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## **Case study**

**The experience of managers:**

**The how of organisational learning after  
patient incidents in a hospital**

A thesis presented in partial fulfilment of the requirements for the degree of  
Master of Business Studies in Management  
at Massey University  
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## ABSTRACT

This case study describes the learning capability of a hospital after patient incidents. The theoretical framework is based on Carroll, Rudolph and Hatakenaka's model of four stages of organisational learning. Ten managers were interviewed and documents such as incident management policy, quality plans and incident reports were examined. The ten participants include five clinical managers who are responsible for investigating incidents and five unit managers who are responsible for signing off incident reports.

This study found that incident investigations generated valuable learning for the participants. Being the learning agent, they also appeared to influence and lead team learning and, to some extent, organisational learning. Most of the participants appeared to be practising between the constrained stage and the open stage of learning. This study uncovers the concepts of preparedness, perception and persistence. The application of these exemplary concepts has strengthened the learning capability of some participants and distinguishes them as practising at the open stage of learning. By employing these concepts, *The Hospital* can also gain leverage to progress from the constrained stage to the open stage of learning that supports a systems approach, advocates double-loop learning and facilitates the culture of safety.

This case study has found that *The Hospital* assumes a controlling-orientation to ensure staff's compliance with policies and procedures to prevent patient incidents. However, it also advocates a safety culture and attempts to promote learning from patient incidents. This impetus is inhibited by the obstacles in its incident management system, the weak

modes of transfer of learning and hindering organisational practices. Three propositions are offered to overcome these barriers. Firstly, revolutionise the incident management system to remove obstacles due to the rigid format of *Incident Forms*, the difficulty in retrieving information and the lack of feedback. Secondly, provide regular, safe, transparent and egalitarian forums for all staff to learn from patient incidents. Facilitated incident meetings have been shown to be more effective platforms for learning than a bureaucratic approach via policies, procedures, training and directive decisions delivered during departmental meetings or by written communications. Thirdly, attain a balance between controlling and learning to mitigate the effects of bureaucratic process and the silo phenomenon.

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## GLOSSARY

Terms and definitions used in this report are adopted from Reason (1992), Ministry of Health (2001), New Zealand Incident Management System (Communio, 2008) and the Incident Management Policy of *The Hospital* (The DHB, 2008, 2009b).

**Clinical manager** is the line manager to whom a staff reports directly.

**Department** denotes a service, team, ward or unit.

**Errors** include slips, mistakes and violations.

**Health professional** is a healthcare service provider that includes medical practitioners, nurses, midwives and allied health professionals.

**Incident / patient incident** is an event which could have, or did, result in unintended or unnecessary harm to a patient.

**Incident management** is a systemic process for identifying, notifying, prioritising, investigating and managing the outcomes of an incident and acting to prevent recurrence or minimise harm.

**Investigation / incident investigation** is an inquiry to ascertain facts and identify causes of incidents.

**Minor incident** is an incident with minor or minimal consequence and the probability of recurrence being likely to highly unlikely.

**Moderate incident** is an incident with moderate consequence and the probability of recurrence being certain to highly unlikely.

**Near miss** is an event that could have had adverse consequences but did not and is indistinguishable from an actual incident in all but outcomes.

**Preventable incident** is an event that could have been anticipated but had occurred because of an error or systems failures.

**Reporting / incident reporting** is the completion of the incident form following the identification of an incident.

**Sentinel event** is an event in which unexpected death or serious harm to a patient occurred.

**Severity Assessment Code (SAC)** is a numerical score assigned to an incident, based on the consequence of the incident and the likelihood that it will occur. Incidents rating a SAC of 1 or 2 are considered extreme risk or high risk while a SAC of 3 or 4 are medium risk or low risk.

**Staff** is any person who works in a healthcare organisation. They include all employees at all levels.

**System** is a collection of components and relations between them. The components include human, such as staff; equipments, such as bed rails; technology, such as computers; and management policies and decisions.

**Systems failure / systems problem** is a fault, breakdown or dysfunction within an organisation's operations, processes or infrastructure.

**Unit manager** reports to the service manager or the general manager and is the person to whom the line manager or clinical manager reports.

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## NOTES ON QUOTATIONS

Direct quotations from the participants' narratives are in *italics*. The identity of the participants is anonymised and referenced to their narratives is at the end of the text, for example: "*Patient safety is ...*" (Manager A).

The identity of health professionals and names of the departments, procedures or treatment are replaced by [text inserted], for example: [staff] means a health professional, health professionals or frontline staff.

Words or phrases emphasised by participants are in capital letters and is noted accordingly, as shown in the following example: *patient safety is IMPORTANT* [emphasised by participant].

Direct quotations of the participants are included in the discussion because they reflect and describe the perspectives and situational experiences of the participants (Kramp, 2004; Weiss, 1995).

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# 1 WHY LEARN FROM INCIDENTS?

## INTRODUCTION

*Be a safety leader, not a hazard debt collector*

This is a slogan on the billboard of a construction site. The emphasis on safety is a motto that the healthcare industry can emulate from other industries and occupations. Healthcare organisations have come a long way in embracing the wisdom and intelligence of other industries and disciplines, for example, the aviation and high hazard industries, the organisational and psychology disciplines, and the safety sciences, and apply their knowledge to improve the quality and safety of healthcare (Bagian, 2006). Learning is nothing new for health professionals and healthcare organisations, but the emphasis on patient safety is the driver that propels healthcare organisations to learn from patient incidents. In this chapter, the background for learning from patient incidents will be outlined, then the aims of studying the learning capability of a hospital after patient incidents will be explained and, lastly, the overview of this report will be presented.

## PATIENT SAFETY: INTERNATIONAL EFFORTS

Quality healthcare is the provision of patient-centred, effective, efficient, accessible and safe care to patients (Ministry of Health, 2003). Patient safety is a pre-requisite of quality healthcare and it means error free (Kohn, Corrigan, & Donaldson, 2000). Contrary to this conviction, absence of errors cannot be guaranteed in healthcare.

