval for the study was granted by hospital 1 and hospital 2.

**NURSE AS RESEARCHER**

The final consideration was negotiating the interface between my roles as “nurse” and “researcher” in the data collection process. The potential for conflict between these roles has been acknowledged in previous studies (Colbourne & Sque, 2004). Although it has been argued that the advanced communication skills employed by an expert practitioner may serve to increase the quality of the data (Field & Morse, 1985) there is also a risk that the nurse’s engagement in research, without the protection offered by the clinical role, may result in a negative outcome for the nurse researcher, and a decrease in the quality of the data collected (Kidd & Finlayson, 2006).

It is also possible that a qualitative interview undertaken by a nurse who is proficient in nurse-patient communication, and who demonstrates the skills of active listening and empathy, may become a therapeutic encounter in itself. For the protection of the researcher, and to maintain the quality of the data, regular academic supervision was undertaken.
The researcher was identified as a nurse employed in the School of Nursing at the University of Auckland in the study advertisement, participant information sheet and consent form. Professional and academic qualifications further identified the researcher as a clinical nurse. It was thought that by identifying the researcher’s background it might encourage potential participants to participate in the study. Issues not related to the study, but raised by participants, were addressed at the completion of the interview and, as stated above, recommendations were made as to where appropriate advice or support could be accessed if necessary.

CONCLUSION

This chapter has discussed the research strategy and the data collection and analysis methods for Part 1 and Part 2 of the strategy. It has also discussed the ethical issues that were addressed during the research, including negotiating the interface between my roles as nurse and researcher. The following three chapters will present the study findings.
CHAPTER SIX: SENTINEL ADVERSE EVENTS

This chapter presents results from the data extracted from the HDC reports of SAEs for the period 2000 to 2010 inclusive. It presents the breaches of patients’ rights in terms of nurses’, doctors’ and DHB breaches; it discusses the nature of the unsafe acts; the outcome and timing of the SAEs; and the factors influencing the nurse-related SAEs that occurred.

BREACHES OF PATIENTS’ RIGHTS

As discussed in the previous chapter, 93 HDC reports met the study criteria. Following the initial reading of the reports, the data were entered into the Tool and analysed using an Excel spreadsheet. In the first stage of analysis the breaches of the Code of Rights were identified. These were categorised according to those responsible for the breaches that had compromised the safety of the patients. Of the 93 reports of SAEs involving nurses, 35 reports attributed breaches to nurses in the provisional opinions. In the final opinions, however, nurses were found culpable1 in just 25 of the reports. In the other 68 reports 33 breaches were attributed to the medical team, often despite there being reported errors in the nurses’ practice (see Table 1). In the remaining 35 reports the breaches were attributed to the DHBs.

Rather than nurses being held responsible for their own practice, analysis of the reports showed there was a tendency, but not consistency, in the final opinions to avoid directly blaming nurses. In reports where nurse errors were identified, but the nurses were not deemed culpable, the errors were very similar to those in the 25 reports where nurses were confirmed to have breached patients’ rights.

1 “Culpable” is a term used in the HDC reports to identify who was guilty.
Table 1. Responsibility for Breaches

<table>
<thead>
<tr>
<th>Number of reports</th>
<th>Final nurse breach</th>
<th>Final medical breach</th>
<th>Final DHB breach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>93</td>
<td>25</td>
<td>33</td>
</tr>
</tbody>
</table>

Each report identifies the particular consumers’ rights that have been breached in the SAEs. As discussed in chapter 2 the Code of Rights sets out the rights of all consumers of health and disability services in New Zealand, and places corresponding obligations on providers of those services (Health & Disability Commissioner, 1996). For nurses, as for other health professionals, the legislation governing their practice HPCA Act of 2003 requires them to take “…reasonable actions in the circumstances to give effect to the rights, and comply with the duties” in the Code of Rights (Health & Disability Commissioner, 1996, p. 2).

Table 2\(^2\) sets out the Rights listed in the Code and Table 3 provides further details about the breaches identified in the reports. Tables 2 and 3 are included here for ease of reference for the reader. Each of the Rights has a title which describes its purpose. Some of the Rights are further detailed in subsections which are identified numerically and alphabetical.

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2 Adapted from “Code of Health and Disability Services Consumers' Rights,” by the Health & Disability Commissioner, 1996, pp. 1-2
Table 2. Code of Health and Disability Services Consumers' Rights

<table>
<thead>
<tr>
<th>Right*</th>
<th>Title</th>
<th>Subsections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right 1</td>
<td>Right to be treated with respect</td>
<td>Right 1(1), Right 1(2), Right 1(3)</td>
</tr>
<tr>
<td>Right 2</td>
<td>Right of freedom from discrimination</td>
<td>No subsection</td>
</tr>
<tr>
<td>Right 3</td>
<td>Right to dignity and independence</td>
<td>No subsection</td>
</tr>
<tr>
<td>Right 4</td>
<td>Right to services of appropriate standard</td>
<td>Right 4(1), Right 4(2), Right 4(3), Right 4(4), Right 4(5)</td>
</tr>
<tr>
<td>Right 5</td>
<td>Right to effective communication</td>
<td>Right 5(1), Right 5(2)</td>
</tr>
<tr>
<td>Right 6</td>
<td>Right to be fully informed</td>
<td>Right 6(1) a, b, c, d, e, f, g, Right 6(2), Right 6(3) a, b, c, d. Right 6(4)</td>
</tr>
<tr>
<td>Right 7</td>
<td>Right to make an informed choice and give informed consent</td>
<td>Right 7(1), Right 7(2), Right 7(3), Right 7(4) a, b, c, d, Right 7(5), Right 7(6) a, b, c, d, Right 7(7), Right 7(8), Right 7(9), Right 7(10) a, b, c</td>
</tr>
<tr>
<td>Right 8</td>
<td>Right to support</td>
<td>No subsection</td>
</tr>
<tr>
<td>Right 9</td>
<td>Rights with respect to teaching and research</td>
<td>No subsection</td>
</tr>
<tr>
<td>Right 10</td>
<td>Right to complain</td>
<td>Right 10(1), Right 10(2) a, b, c, Right 10(3), Right 10(4), Right 10(5), Right 10(6) a, b, c, d, Right 10(7) a, b, Right 10(8) a, b, c</td>
</tr>
</tbody>
</table>

Table 3. Definitions of the Code of Rights Breached by Nurses

<table>
<thead>
<tr>
<th>Right*</th>
<th>Title</th>
<th>Subsections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right 4</td>
<td>Right to services of appropriate standard</td>
<td>Right 4(1) Every consumer has the right to have services provided with reasonable care and skill. Right 4(2) Every consumer has the right to receive services that comply with legal, professional, ethical, and other relevant standards. Right 4(3) Every consumer has the right to have services provided in a manner consistent with his or her needs. Right 4(4) Every consumer has the right to have services provided in a manner that minimizes the potential harm to, and optimizes the quality of life of, that consumer. Right 4(5) Every consumer has the right to co-operation among providers to ensure quality and continuity of services.</td>
</tr>
<tr>
<td>Right 6</td>
<td>Right to be fully informed</td>
<td>Right 6(1) Every consumer has the right to the information that a reasonable consumer, in that consumer’s circumstances, would expect to receive, including - Right 6(1)(a) an explanation of his or her condition; and Right 6(1)(b) an explanation of the options available, including an assessment of the expected risks, side effects, benefits, and costs of each option; and Right 6(1)(c) any other information required by legal, professional, ethical and other relevant standards Right 6(2) Before making a choice or giving consent, every consumer has the right to the information that a reasonable consumer, in that consumer’s circumstances, needs to make an informed choice or give informed consent.</td>
</tr>
<tr>
<td>Right 7</td>
<td>Right to make an informed choice and give informed consent</td>
<td>Right 7(1) Services may be provided to a consumer only if that consumer makes an informed consent, or the common law, or any other enactment, or any other provisioning of this Code provides otherwise.</td>
</tr>
</tbody>
</table>
In the HDC reports the provisional opinions identified a number of breaches of Rights by nurses. The failure to provide Right 4 4(1), 4(2), 4(3), 4(5) accounted for the majority of breaches involving nurses (see Table 4).

Table 4. Number of the Code of Rights Breached

<table>
<thead>
<tr>
<th>Rights breached</th>
<th>Total breaches</th>
<th>Breaches not attributed to nurses</th>
<th>Nurse breaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 222</td>
<td></td>
<td>175</td>
<td>47</td>
</tr>
<tr>
<td>Right 2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Right 4(1)</td>
<td>103</td>
<td>84</td>
<td>19</td>
</tr>
<tr>
<td>Right 4(2)</td>
<td>42</td>
<td>26</td>
<td>16</td>
</tr>
<tr>
<td>Right 4(3)</td>
<td>12</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Right 4(4)</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Right 4(5)</td>
<td>30</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Right 5(1)</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Right 5(2)</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Right 6(1)a</td>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Right 6(1)b</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Right 6(1)e</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Right 6(2)</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Right 7(1)</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Right 10</td>
<td>7</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

The majority of the identified breaches were of Right 4(1). Of the 36 nurse breaches set out in the provisional opinions, only 19 breaches of Right 4(1) were documented in the final opinions with 84 attributed to others. In many of the cases where there is a difference in the decisions between the provisional and final opinions, the Commissioner has determined culpability should be directed at the medical staff with little or no accountability sought from nurses for their role in the events. For example, in one report reasonable care was not provided when an incorrect diagnosis was made by the nurse. The nurse advised the patient that s/he did not need to be seen by the doctor even though the nurse had not discussed the patient with the medical staff. When questioned during the investigation the medical staff stated “That the nurse’s handling of this situation was far from satisfactory” (Report 59).
However, in the final opinion the Commissioner deemed that only the medical staff breached Right 4(1), by failing to document the action taken by the nurse.

Of the breaches of Right 4(2), 16 were found to be breaches in the final opinions with a further five deemed nurse breaches in the provisional reports. Despite these reports highlighting that the health services did not comply with legal, professional, ethical, and other relevant standards, and the nurses being found to be negligent, the nurses were not deemed culpable in the final opinions.

Of the breaches of Right 4(3), two were found to be nurse breaches in the final opinions, with five having been found to be nurse breaches in the provisional opinions. Despite the advisors reporting that the services were not provided in a manner consistent with the patients’ needs, the nurses were not deemed culpable in the other breaches. The Commissioner stated that reasonable steps had been taken to amend the nurses’ practice since the events and therefore they were not deemed culpable.

Of the breaches of Right 4(4), one was found to be a nurse breach in the final opinion, with a further nurse breach having been found in a provisional report. Despite the advisors reporting that every consumer has the right to have services provided in a manner that minimizes the potential harm to, and optimizes the quality of life of consumers, nurses were not deemed culpable of breaching Right 4(4) in the other breaches.

Of the breaches of Right 4(5), five were found to be nurse breaches in the final opinions, with nine having been found to be nurse breaches in the provisional opinions. Despite the advisors reporting that the services provided by nurses did not ensure quality and continuity of care the nurses were not deemed culpable of breaching Right 4(5) in the other breaches. The
Commissioner stated in one case “I accept a number of the criticisms made by my advisor. However, I am satisfied that there was no breach” (Report 10).

Of the breaches of Right 6(1)(a), one was found to be a nurse breach in the final opinions, with a further one having been found to be a provisional nurse breach. Despite the advisors reporting that the level of information and explanation provided to the patient was substandard, the nurses were not deemed culpable of breaching Right 6(1)(a) in the other breaches.

Of the breaches of Right 6(1)(b), none were found to be nurse breaches in the final opinions, but one had been found to be a nurse breach in the provisional opinions. Despite the advisors reporting that no explanation of the treatment options available were provided, the nurses were not found culpable of breaching Right 6(1)(b) in the other breaches. The Commissioner stated that “the nurses were not responsible for providing an explanation to the patient about the treatment” (Report 82).

Of the breaches of Right 6(1)(e), one was found to be a nurse breach in the final opinions, a further one having been found to be a nurse breach in the provisional opinions. Despite the reports highlighting that the services at the source of the complaint did not provide a level of patient information required by legal, professional, ethical and other relevant standards, the nurses were not deemed culpable of breaching Right 6(1)(e) in the other breaches.

Of the breaches of Right 6(2), none were found to be nurse breaches in the final opinions, one having been found to be a nurse breach in the provisional opinions. Despite the reports highlighting that the services at the source of the complaint did not provide the level of information required for patients to make an informed choice or give informed consent,
nurses were not found culpable of breaching Right 6(2) in the other breaches. In one report the Commissioner stated: “In this particular patient’s circumstances, the patient needed to make an informed choice or give informed consent” (Report 76). Regardless of information not being provided by the nurses, they were not held accountable by the Commissioner.

Of the breaches of Right 7(1), none were found to be nurse breaches in the final opinions, one having been found to be a nurse breach in the provisional opinions. Despite the reports highlighting that a substandard level of service was provided and no consent was obtained, the nurses were not found culpable of breaching Right 7(1) in the other breaches.

The analysis of the breaches in the reports highlighted a number of inconsistencies as to who was identified as culpable for the breaches. The following section will discuss the inconsistencies identified in the analysis of the reports.

**Inconsistencies Between the Final and Provisional Opinions**

In health care, medical, nursing and allied health professionals are required to work together to provide consumers with optimal health care. In doing so, all team members have a shared responsibility to provide a standard of care that could be reasonably expected from able practitioners within their particular discipline as outlined in the Code of Rights.

When analysing the HDC reports a number of inconsistencies were identified as to who was deemed culpable for the reported breaches in the provisional and final opinions. These occurred both between provisional and final opinions for the same SAEs and between reports from different SAEs where other members of the multidisciplinary team were held culpable for the nurses’ actions. Furthermore, where expert advisors reported nurses’ practice that had specifically breached Rights, this was often not addressed by the Commissioner in his final
opinions. Nurses were often not held accountable for their practice and the breaches for which they were responsible.

As discussed in the methods chapter the reports were analysed and categorised. The following examples illustrate the inconsistencies identified in the reports.

In Report 04 the inadequate assessment and management of a patient by nurses was found to have resulted in the patient’s death. Under the HPCA Act of 2003, and the Nursing Council Competencies (Nursing Council of New Zealand, 2007), nurses are accountable for their practice (Competency 1.1 p. 9). However, despite the expert advisor reporting “The responsibility for providing an appropriate standard of care should have been the primary responsibility for the nursing team when they recognised the complexity of the patient” (Report 04) the nurses were not held accountable for their actions. Instead the senior medical officer involved in the SAE was held responsible.

Similarly, in Report 07, the expert advisor reported that the nurses breached a number of patient rights. For example, the nurses had conferred and concluded that a specific treatment was required for the patient and notified the doctor of their treatment plan. However, neither the doctor nor the nurses made any effort to acquire current information on the treatment guidelines that were currently being used at the time of the event. The provisional opinion found the nurses culpable of breaching Right 4(2), Right 4(3), Right 6(1)(b), Right 6(2) and Right 7(1). However, in the final opinion the nurses were only deemed culpable for breaching Right 4(2). In contrast, in Report 06, where the nurses were also reported to have not provided reasonable care when assessing the patient, they were deemed culpable of breaching Right 4(1) in the provisional and final opinion.
The following section discusses the nature of the unsafe acts, the outcome and timing of the SAEs and the influencing factors related to nurses’ clinical practice reported by the HDC.

**NATURE OF THE UNSAFE ACTS**

Because a causal relationship between the nurses’ actions and the resulting outcomes of the SAEs could not be determined from the data, Reason’s concept of unsafe acts was used to develop a deeper understanding of the nurses’ involvement in the SAEs. The nurses’ unsafe acts were identified in the reports and analysed under the following emergent categories: assessment, communication between health professionals, checking and backup, and medication administration (see Table 5). Many of the reports included unsafe acts in more than one category.

<table>
<thead>
<tr>
<th>Event</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>Communication between health professionals</td>
<td>74</td>
<td>80</td>
</tr>
<tr>
<td>Checking and backup</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Medication administration</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

**Assessment**

Unsafe acts involving poor or lack of assessment compromised 86 (92%) of the 93 SAEs. These included nurses not taking patients’ recordings; nurses not questioning the patients and their families when undertaking assessments; nurses disregarding patients’ and their families’ concerns; nurses working outside their scope of practice; nurses not doing discharge assessments before patients were discharged; nurses triaging patients incorrectly; and senior nurses allocating critically ill patients to inexperienced nurses. In 19 (22%) of the 86 events,
patients were not monitored appropriately. This included nurses admitting patients and not connecting them to appropriate monitoring equipment; and nurses failing to monitor and record patients’ vital signs.

**Communication Between Health Professionals**

Seventy-four (80%) of the 93 SAEs involved unsafe acts related to lack of communication between health professionals. These unsafe acts included nurses not notifying appropriate medical or nursing personnel when patients deteriorated; and nurses not alerting doctors when patients were triaged as needing urgent treatment. Lack of communication resulted in 15 (16%) deaths. In 39 (53%) of the 74 events, the nurses did not directly communicate their concerns about the patients to more senior nurses or members of the medical team. Of note, 88% of these problems occurred after 1700 hours.

Lack of or poor documentation was identified in 35 (47%) of the 74 events. This included incomplete recording of vital signs and changes in the patients’ condition; lack of documentation of verbal orders from medical or senior nursing staff; and generally poor documentation in patients’ charts and medical notes.

**Checking and Backup**

Fourteen (15%) of the 93 SAEs involved unsafe acts related to checking and back-up. These included nurses marking the wrong site for surgery; nurses not counting swabs before the surgical site was closed; and nurses not initiating the time out procedure. The time out procedure requires that before surgery starts there is a final check carried out by the senior theatre nurse to ensure that the surgery being performed is on the correct body part.
Three (21%) of these 14 SAEs were categorised as problems with equipment including failure to check the equipment before the surgery commenced. This resulted in the malfunctioning of equipment during surgery; equipment not available during surgical procedures; equipment set up wrongly by nurses; and the wrong type of equipment supplied for surgery. None of these unsafe acts resulted in death. One resulted in blindness for the patient and two resulted in the need for further surgery.

**Medication Administration**

Unsafe medication administration occurred in 12 (13%) of the 93 SAEs. These included nurses administering the wrong dose of the medication; administering the wrong type of medication; and administering medication at the wrong times. In addition, patients experienced adverse reactions to medications when medications were administered by nurses who had not checked for documented allergies; nurses did not monitor the patients for adverse interactions with their other prescribed medications; nurses did not complete accurate audits of patients’ usual medications; and nurses did not reconcile newly prescribed medications with patients’ own medications.

**OUTCOMES OF SENTINEL ADVERSE EVENTS**

Analysis of the outcomes of the 93 SAEs identified the subcategories of death, additional surgery, and further hospitalisation not related to the additional surgery.

**Table 6. Outcomes of Sentinel Adverse Events**

<table>
<thead>
<tr>
<th>Event</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>66</td>
<td>71</td>
</tr>
<tr>
<td>Additional surgery</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Increased length of stay not related to additional surgery</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>
Death

Death was the most common outcome of the nurse-related SAEs, occurring in 66 (71%) of the events. These deaths were linked with poor assessment and medication administration. Thirty-nine (45%) of the 86 unsafe acts that related to assessment, resulted in death. Nurses not identifying adverse changes in patients’ condition, and incorrectly triaging of patients in the Emergency Department, resulted in patients being treated incorrectly. For example, a patient with cardiac chest pain received inadequate care and was discharged prematurely due to not being assessed adequately and the outcome was death for the patient.

For all the unsafe acts relating to medication administration the outcome for the patients was death. In one report a patient was administered the wrong medication for four days by five registered nurses across four shifts. This resulted from the patient’s medication chart being wrongly labelled. Following the investigation the Commissioner concluded that the five nurses exhibited a mechanistic approach to their role, and had administered the medications without giving sufficient thought to the patient’s clinical presentation.

Additional Surgery

In 15 (16%) of the 93 SAEs, additional surgery was required due to severe infection; loss of eyesight; and wrong site surgery resulting from nurses’ lack of checking and back-up procedures.

Increased Length of Stay not Related to Additional Surgery

In 12 (13%) of the SAEs, further hospitalisation was required. This resulted from reactions to medications where, for example, nurses had not identified patients’ allergies; nurses
administering wrong medications; professional boundaries being breached by nursing staff, for example, inappropriate relationships with patients causing relapses of mental illness; and nurses causing time delays in commencing treatment.

**TIME OF OCCURRENCE OF SENTINEL ADVERSE EVENTS**

Within this category the data were sub-categorised according to the time of the events, those occurring during weekdays and those occurring during the weekends. This distinction was made due to the differences in the numbers of nurses staffing the wards during the different shifts and with more rostered during the week and fewer at weekends. It should also be noted that generally more nurses work on the morning shift both during the week and at the weekends, with fewer on the afternoon shifts and even fewer on the night shifts.

<table>
<thead>
<tr>
<th>Event</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Afternoon</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Night</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>Weekend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Afternoon</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Night</td>
<td>15</td>
<td>16</td>
</tr>
</tbody>
</table>

**Week days**

From Monday to Friday, the majority of SAEs, 42 (45%), occurred after 1700 hours during afternoon or night shifts. In New Zealand the afternoon shift for nurses commences at 1500 hours and finishes at 2300 hours and night shift commences at 2245 hours and finishes at
0730 hours. Fewer incidents, 11 (12%), occurred during the morning shift; this shift commences at 0700 hours and finishes at 1530 hours.

**Weekends**

Seventeen (18%) of the 93 SAEs, occurred during morning shifts in the weekend, and 23 (25%) occurred during the afternoon and night shifts in the weekend. In the weekends, there was a smaller variation between the SAEs occurring in the morning and those occurring after 1700 hours.

**TIME OF OCCURRENCE OF SENTINEL ADVERSE EVENTS FROM ADMISSION**

The reports showed that there was a relationship between the time of the patients’ admissions and the occurrence of the SAEs.

**Table 8. Time of Sentinel Adverse Events from Admission**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 3</td>
<td>52</td>
<td>56</td>
</tr>
<tr>
<td>4 – 6</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>7 – 9</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>&gt;10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Fifty-two (56%) of the 93 SAEs occurred within three hours of admission, and 82 (88%) occurred within 10 hours of admission to hospital. Only eleven (12%) of the SAEs occurred beyond 10 hours from admission.
FACTORS INFLUENCING THE SENTINEL ADVERSE EVENTS

Factors influencing the SAEs were found to be delays in nurses accessing patients’ diagnostic results; delays in nurses notifying appropriate staff when patients were deteriorating; delays in nurses assessing the patients; and deficiencies in communication, documentation and monitoring of patients. In addition, it was found that nurses’ professional responsibilities were not always upheld.

Delays

Delays in assessing patients accounted for 86 (92%) events. For example, in Report 014, it was stated that the patient was initially assessed for no longer than a few seconds by the nurse and then left for hours without attention. The delays in nurses assessing patients were reported to have led to the deterioration in patients’ conditions with the outcome being death.

Table 9. Delays Influencing Sentinel Adverse Events

<table>
<thead>
<tr>
<th>Event</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Delay in assessing patient</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>• Delay in accessing results</td>
<td>15</td>
<td>16</td>
</tr>
</tbody>
</table>

Also delays in nurses accessing the results of patients’ diagnostic tests were identified as a key influencing factor in 15 (16%) of the SAEs. These delays resulted in the incorrect diagnosis of patients’ conditions and patients not receiving necessary treatment promptly.

Deficiencies

The deficiencies in care provided by nursing staff often related to poor documentation and lack of monitoring. In 32 (34%) of the SAEs lack of or poor documentation was identified as
the contributing factor. This included incomplete recording of vital signs and changes in patients’ conditions; lack of documentation of verbal orders by medical or senior nursing staff; and generally poor documentation in patients’ charts and medical notes.

In 21 (23%) of the events the lack of adequate records was indicative of a lack of appropriate monitoring. In one example lack of expertise when assessing a patient who was deteriorating resulted in the incorrect triaging of the patient. The patient was in the Emergency Department for over two hours before being adequately examined. During this time there was insufficient monitoring and the patient’s condition deteriorated. The nursing staff were made aware of this by the relatives, and yet no action was taken. The lack of information at handovers was also highlighted as a concern. One nurse explained: “If I was aware fully at the beginning of the shift of the seriousness of Mr A’s condition, I would not have accepted the patient” (Report 38).

Table 10. Deficiencies Influencing Event

<table>
<thead>
<tr>
<th>Event</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>Monitoring</td>
<td>21</td>
<td>23</td>
</tr>
</tbody>
</table>

NURSING FACTORS

Some nursing factors influencing the SAEs related to a lack of competency, accountability, nursing professionalism, and nursing leadership. It will be noted from the table that more than one nursing factor applied in some reports.
In the majority of the reports, 34 (37%), competency was identified as a contributing factor. Competency is measured against the levels set by the Nursing Council; some nurses in the reports were considered to be incompetent. For example, in some reports nurses did not have the knowledge or the level of expertise required for the patients they were caring for. This included nurses working beyond their level of expertise or outside of their scope of practice.

Failure on the part of the nurses to maintain current knowledge around protocol changes and recommended best practices within their organisations was identified as a contributing factor. In some of the reports, nurses displayed a lack of knowledge about the procedures being performed. For example in one ophthalmological surgical procedure the nurse was unsure of the type or quantity of solution to administer into the patient’s eye. Despite this, and without checking with colleagues, she treated the patient and the eye was burnt by the solution resulting in loss of eyesight.

In many events, 33 (35%), a lack of professionalism was identified as a contributing factor. Lack of professionalism included failure to communicate effectively with patients and their families. In one event the patient’s family stated that the nurses were “incredibly rude and disrespectful to us all but particularly to the patient” (Report 38). Disregard for the professional boundaries and the professional code of conduct set by the Nursing Council was reported in specific cases, but it was also noted that these requirements were not embedded.

Table 11. Contributing Factors

<table>
<thead>
<tr>
<th>Event</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>Professionalism</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>Nursing Leadership</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>Accountability</td>
<td>29</td>
<td>31</td>
</tr>
</tbody>
</table>
into the practice of the organisations that employed the nurses. As one nurse explained: “I was conflicted even at that stage as to whether I was doing the right thing, I wasn’t thinking about the risks to myself [and] I wasn’t thinking about the risks to the organisation” (Report 40).

A lack of or poor nursing leadership was identified as a contributing factor in 32 (34%) of the events. This included junior nurses being left by senior colleagues to undertake procedures that they were not familiar with, a lack of mentoring of new nurses and a lack of handing over of professional responsibilities to another senior nurse when leaving the clinical area. In addition, information that should have been relayed to incoming staff between shifts was either not passed on or was not recognised as being critical. In Report 05 a lack of support for a new staff member was cited as a primary factor in the SAE that occurred. The nurse, newly appointed to the intensive care unit, was left unsupported with a critically ill patient. It was reported that the Charge Nurse of the unit should have provided the nurse with support and clear instructions about the patient’s condition. By failing to adequately supervise the nurse, the Charge Nurse did not demonstrate the clinical leadership that should be expected from one in her role.

In 29 (31%) of the events, lack of junior nurses’ accountability was reported to have been a contributing factor. Junior nurses appeared to be unaware of their responsibility to minimise risks to patients’ safety, instead assuming that it was their nurse leaders’ responsibility. A lack of accountability from nurses to maintain their own professional development and education was also identified as a factor. For example, the annual completion of e-Learning modules was poor.
In Report 35 a lack of accountability was related: “No observations were taken during the night shift and patients were being left for hours without any assessment of their condition”. The nurses did not read the clinical notes or personally speak with the patient following handover. Instead they became involved in other activities such as doing the drug round with another nurse. In some SAEs failure to communicate was strongly linked to a lack of accountability.

CONCLUSION

Rather than nurses being held responsible for their own practice, analysis of the reports showed there was a tendency, but not consistency, in the final opinions to avoid directly blaming nurses. In the first stage of the analysis it was evident that despite many of the reports highlighting that nurses had breached patients’ rights they were not always held accountable for their practice, in many cases the medical professionals or the DHBs were found culpable. This is contrary to the requirements of current legislation whereby nurses, as well as other health professionals, are responsible for their own practice and should be held accountable when they provide a substandard level of service. Furthermore, where expert advisers made such recommendations in their provisional opinion these were often negated by the Commissioner. In addition there was inconsistency between the Commissioner’s final determinations in reports with very similar findings.

The second stage of analysis showed the vast majority of nurses’ unsafe acts involved lack of or poor assessment and/or lack of or poor communication between health professionals. While medication administration only accounted for 12% of the unsafe acts, all of the patients died. Death was the outcome of the vast majority (71%) of all the SAEs. Other
outcomes included additional surgery (16%) and increased length of stay not related to additional surgery (13%).

Two important findings from the analysis of the timing of the SAEs were that the majority occurred out of normal office hours when there were less senior staff on duty, and secondly the vast majority occurred within 10 hours of the patients’ hospital admissions. In addition it was found that even if a SAE had not occurred within the first 10 hours of admission, systemic errors had occurred within that initial time frame that eventually led to the occurrence of the SAE. Other nurse-related factors that were found to have been associated with the SAEs related to a lack of competency, accountability, nursing professionalism, and nursing leadership.

The following chapter will discuss the Commissioner’s recommendations made in the reports.
CHAPTER SEVEN: COMMISSIONER’S RECOMMENDATIONS

This chapter presents the results of the document analysis of the recommendations made in the 93 HDC reports. The first section of the chapter analyses the number of recommendations and the types of recommendations made by the Commissioner. These are categorised according to the focus of the recommendations. The second section of the chapter presents the recommendations in relation to the nurse unsafe acts discussed in the previous chapter.

The recommendations made by the Commissioner are intended to identify key areas on which organisations and individuals need to focus to improve the safety of patient care. In an attempt to reduce the occurrence of SAEs the Commissioner’s final opinions frequently include several recommendations across the different categories. The analysis of the recommendations focuses on those listed by the Commissioner in the final opinion section of the reports.

RECOMMENDATIONS

A document analysis of the recommendations of the 93 reports was undertaken in part one of this study. Two hundred and sixty-three recommendations were made in the 93 reports. The recommendations were identified, entered into the data tool, coded and clustered into categories according to their focus. The analysis identified four emergent categories: Systems and processes, DHBs, doctors, and nurses.

The category systems and processes includes the recommendations that suggest changes should be made to the hospitals’ systems and processes. The category DHBs includes the
recommendations that propose the board and senior management should be more accountable
for how the hospitals function. The category doctors and nurses include the
recommendations that are specifically focused on both the individual health professionals and
their professions as a whole. The categories have some level of overlap as they refer to
aspects of a single complex system where responsibilities and processes are interconnected
and where at times a trajectory of error has occurred between the different areas resulting in a
SAE. The categories will be discussed in more detail below.

As discussed in chapter 2, in the provisional opinion of the reports a number of
recommendations are made by the independent advisors to the HDC. In the final opinion,
made by the Commissioner, the recommendations are based on the information gathered
throughout the investigation and on the advice from the independent advisors that the HDC
has employed to investigate the complaint. In only 15 of the 93 reports the Commissioner
refers to the independent nursing advisors’ recommendations in the final opinions.

With some SAEs, specific recommendations made by the medical and nursing expert
advisors in their provisional opinions were implemented by the DHBs during the
investigations. This accounts for why some of the recommendations in the provisional
opinions were not included in the Commissioner’s final opinions. In addition, the
Commissioner noted that during the investigations, some DHBs had undertaken their own
analysis following the occurrence of SAEs to determine the improvements that needed to be
made to increase the safety of patients and avoid a repeat of the same SAEs, and had
implemented changes that advisors had recommended.