In the book '*To err is human*' the American Institute of Medicine (IOM) reports that hospitals are not as safe as they should be (ibid.). Similar findings are reported in England (Walshe & Offen, 2001) and New Zealand (Davis et al., 2001). Despite the best efforts of teams of highly skilled and dedicated health professionals, undesirable incidents occur during the process of healthcare delivery, many of which may cause harm that is unrelated to the disease process of the patient (Ministry of Health, 2001).

Almost a century ago, Dr Codman, a surgeon and a visionary, had the acumen to advocate the philosophy of patient safety and quality healthcare. This philosophy, of providing safe and quality care, minimising harm from errors and maintaining patient safety during the delivery of healthcare, has become the imperative for healthcare organisations and the moral and professional duty of healthcare professionals. His philosophy also embraces the principles of learning from errors. In his book '*A study in hospital efficiency*', a classic published in 1916 that described the outcomes of post-operative patients in his hospital, Dr Codman (1992) advised that while health professionals have the best intentions to deliver the best care, they must recognise the limitations of medical science and the individuality and heterogeneity of patients. Hospitals, he proposed, must acknowledge the presence of preventable errors, identify and investigate the causes of the controllable and non-controllable errors, and implement actions to prevent their recurrence. His proposal represents the germinal features of organisational learning from errors whereby hospitals must study and learn from errors, develop strategies to minimise their recurrence and share their lessons with others across and outside the organisation.

Since the 1990s, many countries have set up agencies and organisations to improve the quality and safety of healthcare. To name a few, the Institute for Healthcare Improvement was founded in the United States of America (USA) in 1991 and this non-profit organisation aims to lead improvement in healthcare throughout the world (Institute For Healthcare Improvement, 2009). Since the publication of the IOM report, the promotion of patient safety has escalated into a global movement. In 2002, the World Health Organization (WHO) urged its member states to strengthen evidence-based interventions to improve the quality of healthcare and patient safety. As a result, the World Alliance for Patient Safety was formed in 2004 to drive global efforts to improve patient safety in all of the WHO member states (World Health Organization, 2008a). In the United Kingdom (UK), the National Patient Safety Agency was set up by the National Health Service (NHS) to lead and support improvement activities in its healthcare organisations. Its National Reporting and Learning Service aims to identify and reduce risks and lead improvement initiatives (National Patient Safety Agency, 2008). In Australia, the Clinical Excellence Commission was established in 2004 as part of the New South Wales Patient Safety and Clinical Quality Programme to ensure patient safety and excellence in clinical care (New South Wales Government, 2009). In the European Union (EU), the European Network for Patient Safety was launched in 2008 and aims to improve patient safety through the collaborative efforts of its 27 EU member states and other EU stakeholders (European Network for Patient Safety, 2008).

## PATIENT SAFETY: NEW ZEALAND APPROACH

In New Zealand, the Quality Improvement Committee (QIC) is a statutory committee and one of its objectives is to coordinate a national approach to address quality and safety problems within public hospitals (Quality Improvement Committee, 2008). In response to the WHO's safety initiatives, QIC prioritises five national quality improvement programmes and one of them is incident management. The incident management programme aims to assist hospitals in "... managing the risks of clinical care as well as for managing corporate risks. When implemented correctly, incident management is an effective mechanism for systematically identifying and managing problems and failures in the system and for informing the development of preventive strategies" (ibid. p.2). This programme provides a systematic approach to assist hospitals in managing patient incidents and disseminating the knowledge from lessons learned across and with other healthcare organisations (Communio, 2008).

In addition, the New Zealand Health and Disability Commissioner (HDC) is an independent agency set up in accordance with the Health and Disability Commissioner Act 1994. One of its objectives is to "promote and protect the rights of consumers who use health and disability services; help resolve problems between consumers and providers of health and disability services and improve the quality of health care and disability services" (Health and Disability Commissioner, 2008, p.1). The HDC investigates serious or sentinel events that are referred to them or when a patient or the family complains. The role of HDC is to recommend changes after the investigation; the responsibility of learning from incidents, however, remains with the individual healthcare organisations.

## PATIENT INCIDENTS IN HOSPITALS

Identification and prevention of errors and near misses are two of the steps towards improving patient safety (Quality Improvement Committee, 2008). In February 2008, upon the request of the media under the Official Information Act, the Ministry of Health (MOH) released a report of the serious and sentinel events that had occurred at its 21 District Health Boards (DHBs). The New Zealand public was informed that 182 patients were involved in actual or preventable events in the year 2006 to 2007 (Palmer & Nichols, 2008). Since then, the MOH has released a similar report on an annual basis. It was reported that 258 patients were involved in serious and sentinel events in the year 2007 to 2008, while 308 patients were involved in such events in the year 2008 to 2009 (Quality Improvement Committee, 2009). However, over the period from July 2008 to July 2009, nearly 950,000 people have been treated successfully and were discharged from public hospitals (*ibid.*).

A similar report was released by the Australian health department for the year 2004 to 2005. During that period, 130 events were reported that had caused harm or had the potential to cause harm among the 4 million hospital admissions and 43 million non-admitted patients in its 759 public hospitals (AIHW & Commission for Safety and Quality in Health Care, 2007). These reports provide “a window into the vulnerabilities and safety of the health care system” (*ibid.*, p. 1) and aim to encourage the learning and sharing of lessons from patient incidents among healthcare organisations.

Many adverse events are related to preventable errors. A study on adverse events in New Zealand hospital admissions in 1998 showed that about 40 percent of these errors were preventable and almost half of them were associated with systems factors (Davis et al., 2001).



Research on adverse events in a hospital in the USA showed that one quarter of these events were due to interactive or administrative errors (Andrews et al., 1997). The finding in France extrapolates that 120,000 to 190,000 adverse events during hospitalisation in 2004 were attributable to preventable errors (Michel, Quenon, Djihoud, Tricaud-Vialle, & de Sarasqueta, 2007). It is the obligations of healthcare organisations to the public and their staff to reduce preventable errors.

Healthcare is a risky business where absence of errors is not guaranteed. "For human beings our sense of humanity will demand that our only objective should be no injury or death although our sense of reality will tell us that in many circumstances that is impossible" (Bannister & Bawcutt, 1981, p. 77). In a hospital, the rate of patient incidents is relatively higher in specialties characterised by complexity in a highly technical environment (Kohn et al., 2000).

Patient incidents produce both negative and positive consequences. An incident causes extra stress and trauma to patients and their families because patients may have to be hospitalised longer and may suffer physical and emotional harm. Staff are affected emotionally and psychologically and health money is spent on correcting errors. Understandably, patients and their families want to know the truth after an incident and they expect an apology from the hospital (Bismark, Dauer, Paterson, & Studdert, 2006). But, most importantly, they expect the hospital will learn from the incident because "knowing that changes were made so that the others will not suffer gives a positive meaning to the patient experience – their suffering was not in vain" (Leape, cited in Kenney, 2008, p. 211). The occurrence of patient incidents indicates gaps exist between the desired performance and the actual performance (DiBella & Nevis,

1998), but it also provides an opportunity for learning. Learning from patient incidents assures and improves the public's confidence in the healthcare system.

## KNOWLEDGE GAPS IN LEARNING FROM ERRORS

Learning is not a simple process for healthcare organisations. In 2000, the United Kingdom published the report '*An organisation with a memory*' that identified some of the barriers to learning from adverse events in NHS organisations (Department of Health, 2000). In spite of the efforts of healthcare professionals, healthcare managers and healthcare organisations and the increased attention from experts and researchers, gaps remain in the understanding of learning from patient incidents and the sharing of lessons in healthcare organisations (World Health Organization, 2008b).

Learning from incidents and failures has been a routine practice in high-hazard organisations for a long time (Bagian, 2006). Studies on learning from incidents in high-hazard organisations have been conducted by many researchers (for example: Perrow, 1984; Reason, 1992; Carroll, 1995; Weick & Sutcliffe, 2007). Healthcare organisations are different from a high-hazard organisation such as a nuclear plant (Bagian, 2006) because healthcare is a people service provided by people to people. In a hospital, services are delivered to patients by multidisciplinary teams where both the customers and providers influence the process of service delivery and outcomes are variable and even unpredictable. In a nuclear plant, however, the work process is generally standardised with an expected outcome. Nevertheless, hospitals share some of the characteristics of the high-hazard organisations. Both industries are heavily regulated and

compliance-controlled, are organised along a hierarchical structure and operate in a complex and interdependent environment. Both healthcare organisations and high-hazard organisations are obliged to the public to learn from incidents to prevent their recurrence.

Carroll, Rudolph and Hatakenaka (2002) conducted several studies on the nuclear industry and petroleum plants and developed the model of four stages of organisational learning. They studied the learning practices of members of the incident investigation team in those organisations after accidents and failures. They proposed applying their model as a guide to analyse an organisation's stage of learning and to understand the challenge of balancing controlling and learning in other industries or settings. There is no published article or research report that replicates their study.

## FOCUS OF RESEARCH

This is a case study of a New Zealand hospital (*The Hospital*) and aims to understand how it learns after patient incidents. Specifically, the research focuses on the learning practices of ten managers of *The Hospital* who are responsible for investigating patient incidents or signing off the incident reports. The research question is: "*Can incident investigations generate valuable learning for investigators of patient incidents, and can their learning practices influence and lead to team learning and organisational learning?*" Data were collected by interviews with ten participants and by the examination of *The Hospital's* documents that included the incident management policy, quality plans and incident reports quoted by the participants. This case study finds that incident investigations have generated valuable learning for investigators of patient incidents and some of the

investigators have demonstrated exemplary concepts of learning that strengthen their capability to learn from patient incidents.

## OVERVIEW OF THE REPORT

The report is divided into six chapters. In Chapter 1 the background, aim and overview of the research has been introduced. Chapter 2 presents the literature review in four areas: patient safety, patient incidents, learning in healthcare and organisational learning. Firstly, it outlines the evolution of patient safety during the last 20 years. Then it describes the studies on patient safety and incident management in healthcare organisations during the last decade. It is followed by the characteristics of learning in healthcare organisations after failures or errors. Next, a summary of two models of organisational learning is presented. It includes DiBella and Nevis' model of learning cycle and Dixon's model of collective learning. Lastly, the synopsis of organisational learning according to Carroll and associates and selected experts and scholars of safety science and organisational learning is described.

Chapter 3 will explicate the methodology, including the context of the research, the focus of the research and the research strategy. The context describes the rationale of the selected research site and reviews its incident management policy. The focus of research defines the scope and research question of the case study. The research strategy guides the research method. Firstly, the appropriateness and limitations of case study as the research strategy are discussed. Secondly, the methods of data collection, which include the selection of participants and development of interview questions, are presented. Thirdly, the advantages and disadvantages of interviews

and document examination are explained. Fourthly, the processes of transcription and data analysis are depicted. Lastly, the methods employed in triangulation to assess the quality of the data are demonstrated.

In Chapter 4, the findings from interviews and documentation are presented. Firstly, the seven themes and the 24 sub-themes interpreted from the participants' narratives are introduced. They represent the participants' views on patient safety, investigator factors and organisational factors that influence the incident management process, and the learning capability of the participants, their departments and *The Hospital*. Secondly, results from incidents reports are summarised. Thirdly, exemplars of lessons learned from patient incidents are presented.

Chapter 5 encompasses three parts. Firstly, participants' views on *The Hospital's* patient safety are discussed and organisation's inhibitive conditions that compromise patient safety are explicated. Secondly, investigator factors and organisational factors that influence the incident management process and learning capability are elucidated. Thirdly, the processes of incident investigation, development of recommendations and evaluation of outcomes are described. Fourthly, the process of individual learning of the participants, including the role of reflection and the outcomes of sensemaking are delineated. Fifthly, evidence of team learning is illustrated and organisational barriers that limit the learning capability are explained. Lastly, mechanisms to overcome barriers to gain leverage for the progression of learning capability are proposed.

In Chapter 6, the learning capability of the participants and *The Hospital* and avenues for the progression of learning are summarised.

The limitations and assumptions of the study are outlined and topics for future research are suggested.