The majority of the recommendations, 113 (43%), were directed at improving the hospitals’
systems and processes. Seventy-two (27%) recommendations were directed at the DHBs’
management. These recommendations focused on the responsibilities of the boards of the organisations and the senior leadership. Fifty recommendations were directed at doctors and the medical profession. These recommendations focused on the doctors’ responsibility for ensuring that they and those that they were deemed responsible for, provide safe care. Twenty-eight recommendations were directed at the nurses and nursing leaders. These recommendations focused on the individual nurses needing to improve their practice. The following table identifies the categories and the number of recommendations included in each category in the final opinion of the reports.

Table 12. Number of Recommendations

<table>
<thead>
<tr>
<th>Total</th>
<th>Systems and processes</th>
<th>District Health Boards</th>
<th>Doctors</th>
<th>Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>263</td>
<td>113</td>
<td>72</td>
<td>50</td>
<td>28</td>
</tr>
</tbody>
</table>

To gain a more in-depth understanding the recommendations in each category were analysed further and classified into sub-categories. The categories and sub-categories are summarised in Table 13. The following four sections will discuss the categories and the sub-categories.

Table 13. Final Opinion Recommendations

<table>
<thead>
<tr>
<th>Systems and processes</th>
<th>District Health Boards</th>
<th>Doctors</th>
<th>Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review systems; procedures; protocols; and guidelines</td>
<td>Apologies</td>
<td>Apologies</td>
<td>Apologies</td>
</tr>
<tr>
<td>Review communication between primary and secondary centres</td>
<td>Open disclosure</td>
<td>Documentation</td>
<td>Documentation</td>
</tr>
<tr>
<td>Develop risk assessment tools</td>
<td>Review complaints</td>
<td>Consent</td>
<td>Consent</td>
</tr>
<tr>
<td>Develop clinical pathways</td>
<td>Review management procedures</td>
<td>Communication</td>
<td>Communication</td>
</tr>
<tr>
<td>Review staff orientation, and education procedures</td>
<td>Address safety issues</td>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td>Review adequacy of services</td>
<td>Staffing levels</td>
<td>Competency</td>
<td>Competency</td>
</tr>
</tbody>
</table>
SYSTEMS AND PROCESSES

The Commissioner’s reports suggest that many hospitals do not have adequate systems and processes in place. When recommendations focussed on the hospitals reviewing their existing systems and processes, or proposed stricter adherence to existing systems and processes, they were included in the “systems and processes” category. These were then sorted into the following sub-categories: Review systems, procedures, protocols and guidelines; review communication between primary and secondary centres; develop risk assessment tools; review staff orientation and education procedures; and review adequacy of services.

The recommendations in the sub-category review systems, procedures, protocols and guidelines focus on developing more effective and efficient systems so policies and procedures would be followed. The following two examples were recommendations made in response to under-performing Emergency Departments: “To counteract delays in the Emergency Department, consideration needed to be given to developing joint medical and nursing protocols for the triage and rapid referral of concerning cases to senior staff” (Report 5) and “That the organisation needs to develop and put systems in place to work towards meeting triage standards” (Report 14).

The recommendations in the sub-category review communication between primary and secondary centres focus on developing a national coordinated approach to health care to decrease errors. One recommendation in Report 39 was made in response to several cases where a series of errors occurred when admission referrals were sent by general practitioners to the local hospital’s Emergency Department in batches through fax machines. The recommendation suggested that “Systems and processes should be streamlined when patients
are referred from the community”. This recommendation was made in response to patients’ information being filed incorrectly by the nurses after several patient files had come through the fax machine together from general practitioners. This resulted in medication unsafe acts with the outcome being unnecessary deaths.

The Commissioner further recommended that “A process [be] established where nurses would be required to reconcile a patient’s notes with the information that had been written in the patient’s admission chart” (Report 43). This recommendation required that nurses contact members of the multi-disciplinary team to ensure that the information that had been collected for the patient was correct.

The recommendations in the sub-category *develop risk assessment tools* focus on the development of tools that signal and prompt an early response to deterioration in a patient’s condition. One such recommendation proposed the hospital introduce an early warning score system. This recommendation was made in response to nurse’s lack of ability to identify adverse changes in a patient’s condition. The Commissioner identified this as a concern and recommended that “Nurses involved needed to review their assessment skills” (Report 77). The Commissioner suggested that the introduction of an Early Warning Score system would assist nurses when they are assessing patients to identify if there has been any deterioration. In an Early Warning Score system patients’ observations are documented and scored according to the score key provided. If the observations score 1 or more an action is required by the nurse caring for the patient.

The recommendations in the sub-category *develop clinical pathways* relate to the reports where the management of patients was identified as critical for ensuring that patients receive adequate care. For example in Report 19 a patient who was admitted to the hospital with
back pain was triaged incorrectly and then discharged. In this report none of the nurses accepted responsibility for the failure to complete an adequate assessment of the patient or for the patient’s premature discharge. In this report there was no evidence of an assessment of the patient being undertaken or discussion with other colleagues about the patient’s condition. The Commissioner recommended that “The hospital review its current guidelines for the management of patients and consider developing clinical pathways for the management of patients”. The Commissioner further recommended that “The organisation make any necessary changes to current practice to minimize the likelihood of similar adverse events in the future” (Report 19).

The recommendations in the sub-category *review staff orientation and education procedures* relate to a lack of orientation and education for staff members. It was identified as critical for ensuring that patients receive adequate care. For example, in report 45 when new and inexperienced nursing staff attended a patient who presented with cardiac chest pain there was no evidence in the patient’s notes that the patient was assessed, that guidelines were followed or that there was an understanding of the patient’s condition. The patient in this report was also discharged by the nursing staff before any further assessment was undertaken. It was recommended that “The hospital, in light of this report, review its training and orientation procedures for new and existing staff, and ensure that patient discharge planning and discharge processes are clearly understood by medical, nursing, clerical and other relevant staff” (Report 29).

In all 93 reports the need for review of the adequacy of services being provided by the DHBs, was signalled in the recommendations. This included the need to embed patient safety into every level of the organisations.
DISTRICT HEALTH BOARDS

The Commissioner’s recommendations in this category focus on the need for the boards and the senior management to be accountable for managing their hospitals and to recognise the potential risks to patients’ safety. The category “DHBs” includes the following sub-categories: apologies, open disclosure, review complaints, review management procedures, safety issues, and staffing levels. These recommendations required action from the highest level of institutional governance.

The recommendations in the sub-category apologies focussed on the DHB and/or senior management apologising to patients and/or their families for the SAEs that had occurred. For example, in Report 9 the Commissioner recommended “… written apologies are required from organisations to patients and their families when an event occurs” and “… families should have been told of the error on the shift when it was discovered”.

A finding in the reports was that written apologies from DHBs were often forgotten, leaving families feeling frustrated and betrayed due to a lack of closure.

The recommendations in the sub-category open disclosure of SAEs identify the need for DHBs to be open to disclosing adverse events so they can be used as learning tools for the organisations as they work towards reducing errors. Open disclosure requires DHBs to admit their mistakes and apologise in an appropriate manner. In Report 03 the Commissioner recommended “Open disclosure of an adverse event is critical”. An important aspect of open disclosure is involving employees who had a role in the SAEs so they can to apologise to individuals and families.
The recommendations in the sub-category review complaints highlight the need for complaints from patients’ families to be addressed in a timely manner. One example is where the hospital did not inform the patient of the relevant internal and external complaints procedures. The patient’s family tried to contact the DHB but the organisation did not reply. The Commissioner said that the delay of the organisation to make contact with the complainants was unacceptable and pointed out that if reported incidents are not investigated complainants feel disenfranchised and not valued. He recommended that “Complaints are investigated in a timely and appropriate manner” (Report 55).

The recommendations in the sub-category review management procedures suggest that some of the organisations have not learnt lessons from past adverse events. For example, several of the reports that were from the same DHB were in response to similar adverse events. The Commissioner recommended: “To achieve patient safety, organisations must have a collaborative goal that requires efforts from the patient and all members of the health care team” (Report 42). The same report recommended: “Board policies must correspond to the systems and processes within the organisation”. This recommendation recognises that while boards have the overall responsibility for making decisions and setting policy for their organisations, their responsibility is also to ensure that decisions are able to be translated into workable systems and processes (Report 42).

The recommendations in the sub-category address safety issues highlight that ‘near misses’ are often not reported. The potential to learn from near misses provides organisations with an opportunity to review their systems and processes. In Report 10 the Commissioner recommended that “Organisations need to extend reporting to cover near misses”.

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The recommendations in the sub-category staffing levels focus on the acuity of patients and how low staffing levels impact on the care provided to patients. In Report 49 a recommendation was made that “The Directors of Nursing needed to ensure that nurse staffing levels are sufficient to cover nursing shifts” and in Report 31 the Commissioner recommended that “Boards need to take responsibility to ensure that the work environment is supportive and an appropriate number of staff are employed in the organisation in order to deliver safe care to patients” (Report 19).

**DOCTORS**

The recommendations in this category focus on the mismanagement of patients by doctors and their lack of accountability when SAEs occurred. Frequently the Commissioner referred to the errors that doctors had made and their lack of accountability. This category includes the following sub-categories: Apologies, documentation, consent, communication, education, and competency.

The recommendations in the sub-category apologies propose that doctors need to apologise to their patients when SAEs occur and that “Organisations must provide the opportunity for staff to apologise to patients and their families” (Report 52).

The recommendations in the sub-category documentation suggest that SAEs must be recorded as close to the time of the event as possible and that clinical notes must be accurate, comprehensive and completed in a timely manner. It was noted that when an event occurred, documentation did not always occur at the time, resulting in an inaccurate account of the events. A recommendation in Report 4 stated: “Completing notes on time was a requirement”. It was noted in reports that notes were completed retrospectively, in one report
the day after the event occurred. The Commissioner stated that failure to complete documentation at the time of the event was in itself a breach of patient rights and that documentation must be completed regardless of how busy the wards are.

The recommendations in the sub-category consent identify a need for consent forms to be signed before procedures take place. The Commissioner recommended: “That informing patients of the risks of procedures was essential” (Report 62) and in Report 77 “signed consent forms must be obtained for every procedure that takes place”. This was identified as an area that required immediate action by the DHBs.

The recommendations in the sub-category communication focus on doctors needing to listen to their patients as well as communicating clearly with patients and their families. The Commissioner recommended “It is important for doctors and nurses to ‘listen’ to patients and their families” (Report 83) and that if patients or parents say there is something wrong, this should be responded to not just dismissed.

The recommendations in the sub-category education were made to improve the functioning of the multi-disciplinary team meetings and provide a way to share patients’ information within the health care team. The Commissioner recommended: “Providing training would enable the multi-disciplinary teams to ensure that all aspects of treatment were addressed” (Report 23) and in Report 52 “... consideration be given to developing joint medical and nursing protocols for the rapid referral of concerning cases to senior nursing/medical staff”. This recommendation was made in response to a SAE that had occurred because of a lack of cohesiveness between medical and nursing protocols.
The recommendations in the sub-category *competency* focus on the mismanagement of patients by medical staff. Frequently in the recommendations the Commissioner referred to the errors that doctors had made even though nurses had been involved in the errors.

**NURSES**

The recommendations in this category focus on the actions of the nurses when caring for patients. The category “nurses” includes the following sub-categories: apologies, documentation, education, and competency. These recommendations address the need for change at the bedside of the patients that nurses are caring for.

The recommendations in the sub-category *apologies* focus on nurses apologising to patients. For example, the Commissioner said in a number of reports: “Nurses need to apologize for their breaches of the code to the families”. The Commissioner further recommended that organisations must provide opportunities for staff to apologise to patients and their families.

The recommendations in the sub-category *documentation* focus on nurses improving their standard of documentation. These recommendations were made in response to the poor documentation that was evident in many of the SAEs. In Report 10 the Commissioner recommended: “Documentation should be an accurate account of what had occurred” and in Report 34 that “All verbal and non-verbal care interactions with patients should be documented”. In addition the Commissioner recommended: “All phone conversations about treatment changes and changes to medication/s for patients needed to be documented” (Report 19).
The recommendations in the sub-category education focus on ensuring competencies set for nurses are clear and specific, and there is appropriate credentialing for nurses. These recommendations were made in response to SAEs where the nurses providing care for patients worked outside their scope of practice. For example, in one report an enrolled nurse worked outside her scope of practice by caring for a patient who required complex care backed by complex nursing judgement. The Nursing Council’s statement on scopes of practice gives an example of a patient who can be cared for by a level 2 (enrolled) nurse. The patient should be: “Stable and [have] predictable health outcomes in situations that do not call for complex nursing judgement” (Nursing Council of New Zealand, 2010, p. 4). The Commissioner recognised the importance of credentialing of nurses to maintain a safe environment for patients. In Report 71 he recommended: “The credentialing of staff was an important step to ensure that nurses were safe to practice”.

While the sub-category competency only comprises 11 recommendations, they do recognise that nurses should be responsible and accountable for the care that they provide to patients, and to understand the professional boundaries and the professional code of conduct set by the Nursing Council. It was also noted in some of the reports that nurses were unaware of the requirements of the Nursing Council’s code of conduct and not therefore aware of the implications for their practice. In Report 61 the Commissioner recognised that “Nurses are responsible for maintaining safe nursing standards and for exhibiting competence within their scope of practice, to which they are held accountable by their profession and the public”.

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3 The Nursing Council’s code of conduct is defined by the following four principles: The nurse:
- complies with legislated requirements
- acts ethically and maintains standards of practice
- respects the rights of patients/clients
- justifies public trust and confidence.
Report 89 the Commissioner recommended that the “Nurses should accept responsibility for their contributions to the SAEs”, but he also recognised there were circumstances outside the nurses’ control that have significant influence on the event. These included: working in an unfamiliar environment, overtime, and lack of appropriate equipment. The recommendations reflect a lack of accountability by the nurses to issues that were environmental or situational and that could possibly cause an adverse event to occur.

The following section presents the recommendations in relation to nurses’ unsafe acts as discussed in chapter 6.

THE RECOMMENDATIONS RELATED TO UNSAFE ACTS

The 263 recommendations made in the 93 reports were further analysed in relation to the nurses’ unsafe acts discussed in the previous chapter. The recommendations were categorised under the four categories of unsafe acts: assessment; communication between health professionals; checking and backup; and medication administration. The following table identifies the recommendations as they related to the four categories of unsafe acts.

<table>
<thead>
<tr>
<th>Unsafe acts</th>
<th>Unsafe acts</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>86</td>
<td>143 (54%)</td>
</tr>
<tr>
<td>Communication between health professionals</td>
<td>74</td>
<td>100 (38%)</td>
</tr>
<tr>
<td>Checking, backup</td>
<td>29</td>
<td>8 (3%)</td>
</tr>
<tr>
<td>Medication administration</td>
<td>12</td>
<td>12 (5%)</td>
</tr>
</tbody>
</table>
The four categories of unsafe acts were analysed further and classified into sub-categories and are summarised in Table 15. The following four sections will discuss the categories and the sub-categories.