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## 2 LITERATURE REVIEW

### INTRODUCTION

The literature review focuses on four areas. These include patient safety, incident reporting, learning in healthcare and organisational learning. Firstly, the evolution of patient safety during the last 20 years is outlined. Secondly, studies on patient safety and incident reporting in healthcare organisations during the last decade are briefly described. Thirdly, the characteristics of learning from errors in healthcare organisations are discussed. Fourthly, the summaries of three models of organisational learning are presented. They include DiBella and Nevis' model of learning cycle, Dixon's model of collective learning, and Carroll, Rudolph and Hatakenaka's model of the four stages of organisational learning. This four stage model is amalgamated with a synopsis of the learning practices after failures, which are recommended by selected safety experts of safety science and scholars of organisational learning.

### PATIENT SAFETY

The concept of patient safety has evolved from an attribute of healthcare into a philosophy during the last two decades. The literature review on patient safety for this case study has been limited to the studies and discussions published since the early 1990s. They include the evolution of the definition of patient safety, the relationship between patient safety and patient incidents, and findings from selected studies on incident management in healthcare organisations.

## SYSTEMS PROBLEMS AND PATIENT SAFETY

All healthcare organisations are committed to providing quality care, but incidents occur that may harm patients and/or staff. Patient incidents cannot be eliminated by fixing problems at the frontline or blaming the frontline health professionals. In fact, blaming the individual results in underreporting of patient incidents, discourages the identification of causes and obstructs learning from incidents. Prevention of patient incidents involves a systems approach to errors and the identification of systems problems that cause or contribute to errors (Bagian, 2006; Kohn et al., 2000; Leape, 1994; Reason, 1990). The concept of systems thinking has been promoted as the golden standard in the healthcare industry, but it is still a relatively new approach for many organisations (Frush, 2005). The increase in complexity and advance in technology render a hospital more vulnerable to potential errors (ibid.). Like high-hazard organisations, hospitals must learn from minor events or near misses to identify systems vulnerabilities to prevent patient incidents and enhance patient safety (Carroll & Edmondson, 2002; Weick & Sutcliffe, 2007).

Many patient incidents are related to latent errors. As Reason (1990) explains, latent errors are systems failures that are not recognised by, and are beyond the control of, the frontline health professionals because latent errors are due to built-in organisational structure or previous management decisions. Notwithstanding, organisational decisions are bound to have a flow-on effect on every department because they are influenced by economic, political and financial constraints and they are likely to have some disadvantageous outcomes to some departments in an organisation (Reason, 2008). Blaming the Individuals or the organisation could not reduce errors in human systems, but modifying organisational conditions can reduce



the latent errors or make the organisation less vulnerable to those risks (Leape, 1994; Reason, 2008).

Systems problems are common occurrence in high-hazard organisations. Perrow (1984) describes a system accident as an unexpected interaction of interdependent failures due to the complexity and tight coupling in a highly technological organisation where staff have limited information or understanding of each department's actions. In fact, a hospital operates within a complex and highly technological environment that, in certain aspects, shares some similarities with a high-hazard organisation. Gaba (2000) discusses patient safety from the perspective of high-hazard organisations using the high reliability organisational theory and normal accident theory. He identifies four issues healthcare organisations must confront in order to reduce errors. They are goal setting, structural conditions, training and organisational learning. Patient incidents, albeit unsatisfactory and sometimes with undesirable outcomes, offer an opportunity for learning.

#### DEFINITION OF PATIENT SAFETY

Encompassing the above perspectives, patient safety is not just free from errors. Patient safety is a philosophy and a driver towards quality healthcare, as the following quotation explicates:

Patient safety is a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events (Emanuel et al., 2008, p.6) .

The global movement to improve patient safety has prompted an increase in the study of patient incidents. Safety experts and scholars suggest using stories of adverse events to study topics relating to patient safety (Emanuel et al., 2008). The sources of these stories come from the narratives of the staff involved in, and the investigators of, the incidents. From this a hospital can gain insights into patient incidents and make changes to improve its systems. In an organisation where there is openness and trust, the staff and the investigators are partners in the process of learning because they can share the perspectives and meaning of the incidents. Patient safety, from this perspective, contributes to organisational learning because it “espouses continuous cycle of learning, reporting of adverse events or near misses, dissemination of lessons learned, and the establishment of cultures that are trusted to not cast unfair blame” (ibid., p. 8).

#### STUDIES ON PATIENT SAFETY

The IOM report “*To err is human*” plays an important role in alerting the healthcare industry on the extent of harm suffered by patients, their families and staff due to patient incidents. To evaluate the report’s impact on the publication of literatures and research awards granted by the American government, Stelfox, Palmisani, Scurlock, Orav and Bates (2006) analysed 5514 articles in 1095 journals from 40 countries. They studied literature and research reports that were published five years before and five years after the publication of the IOM report. The number of samples they reviewed is not exhaustive, but those publications are integral to the knowledge creation that indicates the attitudes of the healthcare managers and health professionals towards the efforts of improving patient safety.

After the publication of the IOM report, Stelfox et al. (2006) found not only an increase in the amount of government-funded researches and articles published by medical professionals, but also paradigm changes amongst health professionals. The paradigm shift is the change in attitudes toward the prevention of errors and minimisation of harm from incidents. They noticed healthcare organisations are addressing systems problems and learning safety strategies from high-hazard organisations. Moreover, the research methodology appears to be moving towards qualitative studies that emphasise systems analysis to improve patient safety.

Patient safety has been discussed and studied from many perspectives. From a cultural perspective, Roberts (2003) studied the influence of culture and organisational policies on patient safety in New Zealand public hospitals. He surveyed staff at intensive care units to understand the culture and organisational policies on patient safety. From a service management perspective, Currie, Waring and Finn (2008) investigated the potential of sharing of knowledge among staff from different departments and the impact on learning from incident reporting. They conducted observational study, interviews and informal conversations with health professionals and managers at different levels in a NHS teaching hospital and analysed data from the perspectives of professional culture, managerialist, knowledge management and organisational learning. From a management perspective, Tucker and Edmondson (2003) studied how nurses responded to systems failures at the frontline and why hospitals have not learned from recurrent systems problems. They observed and interviewed nurses and found out how they managed or worked around problems during their daily work.