Table 15. Recommendations Related to Unsafe Acts

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Communication between health professionals</th>
<th>Checking, backup</th>
<th>Medication administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review current assessment procedures</td>
<td>Informed consent</td>
<td>Organisations reviewing their checking procedures</td>
<td>Developing national standards</td>
</tr>
<tr>
<td>Develop clinical pathways</td>
<td>Include patients and their families in all communications</td>
<td>Record-keeping during operations</td>
<td>Education</td>
</tr>
<tr>
<td>Provide guidelines for clinical staff</td>
<td>Reliable procedures for communicating instructions</td>
<td>Checking equipment before surgery</td>
<td>Consultation with community pharmacist</td>
</tr>
<tr>
<td>Update clinical policies and procedures</td>
<td>Communication between primary and secondary care</td>
<td></td>
<td>Medication charts being accessible to health professionals at all times</td>
</tr>
<tr>
<td>Review and monitor record-keeping practices of all staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement procedures for checking patients’ laboratory results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient safety to be embedded at every level of the organisation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health professionals review their practice</td>
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</tbody>
</table>

**Assessment**

In response to the 86 unsafe acts in the assessment category the Commissioner made 143 recommendations, 54% of the total recommendations. The majority of these recommendations focus on: review current assessment procedures; develop clinical pathways; provide guidelines for clinical staff; update clinical policies and procedures; review and monitor the record-keeping practices of all staff; and implement procedures for checking patients’ laboratory results. There was also a specific recommendation that patient safety was to be embedded at every level of the organisation. Only seven of these recommendations focused on health professionals’ reviewing their practice.
The recommendations in the sub-category *review current assessment procedures* focuses on the organisations reviewing their current assessment procedures and whether they were being followed by their health professionals. This recommendation was made in response to unsafe acts where the nurses had not followed the current assessment procedures set out by their organisation.

The recommendations in the sub-category *develop clinical pathways* focus on the organisations ensuring that they have clinical pathways of care for patients. This recommendation was made in response to there being no clear clinical pathways for patients’ treatment after they had been assessed and triaged by staff. The care that patients received at times was fragmented and at other times resulted in patients being discharged when they still required further assessment and treatment for their condition.

The recommendations in the sub-category *provide guidelines for clinical staff* focus on the organisations developing guidelines for health professionals to follow when carrying out clinical procedures. These were to be developed from the organisations’ policies and procedures. This recommendation was made in response to a lack of guidelines for staff to follow when performing clinical procedures such as the administration of medications and intravenous fluids.

The recommendations in the sub-category *update clinical policies and procedures* focus on the organisations developing policies and procedures for staff when performing clinical assessments. This recommendation was made in response to outdated clinical policies and procedures that did not apply to current treatment requirements.
The recommendations in the sub-category **review and monitor the record-keeping practices of all staff** focus on organisations putting processes in place that require staff to document the assessments that they perform. This recommendation was made in response to patients’ assessments not being documented by staff and this resulted in inappropriate care.

The recommendations in the sub-category **implement procedures for checking the laboratory results of patients** focus on organisations implementing procedures so that results sent by the laboratories to the wards and units could be reviewed by the staff that had ordered the tests. This recommendation was made in response to laboratory results not being reviewed by the ordering medical and nursing staff and incorrect treatment plans were subsequently being made.

The recommendations in the sub-category **patient safety embedded at every level of the organisation** focus on the DHBs reviewing their organisations for the areas where patient safety needed to be embedded. These recommendations were made in response to the need for increased accountability at every level of nursing as signalled in the HDC reports. Furthermore, the Commissioner recommended that organisations need to ensure that there is accountability for the development, dissemination and introduction of national standards that allow hospitals to benchmark against each other.

The recommendations in the sub-category **health professionals review their practice** focus on the need for health professionals to review their practice following the occurrence of an SAE where they were involved.

As discussed in the previous chapter, 42% of the SAEs involving assessment unsafe acts resulted in the death of patients, but only 15% of the 143 recommendations focus on health
professionals reviewing their practice, and of these only 5% are directed at nurses. This does not take into account the requirement under the HPCA Act for all health professions to have a “consistent accountability regime” (p. 13 Part 1 section 3(a)). Nor does it recognise the Nursing Council’s Registered Nurse Competencies (2007) which require nurses’ practise and conduct to meet the Nursing Council’s policy and guidelines. More specifically the Nursing Council’s competency 2.2 requires “nurses [to] demonstrate competency to undertake a comprehensive and accurate nursing assessment of clients in a variety of settings” (Nursing Council of New Zealand, 2007, p. 15). In addition the Nursing Council’s competency document states clearly that nurses are accountable for their actions.

While the recommendations in this category fit with the Commissioner’s function of investigating and making recommendations related to “…failures or inadequacies in systems or practices of the health care provider…” (section 34)(c) (Health and Disability Commissioner Act, 1994, p. 32), the analysis of the recommendations identified that the majority are broadly focused and do not specifically address the limitations of the individuals responsible for the unsafe acts. Nor do they reflect the accountability and responsibilities outlined in the legislation governing health professionals’ practice.

**Communication between Health Professionals**

In response to the 74 unsafe acts in the communication category the Commissioner made 100 recommendations, 38% of the total recommendations. The majority of the communication recommendations focus on: Informed consent; including the patients and their families in all communications; reliable procedures for communicating instructions between staff members and different shifts; and communication between primary and secondary care. A small
The number of recommendations in this category focus on in-service communication sessions for staff.

The recommendations in the sub-category *informed consent* focus on the DHBs reviewing their current communication procedures around informed consent and whether their health professionals were including the family in the consent process. These recommendations were made in response to unsafe acts where the health professionals had not followed the current communication procedures relating to obtaining patient’s informed consent.

The recommendations in the sub-category *include patients and their families in all communications* focus on the lack of communication and accountability of staff when interacting with patients and their families. This led to a number of factors such as carelessness, complacency and patch protection. Nurses appeared not to communicate adequately to patients thus leaving patients feeling confused and angry. These recommendations were made in response to the breakdown of communication between nurses and patients and/or their families.

The recommendations in the sub-category *reliable procedures for communicating instructions* focus on the DHBs ensuring that they have reliable procedures for communicating information, especially doctors’ orders, between the different health professionals and the different shifts. These recommendations were made in response to breakdowns in communication when information about patients and their treatment was not communicated between health professionals at the change of a shift. This resulted in the patients receiving wrong treatment and their safety being compromised.
The recommendations in the sub-category communication between primary and secondary care focus on ensuring that the communication between primary and secondary services is adequate. These recommendations were made in response to the breakdown of communication between primary and secondary care facilities when patients were referred between the services. This resulted in the patients either missing out on treatment or their ongoing treatment and/or care being fragmented.

As for the previous category, these recommendations mainly focus on systems and processes at the organisational level and do not specifically address the limitations of the individuals responsible for the unsafe acts. As discussed in the previous chapter, 16% of the SAEs involving communication unsafe acts resulted in the death of patients. However, the recommendations in this category do not take into account the requirement in the HPCA Act for health practitioners “To be fit for registration, which includes the ability to communicate effectively for the purposes of practicing within that scope of practice” (Health Practitioners Competence Assurance Act, 2003, p. 14) or the Nursing Council’s Competency 3.3 that requires nurses to: “Communicate effectively with clients and members of the health care team” (Nursing Council of New Zealand, 2007, p. 27).

Checking and Backup

In response to the 29 unsafe acts in the checking and backup category the Commissioner made eight recommendations, 3% of the total recommendations. The majority of these recommendations focus on: Organisations reviewing their checking procedures; record-keeping during operations; and checking equipment before surgery. A minority of recommendations in this category focus on equipment being available for theatre procedures.
The recommendations in the sub-category *organisations reviewing their checking procedures* focus on the DHBs reviewing their current checking procedures. These recommendations were made in response to nurses not following the current checking procedures set out by their DHBs.

The recommendations in the sub-category *record-keeping during operations* focus on the DHBs ensuring that accurate records are taken during operations. These recommendations were made in response to a lack of formal checking procedures being in place during operations.

The recommendations in the sub-category *checking equipment before surgery* focus on the DHBs ensuring that they have systems in place whereby the equipment for operations is checked before surgery commences. These recommendations were made in response to the DHBs not having such systems in place to ensure that equipment is checked by theatre staff and working correctly before an operation commences. As for the two previous categories the recommendations in this category mainly focus on the organisations establishing better systems and processes.

As discussed in the previous chapter, 15% of the SAEs related to the checking and backup unsafe acts resulted in additional surgery and increased length of stay. As for the previous two categories, the recommendations do not recognise the requirements in the HPCA Act and the Nursing Council’s competencies for nurses to practise competently and accept responsibility for their practice.
Medication Administration

In response to the 12 unsafe acts in the medication administration category the Commissioner made 12 recommendations, 5% of the total recommendations. The majority of the recommendations in this category focus on developing national standards; and education. Four recommendations focus on consultation with community pharmacist and medication charts being accessible to health professionals at all times.

The recommendations in the sub-category *developing national standards* focus on the organisations developing and disseminating nationally consistent evidence-based standards for the administration of medications and developing electronic medication administration processes to try and reduce the number of related SAEs.

The recommendations in the sub-category *education* focus on the organisations ensuring that education is available for nurses related to the complexities of medication administration, medication reconciliation, and medication interactions. In 10 of the 93 reports patient safety was compromised by nurses’ lack of knowledge and awareness of the side effects and interactions of different medications. A competency requirement that nurses know what medications patients are on and that they understand the actions of, and indication for, each medication (Nursing Council of New Zealand, 2007, p. 10 section 2.1). Accountability is paramount for nurses when administering any type of medication. The administration and reconciliation of medications by nurses were highlighted in the reports as factors that led to a number of unnecessary deaths of patients.

The recommendations in the sub-category *consultation with community pharmacist* focus on the DHBs reviewing their systems and processes to ensure doctors and nurses consult with
the pharmacist about the patients’ current prescribed medications and to check the suitability of proposed new medications.

The recommendations in the sub-category *medication charts being accessible at all times* focus on the organisations reviewing current systems and processes around the accessibility of patients charts to ensure they are available when medical staff are reviewing their patients.

As discussed in the previous chapter 13% of the SAEs involving medication administration unsafe acts resulted in the death of patients. Of the recommendations that the Commissioner provided to the DHBs the majority focus on the failure of the processes in the organisation and not on the individuals. While this takes into the account the mandate of the HDC to investigate systems and processes that have failed it does not take into account the following requirement:

> If a person holding office as Health and Disability Commissioner or as Director of Proceedings under the Health and Disability Commissioner Act 1994 has reason to believe that a health practitioner may pose a risk of harm to the public by practising below the required standard of competence, the person must promptly give the Registrar of the responsible authority written notice of the circumstances on which that belief is based (Health Practitioners Competence Assurance Act, 2003, pp. 38-39).

As for the other categories, the recommendations in this category do not take into account nurses’ accountability and responsibilities as set out in the HPCA Act (2003) and the Nursing Council’s competencies especially competency 2.9 which requires nurses to: “Maintain professional development in updating knowledge related to administration of interventions,
treatments, medications and best practice guidelines within area of practice” (Nursing Council of New Zealand, 2007, p. 22).

The main focus of these recommendations is on the organisations’ systems and processes rather than directly addressing the individuals who were responsible for the unsafe acts. Nor did the recommendations address other possible contributing factors or the skills and knowledge of the nurses who were responsible for the unsafe acts.

CONCLUSION

Analysis of the recommendations found 70% focus on the health provider organisations and over 60% of these focus on the organisations improving their systems and processes. Despite nurses being involved in all of the 93 SAEs only 11% of the recommendations were focused on nurses. An important finding is that the requirement in the legislation governing nurses’ practice that nurses be responsible and accountable for providing safe care within their scope of practice has had only minimal impact on the recommendations made by the Commissioner.

The following chapter will present the findings from Part 2 of the study.
CHAPTER EIGHT: THE NURSE LEADERS’ RESPONSES

This chapter presents the analysis of the data from the nurse leaders’ interviews and their responses to the vignettes and the relevant recommendations as described in the methods chapter. The chapter presents the 40 nurse leaders’ responses using the emergent themes: Nurse leaders’ role; lack of involvement in decisions; and appropriateness of recommendations. Italics have been used for the nurse leaders’ (NL) responses.

This chapter answers the research questions “What is the role of nurse leaders in implementing the Health and Disability Commissioner recommendations?” and “What are the barriers to the implementation of the Health and Disability Commissioner recommendations?”

As outlined in the methods chapter each of the 40 nurse leaders was interviewed individually. At the start of the interviews the nurse leaders were given vignettes that were based on SAEs related to their speciality areas. The vignettes (in the form of short stories) were used as a method of portraying the SAEs and the Commissioner’s recommendations (see Appendix E). The nurse leaders were asked to read the vignettes, and then they were asked specific questions about the SAE that was described and the recommendations. While different vignettes were used for the nurse leaders in the different specialty areas, the questions were the same for each interview.

THE NURSE LEADERS’ ROLE

During the interviews the nurse leaders were asked about their perceptions of their role in implementing the recommendations. They reported that they saw their role as being a critical
part of the implementation of the recommendations. More importantly they said that it was
critical that they were involved in the discussions that took place when the recommendations
were fed back to the organisation by the HDC. They explained that as they had a better
understanding of the clinical areas, if they had been included during this stage of the
investigation, they would have been able to make a valuable contribution to the discussions
about the recommendations and their implementation in the clinical environment.

The nurse leaders argued that as key leaders in their DHBs their role is critical for the
implementation of the recommendations. One nurse leader stated: “Nurses are the largest
[health professional] group nationally and if we don’t buy into things, they don’t change, do
they?” (NL 19). They saw their role as being pivotal for driving change.

The nurse leaders stated that as part of their role they have responsibility to oversee the
development and the implementation of their organisations’ policies and procedures and
ensure that they are evidence based. If the development of policies and guidelines were part
of the recommendations, they stated that they needed to be included in the process of
developing them.

The nurse leaders explained that part of their role was to educate the nurses they are
responsible for, about their organisations’ policies and guidelines and the importance of these
documents for providing safe care to patients. One stated:

> By having protocols it gives people confidence because they know what the rules are. If the
protocol says this is the way it should be done, too bad what you think, the protocol is right!
Nurses feel more comfortable having that sort of information to guide them (NL 39).

However, the vast majority of nurse leaders reported that they didn’t want nurses just blindly
following protocols but understanding their implications for safe practice.
They reported that the nurses they are responsible for do not always follow set clinical policies when planning patients’ care and that in several of the HDC cases care plans were not written according to the DHBs’ protocols. Moreover, there was some frustration from the nurse leaders that regardless of their efforts, some staff took ‘short cuts’, which at times had led to an SAE occurring. In spite of the non-compliance by some nursing staff at times, the nurse leaders reported that their responsibility as the core drivers of policy compliance was to ensure that processes and guidelines were followed by the nurses on the floor.

They stated that part of their role was to translate the decisions that management had made to the bedside nurses. One nurse leader reported that the nurses at the bedside had expectations that they would negotiate any changes that were imposed on them by the CEO and senior management. One said that they were seen by the bedside nurses as the gatekeepers of change and in order to advocate for the nurses at the bedside they needed to be included in the discussions about the recommendations and how they might be implemented.

**LACK OF INVOLVEMENT IN DECISIONS**

The nurse leaders reported that they were feeling frustrated that they were not involved in the discussions about the recommendations and that management just expected them to implement the recommendations without their input. They explained that often as a group within their hospitals, they felt powerless as no-one in management appeared to be that interested in hearing their suggestions about improving safety in both the clinical environment and nursing practice.

One nurse leader contended that there appeared to be a disconnection between the CEOs perception of reality and what was actually happening at the frontline. She stated: “The
reality of what is happening on the clinical floor is not what I hear when I go to the CEO’s talks” (NL 19). Another argued: “I do believe we’ve got a good, really probably the best picture of reality” (NL 22).

The nurse leaders reported that the uniqueness of their role gave them valuable insights and understanding of what was happening at the clinical interface, what the problems and the issues were, and the changes that would be effective. However, they stated that decisions continued to be made by management in spite of this. One stated: “The CEO and senior management need to come down from their ivory towers to the real world and see what is happening at the bedside and what the issues really are” (NL 31).

They reported that the lack of visibility and transparency of the CEO and senior management on the hospital floor created a culture of fear and mistrust for the nurses working at the bedside. One stated:

Our CEO is invisible, and it is quite sad. Our Director of Nursing came in here the other day for a bed management meeting, and the staff all said, the Director of Nursing is here what’s wrong, has something happened? They have a culture of fear. I think it is just the lack of visibility and transparency (NL 5).