From an ethical perspective, Brown discussed the ethical dilemmas encountered by health professionals and administrators from the perspectives of patient safety and risk management (Patankar, Brown, & Treadwell, 2005). From a medical perspective, Neale, Vincent and Darzi (2007) reviewed the historical and cultural background that influences the involvement of medical professionals in clinical governance and learning from patient incidents. From a systems perspective, some researchers have suggested the types of tools and methods available for frontline staff to conduct studies on patient safety (Battles & Lilford, 2005; Cook, Render, & Woods, 2000). From an interventional perspective, Pronovost et al. (2006) studied the effect of the implementation of a safety programme on the culture and change management in an intensive care unit.

Despite the global efforts, the progress in learning from patient incident is still slow. Anderson, Crabtree, Steele and McDaniel (2005) recommend the use of case study and complexity science to study the interdependency and complexity of the healthcare system. Similarly, WHO acknowledges the understanding on patient safety is limited and gaps exist regarding the knowledge on the improvement of patient safety and recommends study on how knowledge on patient safety can be transferred into practice (World Health Organization, 2008b). Therefore, this case study aims to understand whether incident investigation can generate learning opportunities for incident investigators and their organisation.

## INCIDENT REPORTING

### LEARNING FROM PATIENT INCIDENTS IS SLOW

Learning from patient incidents provides insights that facilitate patient safety. Frush (2005) shares the experience of their organisation after a devastating event. He suggests the instillation of a safety culture through reporting, reviewing and responding to safety issues and sharing of accountability and responsibility among health professionals and managers. In an article that traced the progress of the patient safety movement in the USA after the publication of *"To err is human"*, Leape and Berwick (2005) observed that building a safety culture in healthcare organisations is a slow and immense process. Similar frustration is echoed by the New Zealand Health and Disability Commissioner, who states that the standards of patient safety in the public hospitals remain unacceptable and the progress in improvement is slow and fragmented (Hazelhurst, 2008). The reasons, according to Leape and Berwick (2005), include increased complexity due to advance in technology, multidisciplinary involvement in the delivery of healthcare, and the conflict between the health professionals' view on autonomy and the organisation's view on systems approach.

Also, the dissemination of knowledge and learning from errors among healthcare organisations is limited due to the unique nature of the healthcare industry, where patients are already compromised by their disease and organisations are always confronted with death and failures of medical interventions (Walshe & Shortell, 2004). When patient incidents occur, the organisation will not be as ready to detect the problems of errors as other industries (ibid.). Besides, a patient incident usually happens to one patient at one time, and similar incidents occur in different organisation that may not be proactively

sharing this kind of information with other healthcare organisations. Thus, the exact number of patient incidents due to or contributed by systems failures remains unknown (Gaba, 2000; Walshe & Shortell, 2004).

## STUDIES ON INCIDENT REPORTING

Studies and discussion papers on incident reporting illustrate the diversity of perspectives on incident management. For example, Rivard, Rosen and Carroll (2006) studied the application of the patient safety index to manage incident data and facilitate organisational learning. Some researchers enquired the reporting behaviours of health professionals in Australia (Evans et al., 2006), New Zealand (Soleimani, 2006), the UK (NHS Confederation, 2008) and the USA (Clarke, 2006). Braithwaite, Westbrook, Mallock, Travaglia and Iedema (2006) studied health professionals in New South Wales of Australia who had attended training in root cause analysis. They identified the difficulties these investigators encountered when investigating patient incidents and when proposing changes that could improve patient safety. Benn et al. (2009) explored the characteristics of feedback mechanisms for incident reporting systems. They performed an extensive literature review and conducted semi-structured interviews with 19 experts from different industries to understand the incident learning cycle. They proposed a five-mode feedback mechanism and 15 requirements for designing an incident feedback system in order to improve patient safety.

Other safety experts and scholars discussed and examined the organisational factors and perceptions of staff that could hamper the effectiveness of incident reporting and inhibit learning from patient

incidents (Benn et al., 2009; Braithwaite et al., 2006; Evans et al., 2006; Kaplan & Fastman, 2003; NHS Confederation, 2008; Shojania, 2008; Soleimani, 2006; Tucker & Edmondson, 2003). They have identified several organisational factors and human factors that impact on the incident management process of healthcare organisations. Specifically, the lack of feedback is identified as the major organisational barrier to incident reporting, which can be exhibited in different manners. For instance, organisations do not actively encourage reporting, do not communicate the outcomes of the investigations, and/or do not effectively disseminate lessons learned. Quite often, organisations collect data on a large volume of minor incidents but a small volume of significant incidents (Shojania, 2008). The sheer volume of minor incidents turns the incident information system into an electronic dump where data are collected with no real actions being taken nor lessons being learned (Kaplan & Fastman, 2003).

Likewise, researchers and safety experts observe that the perceptions and behaviours of the staff are the human factors that influence the effectiveness of the incident management process and the learning process (Benn et al., 2009; Braithwaite et al., 2006; Evans et al., 2006; Kaplan & Fastman, 2003; NHS Confederation, 2008; Shojania, 2008; Soleimani, 2006; Tucker, 2006). They find that many health professionals are reluctant to report incidents for fear of blame and fear of loss of trust from patients or colleagues. Nor do health professionals report when they perceive the incidents as near misses or trivial. Sometimes, frontline staff may not recognise those risks that may cause or have caused patient harm. On the other hand, some health professionals perceive the organisation is ignoring the investigator's recommendations or implementing superficial actions that do not address systems problems. Further, some staff do not

report because of the lack of time, heavy workload or the cumbersome format of the incident reports.

#### INCIDENT REPORTING AND LEARNING

Incident reporting is one of the steps in the process of incident management. It is a retrospective approach and relies on voluntary reporting by staff. To encourage reporting and promote learning, feedback is essential because it is an integral part of the learning process (Benn et al., 2009). Incident management must employ a systems approach and interventions must address organisational, cultural or departmental issues. The process of incident management is considered to be complete only after the communication of the outcomes of the investigation to the incident reporter and investigator, the evaluation of the implementations, the assessment of effectiveness of interventions and the sustaining of the changes implemented (ibid.).