Except for the three nurse leaders who occupied more senior positions in their organisations, and were privy to the senior management discussions, they argued that their CEOs and management have a responsibility to discuss the recommendations with them prior to the completion of any investigation. The majority of nurse leaders reported that where an SAE had occurred at their hospitals the Commissioner’s recommendations were not discussed with them. One reported: “We don’t see what the recommendations in the Commissioner’s final report are. They are often not communicated to us until we are told to implement them” (NL 25).
The majority of nurse leaders from both hospitals advised that they only found out about what had been recommended by the Commissioner when they were directed by senior management to implement the recommendations. The usual process that occurred was that they would attend a meeting and there they would be told the outcome of the investigation and the recommendations that were in the report.

**APPROPRIATENESS OF THE RECOMMENDATIONS**

The nurse leaders were asked “What are the barriers to the implementation of the Health and Disability Commissioner’s recommendations?” They were also asked to comment on whether they considered that the Commissioner’s recommendations in the vignettes were able to be implemented in the clinical environment.

They reported that due to existing barriers many of the recommendations were difficult to implement. The barriers included: Variable commitment from the DHBs; lack of support for the nurse leaders to implement the recommendations; and inappropriate recommendations.

**LACK OF COMMITMENT**

The majority of the nurse leaders reported that a commitment from the DHBs was essential if recommendations were to be implemented and the changes sustained. They described the current commitment by their DHBs as being variable and often dependent on whether their senior management was committed to implementing the recommendations. Some alleged that they believed that some recommendations that were imposed upon them were just done so to pay lip service to the Commissioner.
The nurse leaders recognised that the DHBs have a responsibility to the public, especially to ensure that public safety in hospitals is maintained. They voiced their concern about the ad-hoc approach taken by many of the DHBs to the implementation of the recommendations. It was suggested by one nurse leader: “One way of ensuring that DHBs remained committed to implementing the recommendations was to embed them in the DHBs’ District Annual Quality Plans” (NL 10).

The nurse leaders reported that despite the Commissioner assuming that the recommendations provided in the reports had been implemented, many had not been. They stated that if the recommendations had not been implemented within three to six months they were often not implemented at all. In a later discussion with the Commissioner, he confirmed to the researcher that he believed that recommendations were always implemented.

**LACK OF SUPPORT**

The nurse leaders reported that the DHBs needed to provide support in the form of additional staff time when they were directed to implement recommendations. One stated:

> You are giving us all these recommendations, but come on don’t kid yourself, it is like living in a dream world, that this is going to change because we can’t physically change because we don’t have the capacity to work anymore, don’t ask us to do anything more because we are doing absolutely above and beyond what we can already manage (NL 33).

The majority of the nurse leaders argued that they and their staff were working at their maximum capacity and without additional support from their DHBs they did not have the capacity to take on anything else.

They contended that there was an expectation by senior management that they would just get on and implement the recommendations, without any additional support. They explained that
the support from their DHBs was a key factor if the recommendations were to be successfully implemented. One stated:

I think a major power play comes into being and everybody comes out of the woodwork to look at the processes and everything is analysed … and fine details… and everybody is expected to come to the party. But when the dust settles there is a lack of support from management (NL 11).

It was reported that the lack of support by the DHBs had often resulted in wards becoming siloed. Some said this was a result of the lack of support and commitment to safety and quality within their DHBs. Furthermore, the SAEs that had occurred were not being used as a teaching tool within the DHBs to improve safety. Several contended that they often only heard about SAEs that had occurred in other parts of the hospitals either by accident or if a colleague sent the report through to them. One stated:

It’s surprising how little we hear about sentinel events in the other areas. We had a death that had happened on our ward [and] I don’t think the hospital even knew that it happened as we were proceeding through the whole horrible process. I didn’t talk about it with my colleagues. They probably didn’t even know what was going on (NL 15).

Another nurse leader explained: “The last HDC case I read, an educator sent that to me because [they] thought I would be interested. That’s the only reason I heard about it” (NL 7).

It was suggested that if there was appropriate support from the DHBs then the HDC reports would be circulated within the hospitals and used for education purposes. This, they suggested, would help to facilitate an open disclosure culture and provide an opportunity to engage and talk about the ways that they could change things in their clinical areas to improve safety.

The nurse leaders argued that a barrier to the implementation of the recommendations was a lack of valuing of nurses’ experience and knowledge by the DHBs. Their perceptions were
that they had become experts within their clinical areas and as highly skilled nurses they provided advice that was often disregarded and not valued by the DHB. Even though nursing is the largest health professional workforce in hospitals, the opinions of nurse leaders were often ignored by the managers. This reinforces the lack of valuing the nurse leaders experienced in terms of the contributions they could make to the recommendations to help reduce the occurrence of SAEs in their hospitals.

INAPPROPRIATENESS OF RECOMMENDATIONS

The majority of the nurse leaders agreed that most of the recommendations made by the Commissioner appeared to be reasonable. However, they suggested, when the recommendations are considered in the context of the clinical practice environment, many are not appropriate. One explained that this may be due to the Commissioner not being a health professional and therefore not having an understanding of the clinical settings.

In addition the nurse leaders contended that the recommendations were very often broad, not giving the DHBs specific indications of how they were to be implemented. They maintained that the Commissioner cannot just expect all DHBs to implement whatever recommendations he makes. One stated:

The HDC cannot prescribe recommendations and expect all DHBs to implement them. Every area has their different way of doing things; it doesn’t mean one area is better than the other. It just means that each of the DHBs and the clinical areas need to be considered (NL 17).

Discussion about the recommendation to improve access to electronic medication calculations, to decrease medication errors in all DHBs, was introduced by the majority of the nurse leaders as being too broad. The nurse leaders questioned how the recommendation was supposed to be interpreted by the DHBs. Was the recommendation supposed to mean more
computers, or more medication dispensing machines, or the purchasing of computer programs to calculate medications for nurses in the clinical areas?

Despite this recommendation being made for all DHBs, few hospitals have implemented it, including the two study hospitals, and the majority maintained that incorrect medication administration remained a continuous problem within their hospitals. They said that they felt frustrated with the quantity of drug errors that they still had to constantly manage and that there needed to be a different approach to solve the problem. They didn’t believe that medication dispensing machines would be the solution.

It was suggested by the nurse leaders that each SAE needed to be examined in the context of the clinical setting in which it occurred and the recommendations made accordingly. For example one recommendation made by the Commissioner was that all the patients, when they are admitted to hospital, should have their medications checked by a nurse who would then contact the patient’s general practitioner and community pharmacist to confirm the medications. The response from the majority of the nurse leaders was that this recommendation was not feasible to implement. One stated:

   Discussions with the community pharmacist, no way! How many hundreds of people come through the hospital with medications and get something prescribed? That recommendation is not feasible. Is the Commissioner a reasonable man, does he want to come and see the details of the impact of that, or does he want to know there are systems in place so that it doesn’t happen again? (NL 22).

The nurse leaders from intensive care and emergency departments suggested that this recommendation would be difficult to implement in their environments due to heavy workloads and time restrictions. One stated:

   You can imagine if you are extremely busy and you’ve got an admission coming in and you’ve got other patients who are trying to leap out of bed and the time is a factor in the
discussions. A lot of patients don’t even know what the medications are that they take (NL 3).

One nurse leader explained that despite the recommendation by the Commissioner to implement an early warning scoring system for patient observations in all of the DHBs, in many cases it had not changed nurses’ practice. She stated that it was frustrating that even though there had been an introduction of an early warning system in her hospital, the nurses still failed to assess patients adequately.

We had a sentinel event in our hospital that was serious. What had happened was that the nurses had gone on doing the observations on the early warning score chart all shift and hadn’t reported the changes in the patient’s condition. The nurses expected somebody else to pick up on the changes in the patient’s condition. By the time it was picked up on, the patient had deteriorated and consequently died (NL 40).

In the interviews the nurse leaders from some specialty areas were asked to respond to a recommendation in their vignettes to develop and introduce national standards for the delivery of all health care. There was a mixture of views about this recommendation; the majority stated that it was unreasonable as the way that the health care sector was structured in New Zealand it created a culture of patch protection. These nurse leaders claimed that patch protection was still well entrenched within their DHBs and that it would not be easy to change this culture. One stated: “Collaboration could be great if we could lose the patch protection of different professional groups” (NL 4).

Similarly, some of the nurse leaders stated that if there was a dissolving of DHB self-protection then national collaboration could influence the health care sector to move forward rather than recycling the same old ideas. In addition, the ability to share ideas more freely could mitigate many of the current problems that health care faces. One nurse leader stated: “If we had a national approach to standards, I think that a lot of the SAEs that occur could be
decreased” (NL16). The majority agreed that if the recommendation for national standardisation was implemented a collaborative approach by the DHBs would be required.

The nurse leaders were asked to respond to the recommendation included in all of the vignettes that DHBs need to apologise when SAEs occur and be open to disclosing adverse events so that other DHBS can learn from them and not repeat the same errors. There was a general consensus that it is important for DHBs to apologize to patients and their families when an event occurs. They claimed, however, the apologies from their DHBs were not consistent, and were often forgotten, and this left families feeling frustrated and betrayed.

One explained that apologies often were only given in response to whistle blowers and media involvement: “Media coverage makes a huge difference when they report a sentinel event; it is then that the organisation comes out with an apology” (NL 36). They suggested that the recommendation for DHBs to be open to disclosing adverse events, while it appeared to be a reasonable recommendation, their DHBs were often hesitant to air their dirty washing. One suggested: “DHBs get nervous letting other DHBs know the type of SAEs that occurred, I think they are becoming more open to ‘open disclosure’ but we still have a way to go” (NL 40).

This led to a discussion with many of the nurse leaders about a recent recommendation that all the DHBs should review their complaints procedures. The nurse leaders argued that this recommendation was not sufficiently specific about what was required of the DHBs. They explained that the failures were often reported internally but were then ignored by the DHB management and complaints were often not investigated in a timely and appropriate manner. One nurse leader suggested it is the DHBs’ responsibility to do something about the complaints rather than just hoping that the complaints will go away.
She stated:

You can put in whatever system you want to, and report complaints, but it is what’s done with the complaints that is the issue. We do a lot of paperwork that is generating work and seems to be achieving nothing. The paperwork is there and the staff are reporting [incidents] and has anything been done about it? Questionably no (NL 2)

The majority argued that if the DHBs wanted to retain the trust of the public, complaints from families needed to be investigated in a timely and appropriate manner. They suggested that in their hospitals the current processes are fragmented and often there is no conclusion to the complaints that have been made.

Several of the nurse leaders commented that many of the recommendations focused only on their hospitals’ systems and processes. Having been involved in HDC investigations, these nurse leaders suggested that the HDC, in their investigations, needed to look at all the factors influencing SAEs.

CONCLUSION

The interviews with the nurse leaders focused on their role in the implementation of the recommendations and the barriers to successful implementation that they perceived. Analysis of the interviews found that the nurse leaders saw themselves as the key drivers for implementing the recommendations but they were concerned about their DHBs not involving them in the discussions about the appropriateness and the implementation of the recommendations.

The nurse leaders perceived a lack of commitment from some DHBs in terms of implementing the Commissioner’s recommendations; a lack of support in the clinical areas when they were expected to implement them; and they argued some recommendations were
not appropriate for the clinical settings and they struggled to implement them in their areas of responsibility.

The following chapter will discuss the findings in terms of their original contribution to knowledge and with reference to current literature.
CHAPTER NINE: DISCUSSION

This chapter discusses the findings from this study in terms of their original contribution to knowledge and shows how they answer the research questions. It discusses the contribution to Reason’s theory for reducing error and improving safety in hospitals and the strengths and limitations of the approaches used in the study. The new knowledge is discussed under the following headings: Breaches of the Code of Rights; nurses’ unsafe acts; the timing of SAEs; the outcomes of SAEs; and the recommendations made by the Commissioner.

This study was undertaken to develop an understanding of nurses’ contributions to SAEs in public hospitals and the nature, frequency and severity of nurse-related SAEs. It was anticipated that by developing this understanding strategies could be developed and put in place to reduce errors in hospitals and consequently enhance patient safety.

The primary research question for the study was: “What are the nature, frequency and severity of nurse-related sentinel adverse events occurring in public hospitals in New Zealand?” This question is answered from the findings in the first results chapter. The two secondary questions “What is the role of nurse leaders in implementing the Health and Disability Commissioner’s recommendations?” and “What are the barriers to the implementation of the Health and Disability Commissioner’s recommendations?” are answered from the findings in the third results chapter. The second results chapter provides an understanding of the Commissioner’s responses to the nurse-related SAEs discussed in the first results chapter, and provides a context for the third results chapter.
BREACHES OF THE CODE OF RIGHTS

Nurses were found culpable of breaching patients’ rights in only 25 of the 93 reports on nurse-related SAEs. In the other 68 reports doctors were held accountable for 33 breaches and for the remaining 35 breaches the DHBs were found culpable. While the nurses were only found culpable for breaches in 25 reports there were many similarities between these breaches and those for which they were not deemed culpable. As well there were similar inconsistencies in the breaches found in the provisional and final opinions for the same SAEs where the expert advisors reported nurses had specifically breached rights but in the final opinions the Commissioner did not address these.

The overall analysis of the reports showed there was a tendency, but not consistency, in the final opinions to avoid directly blaming nurses for their breaches of patients’ rights. In many cases the medical professionals or the DHBs were found culpable. This is contrary to the requirements of current legislation (HPCA Act) whereby nurses, as well as other health professionals, are responsible for their own practice and should be held accountable when they provide a substandard level of service.

It could be argued that nurses were not held accountable for their practice as the Commissioner took a systems approach rather than recognizing the accountability of individual health professionals. The importance of focusing on both systems and individuals is recognised by Reason (2006, 2008) in his recent work.

Where, in the reports, the Commissioner did attribute responsibility to doctors for nurses’ actions, it suggests that he, like many people, perceived nurses to be in a subservient role to the medical profession rather than recognising nursing practice is different from medical
practice. Sociologist Morrell (2006) went some way to explain this in his work that recognises that while all professions have high social status, they nevertheless are ranked as of primary or secondary status. Doctors, he suggested, are ranked as a primary profession as their work is regarded as more vital to society, and nurses are ranked as a secondary profession as their work is seen as being less vital to society. Likewise doctors are seen as having the overall responsibility for patients in hospitals.

As discussed in chapter 1 this is the first research project to examine nurse breaches of the Code of Consumer Rights in New Zealand and no research was found on the topic from other countries using similar codes of patients’ rights.

**NURSES’ UNSAFE ACTS**

This study is the first national and international study to explore nurses’ unsafe acts in SAEs. This is an important contribution to knowledge as 71% of the reported SAEs resulted in patients dying.

The study found that the vast majority of unsafe acts identified in the HDC reports involved lack of or poor assessment and of these 39 SAEs resulted in the death of a patient. Assessment was responsible for 92% of unsafe acts; communication between health professionals (80%); checking and backup (15%); and medication administration (13%). In addition this study found that poor or lack of assessment and poor or lack of communication were very frequently both reported for the same SAEs and of note both were reported in all the SAEs involving medication unsafe acts. This finding is in contrast to existing literature which focuses on medication errors as the primary cause of SAEs (Bates et al., 1998;
Brennan et al., 1991; R. G. Hughes & Ortiz, 2005; Hunt & Parkes, 1999; Kaushal et al., 2003; Leape et al., 1991; Schneider et al., 1998; Tissot et al., 2003; Wirtz et al., 2003).