Incident reporting systems and prospective assessment tools are some of the tools for managing patient incidents, but they do not necessarily bring about individual or organisational learning. Cooke, Dunscombe and Lee (2007) surveyed the perceptions of frontline staff on incident reporting in a tertiary cancer care centre in Alberta, Canada. They found the evidence of learning from incident reporting was limited among the respondents of their study. Michel et al. (2007) undertook a government-funded prospective assessment of adverse events in 71 French hospitals in 2004. They found 35 percent of the adverse events during the study period were due to preventable errors and the prospective assessment tool increased the awareness and involvement of health professionals on clinical risk management.



Despite this advantage, prospective assessment does not explain how organisations learn after patient incidents.

In an editorial, Vincent (2007) points out incident reporting captures only a fraction of the actual numbers of patient incidents that have occurred in a healthcare organisation and recording the quantity of incidents will not improve its learning capability. To develop meaningful and useful incident information, Vincent advises, incident reports must be analysed by people who understand the human, clinical and organisational issues involved in an incident. Incident reporting provides the warning signs of problems and complements safety information, but learning from patient incidents is more than reporting.

Incident reporting plays an important role in patient safety, but reporting does not equate to learning. Pronovost et al. (2008) examined the benefits, limitations and challenges of a web-based incident reporting system. They acknowledge the roles of incident reporting in improving patient safety through the identification of organisational issues that compromise patient safety, prioritisation of resources for appropriate interventions that minimise risks, and evaluation of interventions. However, incident reporting is a voluntary reporting scheme and therefore it is not a valid measure of patient safety efforts. To ensure learning from patient incidents occur, they recommend the sharing of lessons at the local, departmental and organisational levels as well as outside the organisation.

Furthermore, Pronovost et al. (2008) alert us that there is variable effectiveness of interventions aimed at improving patient safety. Strong interventions can eliminate errors, for example, the redesign of anaesthesiology equipment to prevent wrong connections. Mediocre interventions would make error visible, for example, the

use of a sticker on the tubing to prevent inadvertent connection. Weak interventions might minimise errors, for instance, the removal of potassium chloride from clinical areas to prevent inadvertent injection of undiluted solution. They note interventions such as the development of another policy, or merely reminding of staff to be vigilant, to be the weakest type of interventions. These are the most commonly used, but also the most ineffective, interventions that neither enhance patient safety nor improve the learning capability of the organisation.

The effectiveness of interventions to reduce adverse drug events has been studied by Mills, Neily, Kinney, Baigan and Weeks (2008). They reviewed 143 reports of root cause analysis associated with adverse drug events submitted in the fiscal year of 2004 to the Veteran Affairs (VA) National Center for Patient Safety in the USA and one medication-related aggregated report from each VA facility. They found interventions that rely on training, policies and procedures are less effective in the reduction of drug errors when compared to interventions that focus on the improvement of processes and systems, visible leadership and support for staff.

Incident reporting is only one of the activities that contribute to the improvement in patient safety. To promote learning from patient incidents, healthcare organisations must realise the response to incident reports is more important than reporting (NHS Confederation, 2008). In addition to encouraging incident reporting as one of the essential steps in improving patient safety, organisations must make incident reporting a safe, transparent, trusted and easy process, provide regular feedback to staff on the outcomes of the investigation, and focus on learning from incidents (Kaplan & Fastman, 2003; NHS Confederation, 2008; Tucker & Edmondson,

2003) . Moreover, proactive safety measures, continuous improvement programmes, collaboration between departments and participation by all staff are imperatives in improving patient safety (Macrae, 2008; Weick & Sutcliffe, 2007).

## LEARNING FROM FAILURES

Cannon and Edmondson (2001) opine that many literatures do not clearly describe the process of learning from failures. They conceptualise the process of learning from failures as “identifying failures, discussing and analysing them and dealing with conflict and disagreement productively” (p. 163). They studied the beliefs at group-level about failures and its relationship with group performance in a manufacturing organisation and suggested further research in other contexts to study learning from failures.

In fact, to understand how healthcare organisations learn, this kind of studies must be conducted within a healthcare context (Blumenthal & Thier, 2003) because different types of organisations learn in different manners, for different reasons and at different stages. Learning from common errors is as important as learning from catastrophes. Many experts advocate the prudence of learning from common and minor errors that are due to systems problems to prevent their escalation into major events (Battles, Dixon, Borotkanics, Rabin-Fastmen, & Kaplan, 2006; Carroll & Edmondson, 2002; Weick & Sutcliffe, 2007). Carroll and associates (2002) used case studies to construe how some high-hazard organisations learned from experience and described how those organisations changed their learning practices. They found individual learning occurred in the members of the incident

investigation team, within the team and the organisation during and after incident investigations.

Argyris and Schön (1978) describe organisational learning as a process through which the “learning agents” (p. 29) detect the errors, investigate the causes, correct the mistakes and institutionalise the changes. In a hospital, the clinical managers are usually responsible for investigating patient incidents that occur in their departments. Therefore, they are both the investigators and the learning agents who identify causes of errors, recommend changes, implement actions and evaluate the outcomes (Carroll & Edmondson, 2002). During the process, they encounter disagreement, discontent and difficulties, but also acquire tacit knowledge (Carroll et al., 2002; Senge, 2006). Although individual learning does not translate into organisational learning automatically, dissemination of the tacit knowledge of the learning agents can be facilitated by cultivating a culture of learning from errors, establishing leadership that promote learning, developing the skills of staff in collective reflections and encouraging participation from staff at all levels of the organisation (Carroll & Edmondson, 2002).

Some healthcare organisations may have already implemented knowledge management processes to enhance performance, but intra-organisational knowledge transfer remains ineffective. Pfeffer and Sutton (1999) explain how tacit knowledge is transferred in an organisation. The knowledge that improves organisational performance, they articulate, does not readily transfer within an organisation due to the presence of the “knowing-doing gaps” (p.86) because information systems cannot capture or store tacit knowledge, which are often being applied in day-to-day work. Managers who design knowledge systems to collect and store

knowledge may not understand how knowledge is actually used at work. Pfeffer and Sutton (1999) indicate tacit knowledge is transferred mainly through informal and interactive channels such as story-telling, watching people at work, teaching people or being taught, serving customers, participating at meetings, supervising or mentoring. Many managers believe that since decisions have been made at meetings, changes would occur, but this is a misconception (ibid.). Knowledge transfer does not happen by merely talking and analysing, it occurs during actions and interactions.