As discussed in the literature chapter there is no reported research nationally or internationally that focuses on nurses’ assessment of patients in relation to adverse events or sentinel adverse events. As nurses are responsible for the initial and ongoing assessment of hospital patients, and nursing assessment is critical for both providing and maintaining optimal care for patients, it is timely that this study has been undertaken. It contributes new knowledge and provides a basis for further research.

The second largest category of unsafe acts, poor or lack of communication with other health professionals, is congruent with international literature that reports poor or lack of communication is linked to adverse events and SAEs (Aiken, Clarke, Sloane, et al., 2002; Needleman et al., 2002; Wong & Laschinger, 2004). Similar to the current study, the United States Joint Commission on Accreditation of Healthcare Organizations (2006) found breakdowns in communication to be the second leading cause of ‘medical’ errors. They also noted that lack of communication between nursing and medical staff during handovers leads to missed opportunities for sharing necessary, often vital, information.

The vast majority of literature related to poor communication in hospitals focuses on medical staff and multi-disciplinary teams, rather than on nurses who are the largest health professional group in hospitals (Greenwood & Heninger, 2010; Kempe et al., 2006; Kristensen et al., 2007; Kulwicki A, 2006; Lacey & Cox, 2009; Laws & Amato, 2010; Lingard et al., 2004; Miller, 2005; O’Daniel & Rosenstein, 2008; Porteous et al., 2009; Stewart et al., 2011; Youngberg & Hatlie, 2004). As discussed in chapter 3 the literature
focuses on a systems approach when recommending solutions, rather than addressing the issue at an individual level.

Poor communication and poor assessment are not associated in the literature on adverse events but the findings from this study strongly indicate that further investigation of these factors is warranted. If a nurse has poor assessment skills the information s/he has available to communicate to colleagues is potentially limited and may compromise the quality of care a patient has the right to receive. Where communication unsafe acts were linked with checking and backup unsafe acts a longer hospital stay and/or additional surgery was required for 11 patients. Kohn et al. (2000) suggest nurses’ ability to provide checking and back-up is influenced by the contextual environment which includes staffing mix and a shortage of nurses. Aiken, Clarke, and Sloane (2002) and Needleman et al. (2002) found the ratio of patients to nurses, and staffing with registered nurses rather than unregistered workers are important contextual factors that impact on patient safety.

It is of concern that contextual factors were not documented in the HDC reports or given consideration in the final opinions despite their being evidence in the literature of their importance for the provision of safe care.

This study found nurse-related medication administration unsafe acts occurred in 12 of the 93 SAEs and death was the result in all cases. As mentioned above, all of these unsafe acts were linked to poor or lack of assessment by nurses. In contrast to the findings in this study much of the literature related to adverse events and SAEs primarily identifies medication administration as the leading cause of such events but does not explore contributing factors such as poor assessment and/or communication (Bates et al., 1998; Brennan et al., 1991; Hendrickson, 2007; Kaushal et al., 2003; Leape et al., 1991; Seddon & Merry, 2002).
Other studies have focussed on doctors and systems and processes and found that medication errors result from incorrect medical orders, failures of systems and processes, and pharmaceutical prescription errors (Anderson & Webster, 2001; Ashcroft, Birtwistle, Cooke, Hingley, & Moore, 2003; H. M. Baker, 1994; Barker, Flynn, Pepper, Bates, & Mikeal, 2002).

This study makes an original contribution to the knowledge about medication administration by nurses, by identifying that lack of or poor assessment and communication can also be involved in medication-related SAEs.

**TIMING**

There were two important findings from the analysis of the timing of the SAEs in this study. The first was that the majority of the SAEs occurred outside normal office hours (45%) and at weekends (43%) when there was less support for nurses from senior staff. This finding is congruent with international literature that reports an association between the reduction in clinical personnel outside the hours of a normal working week and increased mortality (G. R. Baker et al., 2004; Barba et al., 2006; Bell & Redelmeier, 2001; DeCoster et al., 1997; Evans et al., 2000; Lamn, 1973; Laupland et al., 2008; Rogot et al., 1976; Watson, 2006).

As mentioned above, the HDC reports do not identify possible contributing factors to the SAEs, for example heavy workloads due to low staffing levels or inappropriate staffing mix as identified by Aiken, Clarke, Sloane, et al. (2002), Aiken et al. (2011) and McGillis-Hall (2005).

G. R. Baker et al. (2004) in their research of preventable adverse events also found that the first few hours after admission are crucial for patient outcomes, as it is during this period that initial diagnoses are made and treatment plans are formulated. Similarly Curtis and Wiseman
(2008) recognised the need for rapid assessment following admission which they argued has the potential to impact positively on patient outcomes.

As discussed in Chapter 3, while these studies identified that the low levels of staff outside of normal working hours contributed to the errors they did not explore the specific actions of the nurses in relation to the errors. The second important finding in this study was the relationship between the time the SAEs occurred and the time from admission. Fifty-six percent of the 93 SAEs occurred within three hours of admission to hospital, and 88% occurred within 10 hours of admission. This suggests that nurses’ unsafe acts and possibly medical errors had occurred in the vast majority of patient admissions within the first 10 hours and these led to SAEs occurring. No literature was found that reported on the relationship between the time a SAE occurred and the time from admission.

Nurses and doctors who work these shifts often have less experience and are more junior than those who work morning shifts on week days. Most senior leaders, senior clinicians or middle managers are employed on weekdays and outside of these hours the various hospital departments are under the care of relatively junior clinicians with senior clinicians on call for emergencies. During the night shift (2245 to 0730 hours) on both weekdays and at weekends nursing staff often provide coverage for more than one ward and may be less familiar with some of the patients in their care.

These findings are congruent with international literature showing that the majority of adverse events and SAEs occur after hours and during the weekend. The reduction in clinical personnel on weekends has been found internationally to lead to gaps in hospital defences (DeCoster et al., 1997; Lamn, 1973) and shortfalls in care. These staffing patterns provide some explanation as to why there is a higher hospital mortality rate at night and weekends (G.
R. Baker et al., 2004; Evans et al., 2000; Rogot et al., 1976; Watson, 2006). Data from other studies suggests that hospitals function less effectively after hours (Asch & Parker, 1988; Siferd & Benton, 1992). For example, admission to an intensive care unit outside the hours of a normal working week is associated with an increased risk of mortality (Barnett et al., 2002; Laupland et al., 2008).

This research endorses the importance of paying greater attention to the contextual environment and its impact on patient safety. The HDC reports provide information on the types and the timing of SAEs, and whilst the data cannot determine the causality, it does demonstrate possible relationships between factors but this requires further investigation.

This is an original finding and is crucial for reducing SAEs in hospitals. By hospitals and their health professionals, especially nurses, understanding this critical time period, strategies for managing risk can be developed and monitored to increase patient safety.

OUTCOMES OF SENTINEL ADVERSE EVENTS

It is of very real concern, that the majority (71%) of the SAEs in this study resulted in the death of patients yet nurses’ unsafe acts were often not given consideration in the final opinions of the reports. While it has been recognised that errors in health care impact on patient morbidity and mortality and that reporting errors will improve patient safety (Aspden et al., 2004; Bates et al., 2003; Bates et al., 1993; Brennan et al., 1990; Brewer & Colditz, 1999; M. Cohen, 2000; M. R. Cohen, 2000; Cullen et al., 1995; P. Davis, Lay-Yee, Briant, et al., 2001; Flowers & Riley, 2001; Hanna et al., 2005; Jha et al., 1998; Kohn et al., 2000; 1994; 1991; Naveh et al., 2006; Runciman, 2002; Suresh et al., 2004; Weingart et al., 2005)
as previously mentioned, nurses’ contributions to errors in patient care have not been explored.

As nurses are the largest group of health professionals working in hospitals and provide 24 hour care, it is imperative that we develop an understanding of the strategies that need to be put in place to improve the care nurses provide and consequently the safety of patient care. As mentioned above we recognize that the vast majority of nurses do provide safe care but it is important that all nurses do.

Other outcomes discussed in this study include additional surgery (16%) and increased length of stay not related to additional surgery (13%).

**COMMISSIONER’S RECOMMENDATIONS**

Analysis of the recommendations found 70% focus on the health provider organisations and over 60% of these focus on the organisations improving their systems and processes. Despite nurses being involved in all of the 93 SAEs only 11% of the recommendations were focused on the nurses and only 5% of these recognised nurses’ legal responsibility to be accountable for the care they provide.

The nurse leaders saw themselves as the key drivers for implementing the recommendations within their organisations and argued that the DHBs should involve them in the discussions about the recommendations and their implementation. They saw their role as being pivotal for bridging the gap between senior managers and the nurses at the bedside. They maintained that the top-down approach used by senior managers to implement the recommendations is very often resisted by the nurses at the bedside. This finding is congruent with Reason’s
contention that latent conditions arise from decisions made by top-level management and those responsible for developing policies and procedures, thus creating the environment that allows unsafe acts to occur (Reason, 1990).

**CONTRIBUTION TO THEORY**

The findings from this study suggest that to prevent nurse-related SAEs in hospitals it is necessary to employ both an individual approach and a systems approach. This finding is supported by Reason’s later work (2008) where he stated that a purely systems approach to prevent adverse events is not always sufficient to improve patient safety. He stressed the importance of focussing on both systems and individual approaches when developing safety cultures within hospitals. In recent years hospitals have tended to use a systems approach and the HDC reports indicate that in the years 2000 to 2011 the HDC also focussed on a systems approach in his recommendations to the DHBs following the occurrence of SAEs.

The importance of using both a systems approach and an individual approach is that it focuses on what the causal factors were in an event. Rather than just blaming a system or a person it requires the examination of the ‘what why and how’ to identify the trajectory of causal factors that led to an SAE occurring. Such an approach will influence how investigations of adverse events and SAEs are carried out and inform the recommendations that need to be made to enhance safe patient care.

The unsafe acts analysed in this study demonstrated that in many cases there was an inextricable link between the unsafe acts (active failures) and the contextual environment (latent conditions) in which they occurred. Nor did the unsafe acts occur in isolation from
each other but were often linked causing “a trajectory of accident opportunity” (Reason, 2000, p. 768).

When considering this in light of Reason’s more recent work *The human contribution* (2008), he purports that there needs to be an appropriate balance between focussing on the person and on a systems approach. The notion of reliance on just systems measures to decrease error does not recognise the problem of human fallibility. It is important to educate the frontline clinicians to be aware of possible hazards. Reason (2008) states that “training frontline staff to ‘read situations’ will make them more error wise” (p. 73). As each approach has limitations the reliance should not be on one approach but a balance between the two to expose the “hidden face of safety”.

This study found that in all of the HDC reports more than one category of unsafe acts was present. For example, the assessment unsafe acts were strongly linked to the communication unsafe acts and every medication unsafe act. This is congruent with Reason’s (2000) contention that unsafe acts rarely occur in isolation. His model demonstrates that in addition to the latent conditions (the environment in which nurses work), when multiple unsafe acts (active failures by nurses) occur this creates a breakdown in defences and a “trajectory of accident opportunity can occur” (p. 769).

As identified by Reason (2005) an ‘accident sequence’ begins when poor communication unsafe acts occur between frontline staff. But perhaps more importantly poor communication can undermine what systems protection there is, thus allowing for slips or lapses to occur (Reason, 1998). The unsafe act of poor communication may be a result of either an error or a violation (Reason, 1990). He suggests the individuals’ underlying conduct at the time the unsafe act occurred, should be part of the investigation into the event.
Poor communication between health professionals was found to be linked to each category of unsafe acts. This finding is analogous with Reason’s (2005) contention that communication unsafe acts are latent pathogens that affect the assessment and scheduling of patients, problems with standardisation of equipment, and problems with medications.

While this study has focussed on the 93 HDC reports on nurse-related SAEs, it is important to note that most registered nurses with practising certificates provide safe care. When registered nurses, and other health professionals, work within their regulatory and competency frameworks they are well placed to provide an additional defence between the latent conditions (environmental context) and the patient, as set out in Reason’s (2000) Swiss cheese model. I argue that this additional defence should prevent the “holes in the cheese” lining up, or the “trajectory pathway of error” from occurring, and provide protection against errors and subsequent SAEs.

The following model adds this extra layer of defence to Reason’s Swiss cheese model:

**Figure 4. Role of the Health Professional in Preventing Sentinel Adverse Events**

![Role of the Health Professional in Preventing Sentinel Adverse Events](image)

The 93 reports used in this study represent 22.4% of all HDC reported SAEs occurring in public hospitals during this period. Fewer nurse-related SAEs were reported in the first seven
years (36) with most (57) reported between 2007 -2011. The increase in reporting over the last five years may in part be a result of the introduction of national guidelines for open disclosure released in 2008 (Ministry of Health, 2008). As previously discussed, not all SAEs are reported to the Health and Disability Commissioner. Individual hospitals record the adverse events reported by their staff members and the SAEs that occur in their organisations, and this information is now routinely reported nationally and is publicly available.

In addition to working with the Human Factors Group here at the University of Auckland, my intentions now are to develop further research projects related to nurses’ breaches of the code of patients’ rights, and to analyse the reported SAEs in individual metropolitan hospitals to determine nurses’ involvement in SAEs, the timing of the SAEs and the outcomes. Because the hospitals have their own reporting systems that register all reported adverse events, independent of those reported to the HDC, it is likely that the numbers will be larger and the quality of the data may differ between hospitals and from that obtained by the HDC. The findings from these studies will be compared with the findings from this national study of complaints to the HDC. It will be important to ensure that the findings from this body of research are translated into policy and practice, and consequently lead to improved patient care.

STRENGTHS AND LIMITATIONS

This is the first study to explore nurses’ unsafe acts as they relate to SAEs in public hospitals in New Zealand. An important strength of the study is that it focuses on nurses as a professional group rather than individual nurses or individual hospitals. Because, as discussed above, nurses make up the majority of care givers in hospitals, providing 24 hour
care, it is imperative that we have an understanding of their contributions to SAEs and the nature of the unsafe acts for which they are responsible. This then provides a basis for developing strategies to reduce the frequency and severity of SAEs and thus improve the safety of patients in hospitals, and for further research.

While the parameters of this study did not allow for an analysis of all SAEs occurring in all public hospitals throughout New Zealand, it did allow an analysis of the HDC reported nurse-related SAEs occurring in public hospitals across an 11 year time period. This period began following the first review of the HDC in 1999 when new regulations saw the broadening of the scope of patient’ rights.

The use of document analysis in this study provided a clear understanding of the nature, frequency and severity of nurse-related sentinel adverse events. An additional strength was the individual interviews with 40 nurse leaders as this provided a deeper understanding of the clinical interface with patients, the nurse leaders’ roles in implementing the recommendations, and the barriers to the implementation of the recommendations. While data from the HDC reports enabled identification and analysis of the nurses’, unsafe acts and the delays and the deficiencies that contributed to these events, they did not provide the depth of data required to determine a causal relationship.

Analysis of the latent conditions, such as whether the nurses had worked extra shifts or extended the length of their shifts to accommodate staff shortages, would have provided further understanding. Aiken et al. (2001), Ebright et al. (2004), Needleman et al. (2002) and Rogers et al. (2004) argue that staff shortages that result in nurses extending their shifts and taking on extra shifts, result in patient safety being compromised. This remains an important issue for future research.
The contribution to the SAEs by other members of the multi-disciplinary team was not a focus for this study and this could be seen as a limitation. However, the central interest in nurses’ contributions was a direct response to a gap in the literature on nurses’ involvement in error, which is a strength of this study.

The HDC reports identified not only the nurse-related unsafe acts but the delays and the deficiencies that contributed to these events. Future research using hospitals’ own incident reporting systems and interviews with clinicians involved in adverse events and SAEs would provide a better understanding of the causes of error in these hospitals. This in turn would result in recommendations for the development and implementation of context specific strategies and this could be of relevance to a wider audience engaged in patient safety.