## INCIDENTS IN THE STUDY OF CARROLL, RUDOLPH AND HATAKENAKA

Carroll and associates (2002) used case studies to illustrate how three nuclear plants and a petrochemical plant in the USA learned after failures. The aim of their research was to understand the learning practices of members of the incident investigation team and their sponsor managers, both of them were not involved in the events. They recommend future research using the model of four stages of learning as a guide for analysis to understand the process of learning from experience in different industries or different settings. Their model provides a conceptual framework that directs and guides this research.

Specifically, I have used two of the incidents reported by Carroll and associates (2002) for comparison in this research. One of them involved the incident of *"fall from roof"* where a worker fell from the roof during a maintenance job in a nuclear power plant. The investigation team attributed the causes to be lack of compliance by the operators and their supervisors and recommended changes to

enhance compliance with the existing standards. Carroll and associates labelled this kind of organisation as a controlling-oriented organisation.

The other incident is the “*charge heater fire*” in a petrochemical plant. This plant had recently introduced large-scale training on root cause analysis and the investigation team identified several contributing factors to the incident. The key lesson the members of the investigation team had learned from the investigation was they came to realise how their own assumptions might have influenced an investigation. The investigation team identified many previous decisions had been made in the petrochemical plant without questioning the underlying assumptions of the organisation. Carroll and associates described this plant as an organisation that was striving to motivate openness and learning. The incidents of “*fall from roof*” and “*charge heater fire*” have been used to compare with the approaches to investigation and the learning practices in *The Hospital* because there are similarities and differences in the organisational behaviours between *The Hospital* and the nuclear plant and the petrochemical plant.

## LEARNING IN HEALTHCARE

### MAKING SENSE OF PATIENT INCIDENTS

Organisational learning occurs in healthcare organisations all the time due to improvement programmes, regulatory requirements, advances in technology and/or organisational failures. In this section, the process of sensemaking during incident investigation is discussed. Collective reflection and collective sensemaking are two of the

essential elements in the process of organisational learning. Boud, Keogh and Walker (1985) believe that the process of collective reflection in a team shares similar features to that of individual reflection. They infer that their model of individual reflection is applicable for collective reflection to assist deliberate team learning from the experience of an incident. One of the responses of a person to an unexpected incident is to reflect on the incident, which brings new understanding of that experience. The experience may include “observation, thoughts, perceptions, reactions, awkward moments, and interchanges ...” ( *ibid.*, p. 19). The intent of the person influences the process and the outcomes of reflection. If the incident is considered to be significant, reflection occurs. Therefore, the reflection is subjective and is dependent on the social and political contexts of the person’s perceptions.

Kemmis (1985) describes the relationship between reflection and actions. Reflection is a social and political act to initiate actions that serves human interests. It is action-oriented and based on past experience. People reflect when they pause to think about the situation, the context of the situation and the relationship between the situation and their actions, which leads to more thinking. Reflection can therefore be visualised as a quiet conversation between the individuals and their mind and the outcomes of the reflection are actions that other people could understand. Actions are based on the contexts of personal, social, cultural and political interests and are created and sustained by communication, decisions and implementation of interventions.

A patient incident is an unexpected experience. As staff who are involved in an incident describe their experience, “... a situation is talked into being through the interactive exchanges of organizational

members, to produce a view of circumstances including the people, their objects, their institutions and history, and their siting in a finite time and a place..." (Taylor & Van Every, 2000, p.33-34). Therefore, organisational sensemaking is the process where "people organize to make sense of equivocal inputs and enact this sense back into the world to make the world more orderly" (Weick & Sutcliffe, 2007, p. 410) . Sensemaking creates order amongst the chaos.

Incident management process is one of the retrospective approaches that enables health organisations to make sense after patient incidents and informs the organisation of the possible actions to prevent recurrence (Battles et al., 2006; Carroll, 1995). It is a socially constructed process to engender new understanding of the circumstances and contexts of the incident and is based on the organisation's procedures, policies, values and beliefs. During sensemaking dialogues between the investigators and the staff involved, they interact and communicate, share stories and exchange information, and come to understand the interdependency and relationship within the complex healthcare environment (Battles et al., 2006). The spoken words of the dialogues and the written words of the incident reports give meaning to the incidents (Carroll et al., 2002).

Shared dialogues during the process of sensemaking are different from the conversations that take place in departmental meetings. Departmental meetings are communication process where managers and staff share and exchange information on specific topics that may include quality and safety issues (Communio, 2008). Battles et al. (2006) explain the roles of dialogues for sensemaking of a patient incident. The dialogue is conversations among people who have an interest in the incident. They include staff who are involved in the



incident, the other staff of the department, the investigators and other stakeholders. Based on their experience and knowledge, the purpose of the dialogues is to understand the incident by reducing the ambiguity related to the incident and creating new understanding. This understanding then forms the basis of actions. Engaging and empowering the staff in the processes of deliberate reflection and sensemaking are essential, Battles et al. (2006) emphasise, because they would take ownership to identify the issues and the risks associated with the incident and create appropriate interventions that they would understand, support, implement and sustain.

Facilitated incident meetings are one of the means by which staff have the opportunity to participate in sensemaking dialogues where they share stories and lessons learned from patient incidents (Communio, 2008). Managers facilitate the meetings by providing a trusting and transparent environment where staff feel safe to discuss their experience and perceptions. The purposes of facilitated incident meetings are to encourage learning from incidents, to promote an open and transparent attitude towards incident management and to adopt a systems approach rather than a person approach to errors (ibid.).

## BARRIERS TO LEARNING IN HEALTHCARE

However, the structural, cultural and professional characteristics of healthcare organisations may hinder the opportunities for shared dialogues and reduce the learning capability of an organisation after patient incidents. Departmentalisation and specialisation are essential in healthcare organisations. However, Dixon (1999) warns, departmentalisation is not conducive to organisational learning

because it creates a silo phenomenon where one department does not have access to the knowledge of another department. Nor does each department understand the implications of its actions on other department because they lack a systems perspective.