Acceptance of the need to improve safety and performance in hospitals requires commitment at the highest organisational level to ensure that strategies are developed and implemented to reduce existing threats and to enhance the management of risk (K. Callaghan, 2011). While we cannot completely eliminate human error, we can put in place systems and processes to manage the threats and risks associated with providing health care and ensure that individual health professionals recognise their responsibility to provide safe care.
RECOMMENDATIONS

This section focuses on the translation of the findings from this research for education, policy and practice.

The Health and Disability Commission

To ensure optimum safety for patients in hospitals the HDC should hold nurses accountable for their practice in accordance with the HPCA Act, the Nursing Council of New Zealand Competencies for Registered Nurses, and the Nursing Council’s Code of Conduct. This could be achieved by the HDC working more closely with the Nursing Council, and notifying the Council when reports have identified nurse-related SAEs and adverse events. The HDC should involve nurse leaders during their investigations to better understand the environment in which nurses work.

The Nursing Council

As it is mandated to protect the safety of the public and regulate the nursing profession, the Nursing Council needs a clear understanding of the nature, frequency and severity of SAEs where nurses have been involved. This is important to ensure that the ongoing development of the regulatory framework for nurses is appropriate for optimal care and patient safety and that nurses are held accountable for their practice.

The Nursing Profession

To ensure the safety of their patients and to prevent avoidable errors, Registered Nurses need to be aware that they are accountable under the HPCA Act the Nursing Council of New Zealand Competencies for Registered Nurses, and The Code of Health and Disability
Services Consumers’ Rights. This may require individual nurses to undertake further education and/or training to develop the knowledge and skills they need to practise competently.

**Undergraduate Nursing Education**

To ensure that new graduate nurses provide safe care it is imperative that nursing programmes include in their curricula effective teaching about nurses’ accountability and responsibility under the HPCA Act, The Nursing Council Competencies for Registered Nurses, The Code of Health and Disability Services Consumers’ Rights and the Nursing Council Code of Conduct.

**Postgraduate Nursing Education**

Post graduate education programmes need to include in their curricula current information about the changing environment in which nurses work and how that impacts on their legal and regulatory obligations. Postgraduate programmes should provide education about the nature, frequency and severity of nurse-related unsafe acts with a specific focus on assessment as the critical factor required for nurses to provide safe and effective patient care.
APPENDIX A: DATA ANALYSIS TOOL

| IDENTIFICATION NUMBER: |
| REPORT YEAR: |
| REFERENCE NUMBER: |
| DATE OF EVENT: |
| DHB/HOSPITAL OF EVENT: |

### Dimension 1 – Error and Outcomes

1. What error occurred?
2. What was the outcome for the patient?
3. What was the main type of error?
4. What medications, if any, were involved in the error?
5. What type of classification of error was attributed (near miss, adverse event, or sentinel adverse event)?
6. How was patient safety put at risk?
7. What broad risk factors contributed to the error?
8. What intervention could have contributed to the error?
9. What patient rights were breached?
10. What does the HDC identify as a breach in the report?
11. What hospital specialty area did the error occur in?
12. How did the work environment contribute to the error?
13. What other investigations (of errors) has the hospital been involved in?
14. What reference is made to the culture of the hospital specialty area in the report?
15. What changes occurred during and after the investigation?

### Dimension 2 – Commissioner’s Recommendations

16. What recommendations were made by the Commissioner?
17. What recommendations were directed at the individual or the DHB?
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>18.</strong></td>
<td>What differences exist between the Commissioner’s recommendations in reports of similar errors?</td>
</tr>
<tr>
<td><strong>19.</strong></td>
<td>What accountable for the error was attributed?</td>
</tr>
<tr>
<td><strong>20.</strong></td>
<td>What are the implications for nurses in the implementation of recommendations?</td>
</tr>
<tr>
<td><strong>Dimension 3 – Timing of the Event</strong></td>
<td></td>
</tr>
<tr>
<td><strong>21.</strong></td>
<td>What time did the error occur?</td>
</tr>
<tr>
<td><strong>22.</strong></td>
<td>What day did the error occur?</td>
</tr>
<tr>
<td><strong>23.</strong></td>
<td>What was the length (in hours) of the nursing shift when the error occurred?</td>
</tr>
<tr>
<td><strong>24.</strong></td>
<td>What was the length of the patient stay in hospital before the error occurred?</td>
</tr>
<tr>
<td><strong>25.</strong></td>
<td>What was the length of patient stay in hospital overall?</td>
</tr>
<tr>
<td><strong>Dimension 4 – System and Processes</strong></td>
<td></td>
</tr>
<tr>
<td><strong>26.</strong></td>
<td>What system was in place?</td>
</tr>
<tr>
<td><strong>27.</strong></td>
<td>What factors were involved (documentation, handover, reporting, communication, equipment)?</td>
</tr>
<tr>
<td><strong>28.</strong></td>
<td>How did the breakdown result in error?</td>
</tr>
<tr>
<td><strong>29.</strong></td>
<td>What policies and procedures were in place?</td>
</tr>
<tr>
<td><strong>30.</strong></td>
<td>What policies and procedures have been reviewed as a result of a previous error?</td>
</tr>
<tr>
<td><strong>Dimension 5 – Individual’s Involvement</strong></td>
<td></td>
</tr>
<tr>
<td><strong>31.</strong></td>
<td>What type and number of staff were involved in the error?</td>
</tr>
<tr>
<td><strong>32.</strong></td>
<td>How did individual nurses contribute to the error?</td>
</tr>
<tr>
<td><strong>33.</strong></td>
<td>What role did nurse leaders have in the error?</td>
</tr>
<tr>
<td><strong>34.</strong></td>
<td>What behaviours were exhibited by the staff involved?</td>
</tr>
<tr>
<td><strong>35.</strong></td>
<td>How did a lack of skills and competency contribute to the error?</td>
</tr>
<tr>
<td><strong>36.</strong></td>
<td>What was the scope of practice of the nurse/s involved?</td>
</tr>
<tr>
<td><strong>37.</strong></td>
<td>What was lacking in the duty of care required?</td>
</tr>
<tr>
<td><strong>38.</strong></td>
<td>What apologies were given to the individuals or families involved?</td>
</tr>
</tbody>
</table>
APPENDIX B: PARTICIPANT INFORMATION FORM

INFORMATION SHEET

Study title: Exploring the culture of safety in the influence of nursing leadership in the contemporary health care organisation in New Zealand (pilot study)

Principle Investigator: Deborah Rowe

University of Auckland

Phone 3737599 or 021363700

You are invited to participate in a PhD pilot research study to determine what effects nursing leadership has on the Culture of safety in Health care Organisations in New Zealand. Adverse events in public hospitals, reported to the Health and Disability Commissioner (HDC), have tended in the past to be focused on the medical profession with less attention paid to the role of other professional groups such nursing. However, interactions or actions of different professional groups do influence the culture of patient safety. Leader’s behaviour has also been shown to have a significant impact on quality and safety within practice environments, highlighting the role of nurse leaders in creating safe work environments. Consequently this safety improvement project explores more fully the role nursing and nursing leadership plays in patient safety.

Please take time to consider this invitation carefully. Taking part is entirely voluntary, and your refusal will in no way affect your continuing health care employment.

Study:

The objective of this research is to determine what a safe nursing culture is and how it can be embedded into the practice of nursing in wards and departments to ensure patients rights to collective wellbeing in New Zealand public hospitals within at least two cultural paradigms.
These are that-
- Nursing organisations are cultures and
- Nursing organisations have cultures

Furthermore, the interdependence of nursing with other health professionals requires consideration to be given to how nursing practice can promote a culture of safety within the multidisciplinary or interdisciplinary team.

**BENEFITS, RISKS AND SAFETY**

Participation of your involvement is entirely voluntary. If you choose not to take part it will not affect your employment in your organisation. If you do agree to take part you are free to withdraw from the study at any time without having to give a reason. Participation in this study will also be stopped should any harmful effects appear or if you as the participant are not happy to continue.

**Who is being selected?**

The study is selecting employees that are currently employed by the participating hospitals. We will be selecting up to thirty participants. The study group will be individuals who are in leadership management positions within the two sites. Participants will be matched between sites to similar job positions. Subjects will be recruited from existing databases within the two organisations.

We will contact selected subjects by telephone to explain the study, an information sheet will then be sent by post and a follow up phone call will determine whether you would be interested in taking part in this study. The Director of Nursing who may also have suggested the names of the subjects will not know who has been invited to take part reducing the possibility of coercion.

Before inclusion in the study, all potential participants will be screened to ensure compliance with the following inclusion/exclusion criteria.

**Inclusion criteria**
1. Living in the **Auckland** area
2. Living in the **Tauranga** area
3. Individuals employed by the organisations
4. Nurses
5. Must be working at either **Auckland** District Health Board or **Bay of Plenty** District Health Board

**Exclusion criteria**
1. Individuals not employed by **Auckland** District Health Board or **Bay of Plenty** District Health Board
2. Non managers or non Senior staff
3. Non Nurses
4. Nurses not living in the **Auckland** area
5. Nurses not living in the [blank] area

**What does the study involve?**

Interviews will be conducted at your place of employment or at another location of your choice. At the start of the study a brief history of your work history will be undertaken.

Then, we will do the following:

1. Use vignettes to explain current recommendations from the Health and Disability reports.
2. Pose questions around your thoughts on how these recommendations can or cannot be implemented within your organisation.
3. All analysis of responses will be performed at the University of Auckland.
4. All the interviews will be tape recorded if you give permission for this to occur.
5. Interviews will be undertaken on two occasions at the organisation where you are employed. This process will take around one hour.

**Will I be able to see the results?**

Following analysis of the results, you will be informed of the results of the study as a whole, if you have requested this on your consent form. All data will be held in strict confidence to protect your privacy. The exclusion to the confidentiality of information may have to be discussed with you if unsafe practice or procedures are identified. No material that could personally identify you will be used in any reports of this study.

The results of the research will be published in a peer reviewed health care journal (there may be a delay between data collection and publication of results). No material, which could personally identify you, will be used in any reports on the study. A summary of the results will be sent to participants who want to receive this.

**Do I have to participate?**

Participation in this study is entirely voluntary (your choice). If you choose not to take part in this study it will not affect your employment in any way. If you do agree to take part you are free to withdraw at any time, without having to give any reason. Participation in this study will be stopped if the participant is not happy to continue. We would always discuss this with you first.

**Compensation issues:**

As for any medical study, we have to address the unlikely event of a physical injury as a result of participation in this study. You may be covered by ACC under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and your case would need to be assessed by ACC according to the provisions of the 2002 Injury Prevention...
Rehabilitation and Compensation Act. If your claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If you have ACC cover, generally this will affect your right to sue the investigators.

If you have any questions about ACC, contact your nearest ACC office or the investigator.

**Who should I contact if I have further questions?**

If you would like further information or have any questions regarding the study, please feel free to contact Deborah Rowe (3737599 or 021363700).

For Maori health support, or to discuss any concerns or issues regarding this study, please contact Maori Health Services Co-ordinator / Advisor, Mata Forbes. For Tauranga participants please contact Maori Health Service Co-ordinator / Advisor, Clint Lovitt.

If you agree to participate you will be asked to sign a consent form.

If you have any queries or concerns regarding your rights as a participant in this research you may wish to contact your professional organisation.

This study has received ethical approval from the Northern X Ethics Committee

(Ref NTX/07/12/127)
APPENDIX C: CONSENT FORM

Consent Form

**Study title:** Exploring the culture of safety in the influence of nursing leadership in the contemporary health care organisation in New Zealand (pilot study)

Principal Investigator: Deborah Rowe Nurse Consultant

1. I have read and I understand the information sheet (version 4 dated January 2008) for participants taking part in the study designed to explore the Culture of Safety. I have had the opportunity to discuss this study. I am satisfied with the answers I have been given.

2. I have been given the opportunity to use whanau support or a friend to help me ask questions and understand the study.

2.0 I have been given the opportunity for an interpreter to answer any questions about the study.

2.1 I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time and this will in no way affect my future health care.

2.2 I understand that my participation in this study is confidential and that no material, which could identify me will be used in any reports on this study.

2.3 I understand that the investigation will be stopped if it should appear harmful to me.

2.4 I understand the compensation provisions for this study.

2.5 I have had time to consider whether to take part.
2.6 I know who to contact if I have any questions about the study.

3.0 I consent to the principal investigator returning / destroying results from the interviews
   YES/NO

3.1 I am aware that the proposed study will involve analysis of my responses to questions. I consent to such analysis being performed.
   YES/NO

3.2 I understand that if I consent to such analysis, no rights will be created for the researcher/sponsor to other information.
   YES/NO

3.3 I am aware that the proposed study may involve storage of my responses for 5 years and give my consent.
   YES/NO

3.4 I wish to receive a copy of the results. Alternately “I would like the researcher to discuss the outcomes of the study with me”.
   YES/NO

3.5 I agree to the principal investigator tape recording this interview
   YES/NO

3.6 I am aware that the exception to confidentiality will be if the interviewer has significant concerns about the safety of myself or others.
   YES/NO

4.0 I ______________________________ (full name) hereby consent to take part in this study.
   Date: _____________________________
   Signed: _____________________________
   Printed Name: _____________________________
   Address for results: _____________________________

If you have any concerns about this study you may contact:

Principle investigator: Deborah Rowe     Ph: 3737599 or 021363700

Project explained by: _____________________________

Project role: _____________________________

Signed: _____________________________ Principal Investigator

Date: _____________________________
APPENDIX D: NORTHERN X ETHICS COMMITTEE CONSENT

Health and Disability Ethics Committees

Northern X Regional Ethics Committee
Ministry of Health
3rd Floor, Unity Building
650 Great South Road, Parnell
Private Bag 92 322
Auckland
Phone: (09) 580 9105
Fax: (09) 580 9101

18 February 2008

Ms Deborah Rowe
University of Auckland
Faculty of Medical & Health Sciences
The University of Auckland
PB 92 019
Auckland

Dear Deborah,

NTX/07/12/127 Exploring the culture of safety in the influence of nursing leadership in the contemporary healthcare organisation in New Zealand (pilot study): P1S/Cons V#4, 1/08
Principal Investigator Ms Deborah Rowe

Thank you for your letter and attached changes, received 11 February 2008. The reviewing deputy chairperson and myself wish to thank you for the well set out layout.

The above study has been given ethical approval by the Northern X Regional Ethics Committee. A list of members of this committee is attached.

Approved Documents
- Information Sheet/Consent Form V#4 dated January 2008
- Vignette and Questionnaire V#4 dated January 2008

Certification
The Committee is satisfied that this study is not being conducted principally for the benefit of the manufacturer or distributor of the medicine or item in respect of which the trial is being carried out.

Accreditation
The Committee involved in the approval of this study is accredited by the Health Research Council and is constituted and operates in accordance with the Operational Standard for Ethics Committees, April 2006.

Progress Reports
The study is approved until 18 February 2011. The Committee will review the approved application annually and notify the Principal Investigator if it withdraws approval. It is the Principal Investigator's responsibility to forward a progress report covering all sites prior to ethical review of the project by 18 February 2009. The report form is available on http://www.ethicscommittees.health.govt.nz (forms – progress reports). Please note that failure to provide a progress report may result in the withdrawal of ethical approval.

Final Report
A final report is required at the end of the study. The report form is available on the above website (progress reports) and should be forwarded along with a summary of the results. If the study will not be completed as advised, please forward a progress report and an application for extension of ethical approval one month before the above date.

Administered by the Ministry of Health
Approved by the Health Research Council
http://www.mwn.health.govt.nz/ethicscommittees
Requirements for SAE Reporting
The Principal Investigator will inform the Committee as soon as possible of the following:
- Any serious adverse events occurring during the study New Zealand or worldwide which are considered related to the study. Where there is a data safety monitoring board in place, serious adverse events occurring outside New Zealand may be reported quarterly.

All SAE reports must be signed by the Principal Investigator and include a comment on whether he/she considers there are any ethical issues relating to this study continuing due to this adverse event. It is assumed by signing the report, the Principal Investigator has undertaken to ensure that all New Zealand Investigators are made aware of the event.

Amendments
All amendments to the study must be advised to the Committee prior to their implementation, except in the case where immediate implementation is required for reasons of safety. In such cases the Committee must be notified as soon as possible of the change.

Please quote the above ethics committee reference number in all correspondence.

The Principal Investigator is responsible for advising any other study sites of approvals and all other correspondence with the Ethics Committee.

It should be noted that Ethics Committee approval does not imply any resource commitment or administrative facilitation by any healthcare provider within whose facility the research is to be carried out. Where applicable, authority for this must be obtained separately from the appropriate manager within the organisation.

Yours sincerely

Pat Chainey
Administrator
Northern X Regional Ethics Committee
Te Kupenga Hauora Māori  
Faculty of Medical and Health Sciences  
University of Auckland

16 November 2007

University of Auckland Human Participants Ethics Committee / Northern X  
Regional Ethics Committee / Northern Y Regional Ethics Committee

Re: Exploring the Culture of Safety in the Contemporary Healthcare  
Organisation in New Zealand

Title: Deborah Rowe

Tēnā koutou, tēnā koutou, tēnā tātou kaiao

Deborah Rowe has consulted this office about the above project, and their ethics application. We have read the application and advised accordingly on aspects of Māori responsiveness.

We have no outstanding issues after this consultation and support the proposal before your committee.

Noho ora mai

[Signature]

Associate Professor Papaarangi Reid  
Tumuaki  
Faculty of Medical and Health Sciences
APPENDIX E: VIGNETTES

Vignette 1: Mental Health

On 4 May 2006 the Commissioner received a complaint from a District Health Board (DHB) about the services provided by registered nurse Ms B to Ms A. The complaint had been sent to the Nursing Council of New Zealand, which was forwarded to the Commissioner in accordance with section 64(1) of the Health Practitioners Competence Assurance Act 2003. An investigation was commenced on 15 May 2006 and the following issue was identified for investigation:

The appropriateness of the relationship between Ms B, a registered nurse at the DHB and Ms A, a client of an alcohol and drug service (the service), at the DHB

On 14 December 2005 Ms A contacted the manager of the service at the DHB to allege that she had been having a relationship with a registered nurse at the service. An internal investigation was commenced into the relationship between Ms A and Ms B. The internal investigation concluded that there had been inappropriate conduct on behalf of Ms B that breached professional boundaries, and her employment was terminated.

A number of recommendations were made by the Commissioner:

- policy and guidelines need to be amended regarding ex-clients and inappropriate relationships
- staff need to be aware of the Professional Code of Conduct for nurses and midwives by the Nursing Council of New Zealand
- appropriate mentorship needs to be given
- regular updates of professional boundaries and knowledge of professional boundaries needs to be maintained

Vignette 2: Children’s Emergency Department

On 14 August 1998 the Commissioner received a complaint from Mr and Mrs A concerning the treatment provided in a public hospital to their son, Master A, by Dr B and Staff Nurses C and D (SNC and SND). An investigation was commenced on 8 November 1998. The following issue was identified for investigation:

On 21 April 1998 staff at the public hospital did not provide services of an appropriate standard to Master A during the administration of a charcoal substance to absorb paracetamol.

That Mr and Mrs A were not informed of the risks of the procedure prior to it being carried out on Master A.
The Coroner held an inquest on 3, 4 and 27 November 1998 and released his report on 4 February 1999. The Coroner’s conclusion was that:

- “The short finding which is required to be made is that [Master A] who was born on 26 November 1995 and whose home was at […] died at [the public] hospital on 21 April 1998. The cause of his death was accidental aspiration of a charcoal solution into his trachea and lungs when such solution was being administered through a nasogastric tube at the Accident and Emergency Department at [the public] hospital to counteract suspected accidental paracetamol poisoning which had occurred at home.”

The investigation concluded that there were breaches in practice. A number of recommendations were made by the Commissioner:

- review of restraint methods used
- doctors/nurses to inform patients/caregivers of the benefits and harms of particular treatments and/or procedures critical to one’s own examination of patients
- basic monitoring modalities need to be employed
- nurses to ensure complete history of the events are taken
- nurses to ensure information on the balance of the risks and benefits of proposed interventions are relayed to the family
- nurses to advocate for families to ensure appropriate care is provided and inform patients or families regarding all options of treatment
- nurses to ensure monitoring devices are attached to the patient and standard processes for monitoring are followed
- significant events to be recorded as close to the time of the event as possible; notes that are written after an event must be annotated so that they were not contemporaneous
- introduction of signing of consent form for procedures
- evidence based acceptable standards for provision of care to patients/family/whanau within Emergency Departments in New Zealand
- commissioner to be proactive in ensuring access to nationally consistent standards ensuring there is organisational and individual accountability for the development, dissemination and introduction of national standards
- future adoption of a rational framework to enable appropriate and rapid availability of evidence based standards for assessment, diagnosis and therapeutic management of acute Emergency Department patients
- elimination of potential/real flaws in emergency medical care provided to patients in New Zealand
- ensure support systems are available to assist health professionals to reduce the incidence of human errors in the delivery of health care to patients/families/whanau
- future involvement of consumers in the decision making process
- employee awareness and compliance with National Poisons Centre guidelines
- employee awareness of nasogastric insertion guidelines
- protocol reviews of gastrointestinal decontamination and nasogastric tube intubation
- staff training in relation to the protocols
- endorsement of recommendations to develop and disseminate nationally consistent evidence based standards for the assessment, diagnosis and therapeutic management of Emergency Department patients.
**Vignette 3: Paediatric Intensive Care Unit**

On 20 June 2002 the Health and Disability Commissioner (the Commissioner) received a complaint from Mr and Mrs A about the treatment provided to their late son, Master A, by a public hospital. An investigation was commenced on 18 March 2002 and Mr and Mrs A’s complaint was summarised as follows:

**Complaint against Ms E**

- The District Health Board (DHB) did not provide services of an appropriate standard to Master A. In particular, at 11am, 3pm and 7pm on Saturday 23 March 2002 Ms E, a registered nurse administered 1gm doses of paracetamol to Master A, instead of the prescribed 250mg doses.

**Complaint against Ms F**

- The DHB did not provide services of an appropriate standard to Master A. In particular at 11pm on Saturday 23 March 2002 and at 3am on Sunday 24 March 2002, Ms F, a registered nurse administered 1gm doses of paracetamol to Master A, instead of the prescribed 250mg doses.
- Ms F subsequently altered the records to state that at 11pm on Saturday 23 March 2002 and at 3am on Sunday 24 March 2002 she had administered the prescribed 250mg doses of paracetamol.
- Having altered the records, Ms F failed to notify anyone that she and Ms E (at 11am, 3pm and 7pm on Saturday 23 March 2002) had administered 1gm doses of paracetamol to Master A instead of the prescribed 250mg doses.

**Complaint against Ms G**

- The DHB did not provide services of an appropriate standard to Master A. In particular, from 7am to 7pm on Sunday 24 March 2002, Ms G, a registered nurse did not provide services of an appropriate standard to Master A. Ms G failed to detect the paracetamol overdose and the decline in Master A’s health in a timely manner and failed to respond to the paracetamol overdose and the decline in Master A’s health and did not treat it in a timely and effective manner.

**Complaint against Ms H**

- The DHB did not provide services of an appropriate standard to Master A. In particular, from 7pm on Sunday 24 March 2002 to 7am on Monday 25 March 2002, Ms H, registered nurse did not provide services of an appropriate standard to Master A.
- Ms H failed to detect the paracetamol overdose and the decline in Master A’s health in a timely manner and failed to respond to the paracetamol overdose and the decline in Master A’s health and did not treat it in a timely and effective manner.
A number of recommendations were made by the Commissioner to formulate guidelines for nursing handovers in ICU providing for a standardized programme of handover between nurses covering:

- systems
- tests and investigations completed and awaited
- review of the ICU flow charts and other patient records by incoming nurses
- checks of fluid balance and drug charts, including the time drugs were last given, when they are next due, and dosages
- include these guidelines in the orientation programme offered to nurses new to ICU and provide copies of them to bureau nurses.

**Vignette 4: Adult Emergency Department**

On 15 January 2004 the Commissioner received a complaint from Mrs A and Mr B about the standard of the care provided to Mr A. The following issues were identified for investigation:

Whether Ms E, a triage nurse in the Emergency Department at the public hospital, appropriately managed a phone call in 2003 from an ambulance officer concerning Mr A’s condition.

Whether in 2003 the public hospital provided services to Mr A with reasonable care and skill. In particular:

- the assessment and treatment of Mr A following his admission at approximately 2pm
- the assessment and treatment of Mr A following his admission at approximately 5pm
- the advice provided to the Ambulance Service at approximately 8.42pm, not to transport Mr A but instead to call the urgent doctor.

An investigation concerning the actions of the public hospital and Dr D was commenced on 7 April 2004. In light of the information obtained, the Commissioner extended the investigation to include the actions of Dr C on 6 August 2004 and Ms E on 7 October 2004.

A number of recommendations were made by the Commissioner:

- telephone triage education is undertaken by the staff
- telephone calls should only be taken by competent personnel
- hospital should provide resources so that staff are adequately supported
- changes to the triage protocol
- review of practice
- auditing of telephone advice should be completed
- review of nurses practice

**Vignette 5: Theatre**

The Commissioner received the following complaint, Mr A, the complainant on behalf of his daughter, Miss E (the consumer). The complaint was received on 12 November 1999 and an
investigation which commenced on 30 November 1999. The following issues were identified for investigation:

- on 13 September 1999 Miss E underwent surgery at a public hospital
- Ms D was the scrub nurse for the operation. Ms C was the circulating theatre nurse for the operation. The instrument and swab count was recorded as complete, but it was later discovered that two surgical swabs had been left inside the wound in Miss E’s hip. These swabs caused an infection and another operation was required to remove them
- Dr B operated on Miss E at the public hospital on 13 September 1999. Dr B left two swabs in the wound in Miss E’s hip, which caused an infection and the need for another operation in early October to remove them. Ms D and Ms C changed the notes post surgery regarding the swab count
- the drain that Dr B inserted into Miss E’s hip wound during the operation to remove the swabs was not correctly placed. Miss E required a further operation to remove the drain
- following removal of the drain, wound stitches came undone and a fourth operation was required to re-suture the wound

A number of recommendations were made by the Commissioner. The following of established procedures is critical:

- systems must be put in place to minimise errors occurring
- systems must be put in place to ensure that there is no failure in completing the final swab count
- discussion about the timing and the number of surgical counts is required when more than one site is involved
- guidelines are needed when managing ACC orthopaedic cases and whether an assistant is required
- the audit of intra-operative documentation
- revision of the instrument and swab counting policy
- policy review of complex procedures at 1700 hrs including staffing workloads
- circumstances of each event must be carefully considered
- count must be done by two persons and strict discipline must be observed by all medical and nursing staff regarding the count
- documentation must be legal and legible
- it is reasonable for a surgeon to rely on the nurses advice that the swab count is complete and correct
- review complaints procedures
- open disclosure of an adverse event is critical and a delay in apologies is not acceptable
- individuals involved in such an event should not be prevented from apologising
- review of individuals practice
- review of circumstances identified as setting the scene for human error to occur and necessary changes made to minimise risk of reoccurrences
- review the circumstances in which elective surgery is carried out
- ensure that adequate resources are available to provide an acceptable standard of care
- ensure that all theatre nursing staff are familiar with the Instrument and Swab Count Policy
Vignette 6: Surgical Ward

On 12 January 2004 the Commissioner received a complaint from Mrs A about the care her son, Master A, received at a rural hospital. The following issues were identified for investigation:

Whether Ms C provided services of an appropriate standard to Master A on 5 May 2003. In particular:

- whether Ms C’s assessment of Master A on presentation to the Emergency Department was appropriate and adequate
- whether, after her initial assessment of Master A, Ms C provided appropriate and adequate information to Dr B
- whether Dr B provided services of an appropriate standard to Master A on 5 May 2003

In particular:

- whether Dr B responded appropriately to the information provided to him by Ms C about Master A’s condition shortly after Master A’s presentation to the rural hospital
- whether Dr B’s assessment, diagnosis and treatment of Master A during his stay at the rural hospital on 5 May 2003 were adequate and appropriate
- whether the records made by Dr B about his assessment, diagnosis and treatment of Master A were adequate and appropriate.

This complaint concerned the failure to diagnose Master A with testicular torsion at a rural hospital and the delay in appropriate treatment that led to the loss of Master A’s left testicle. The investigation centres on the care that Ms C, nurse, and Dr B, medical officer, provided to Mr A. An investigation was commenced on 15 April 2004 and a number of recommendations were made by the Commissioner:

- writing information on medical notes regarding testicle pain is part of the responsibility of both doctor and nurse
- correct information is relayed when undertaking physical examinations
- lack of re-contacting the doctor when the patient went outside of the set triage time
- clinical judgment was clouded by letting patient sleep over night
- nurses must assess accurately in order to inform medical staff accurately
- lack of authorisation of the verbal order for narcotics
- verbal orders must not be given after 12hrs if not countersigned
- verbal order must be countersigned as per hospital protocol
- telephone calls need to be recorded in medical notes
- understaffing needs to be addressed
- enforcement of triage and assessment policies
- review of practice
- accurate documentation and record keeping
- review of the hospitals systems
- early warning system
Vignette 7: Medical Ward

In November 2005 the Commissioner received a complaint from Mr A about the services provided at a public hospital to his friend Mr B in August 2004. The following issue was identified for investigation:

There was a lack of medication reconciliation between two different patients admitted to the same hospital. Mr B’s referral was triaged and it was noted that the medication list, usually attached to the referral letter, was not included. Mr B’s general practitioner was asked to fax the medication attachment a second time. No one checked to see if the facsimile received by hospital staff pertained to Mr B who was administered another patient’s medication. The second patient was administered Mr B’s medication; death was a consequence for both patients.

The following recommendations were made by the Commissioner:

- the need for a more comprehensive system for medication reconciliation
- the requirement of hospital staff to ensure that a complete and accurate list of a patient’s current medication is compiled, checked and reconciled. This will ensure patients are prescribed the appropriate medication and dose, in secondary care
- Discussions should be held with local pharmacists

Vignette 8: Obstetric Ward

On 24 February 2003 the Commissioner received a complaint from Ms A and Mr B about the standard of midwifery services provided to Ms A and their baby daughter by Ms C. An investigation was commenced on 1 September 2003 and the complaint was summarised as follows:

Ms C, midwife, did not provide services to the baby of an appropriate standard. In particular:
- Ms C did not adequately manage the baby’s delivery (with the result that the baby fell to the floor sustaining injuries to her head)
- failed to record an accurate and full account of the delivery
- provided inaccurate information about the circumstances of the baby’s birth to staff at a public hospital.

A number of recommendations were made by the Commissioner:

- birthing pools not to be used until modifications have occurred
- future care to be carried out in a specialist secondary hospital for the mother
- whanau to be involved with discussions around the care of the patient
- accurate recordings are critical.
APPENDIX F: INTERVIEW QUESTIONS

1. What do you think about the event and the HDC recommendations outlined in this vignette?
2. How could you, in your role as Nurse Leader, implement the HDC recommendations?
3. What barriers could prevent you from implementing the HDC recommendations?
4. How do you think your Board might respond to HDC recommendations like these?
5. How do you think your senior managers might respond to HDC recommendations like these?
6. What system in your hospital could monitor the implementation of HDC recommendations like these?
7. How might HDC recommendations like these lead to safe practice?
8. How reasonable do you think these HDC recommendations are?
9. How sustainable do you think these HDC recommendations are after implementation?
10. What concerns might these HDC recommendations present with regard to implementation?
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