The professional and cultural characteristics of healthcare organisations could also undermine the learning capability of healthcare professionals. Tucker and Edmondson (2003) identify three characteristics that inhibit organisational learning in hospitals: “an emphasis on individual vigilance in health care, unit efficiency concerns, and empowerment” (p. 63). These characteristics encourage frontline staff to solve problems independently and efficiently. Very often they work around problems or apply quick fixes to ensure the delivery of care to patients, without examining the underlying systems factors (ibid.).

The culture of each occupational group in healthcare organisations is distinct. Currie, Waring and Finn (2008) found that the cultures of different groups exhibit different beliefs, assumptions and behaviours about learning and their cultural norms determine their attitudes towards the sharing of knowledge within and across different occupational groups. Furthermore, incident management, risk management, and policies and procedures are perceived as managerial control over professional decisions that could not contribute to the improvement of patient safety (ibid.).

Waldman and Yourstone (2007) contemplate the difficulty of organisational learning in healthcare organisations and advocate health professionals and healthcare managers must learn how to unlearn. Unlearning, they explain, is not a normal process because healthcare organisations are traditionally entrenched with hierarchical structure, risk avoidance and name-blame-shame culture.

The culture of name-blame-shame poses a psychological burden on healthcare professionals. They perceive the admitting or reporting of errors as leading to the loss of trust and confidence from patients and colleagues and the forfeiture of the control over the outcomes of their actions (Cannon & Edmondson, 2005). Such fear and perceptions reduce the opportunity to learn from patient incidents.

In addition, the individuality and diversity of patients render the application of management theory such as organisational learning more complex and difficult because patient outcomes are not as predictable as, for example, the work process in a nuclear plant. Healthcare organisations must accept that what they know “might be inaccurate or incomplete or non-functional, can we consider alternatives” (Waldman & Yourstone, 2007, p.229). Healthcare organisations must be willing to unlearn, commit the time and effort to continuous learning and develop organisational structures that facilitate and support the practice of systems approach (ibid.).

Furthermore, unlearning is difficult in organisations with hierarchical structures such as hospitals. Hartmann et al. (2009) endorse the findings by Carroll and associates (2002) about high-hazard organisations where the flow of incident information and the efforts of quality improvement are impeded due to hierarchical structure. To promote patient safety and encourage learning from patient incidents, Hartmann et al. (2009) suggest, hospitals must adopt an open and flexible culture where staff are encouraged to share incident information across ranks with management. This is easier said than done because the learning practices of each organisation differ according to the environment, organisational needs and development and stage of learning.

## ORGANISATIONAL LEARNING

The process of learning is complex and the context for learning is different dependent on the needs of the organisation. Since the 1960s, numerous models of organisational learning have been developed (Bell, Whitwell, & Lukas, 2002). Only two models of organisational learning, DiBella and Nevis (1998) and Dixon (1999), are included in this review because they describe the process of post-event learning that is appropriate for the understanding of the learning process after patient incidents. The characteristics of Carroll and associates' (2002) model of four stages of organisational learning and the features of the learning practices, principles and assumptions in high reliability organisations are then presented.

### LEARNING CYCLE OF DiBELLA AND NEVIS

DiBella and Nevis (1998) describe the learning cycle as a process of acquisition, dissemination and utilisation of knowledge that incorporates a set of learning orientations and facilitating factors. Individuals acquire new knowledge through the experience they encounter and interpret this experience into meaning, based on which actions would be initiated. This knowledge, however, is mainly tacit and can only be shared with others when they become explicit. In an organisation, the source of knowledge comes within the organisation from its staff or from outside the organisations. Even though knowledge may have been acquired and shared, organisational learning will occur only if this knowledge is used to initiate actions, becomes part of organisation's memory and is integrated into the organisation's culture.

The learning cycle comprises a set of seven learning orientations and seven facilitating factors. They could promote organisational learning but, DiBella and Nevis (1998) explain, organisations do not demonstrate all of these characteristics at the same time. Instead, they adopt those learning practices that would meet their needs. For example, the focus of learning after patient incidents in a hospital would be to prevent future errors and the style of learning may be correctional. Learning orientations include knowledge source and dissemination mode. The source of knowledge may come from the staff involved in the incident, the incident investigators or the managers who sign off the reports. Knowledge is disseminated by a bureaucratic style to institutionalise lessons learned by written policies and procedures, and formal education and training of staff that are based on best practice. Organisational conditions that are essential to facilitate post-event learning include acknowledgement of performance gaps, climate of openness and a systems approach.

The occurrence of patient incidents indicates the existence of gaps between the hospital's desired performance and actual performance. They provide an opportunity for improvement and learning. Organisational learning is enhanced if management share their knowledge with all staff and do not blame and punish those who are involved in patient incidents. DiBella and Nevis (1998) recommend organisations adopt a systems approach to enable staff and management to recognise the complexity, interdependency and interrelationship of the processes and systems among the multidisciplinary teams during the delivery of healthcare. Besides, a collaborative approach to learning could complement the individualistic paradigm of health professionals.

### DIXON'S MODEL OF COLLECTIVE LEARNING

Dixon (1999) explains the roles of collective interpretation and meaning creation in organisational learning. Humans learn when they perceive a difference: the difference is the gap between their understanding and their expectations. The process of learning from an incident begins when they reflect deliberately on the incident. But humans are selective as to the information they receive and their reflection may be based on incomplete data or the experience of a single event. Hence, reflection is a subjective process according to the individual's meaning structures that are based on the individual's knowledge, past experience and the context of the incident. Nevertheless, reflection enables people to make sense of an incident, to create meaning structures for novel experience and to initiate actions. The variance in each person's interpretations of the same incident are due to the subjectivity of reflection and the diversity of meaning structures employed during the process of sensemaking.

According to Dixon (1999), organisational learning occurs when people share, examine, exchange and challenge each other's meaning structures and develop collective meaning from the experience of the incident. Experience, however, cannot generate collective meaning or initiate organisational learning. Organisational learning will be initiated when staff have equal opportunities to share their experience through dialogues with people with different perspectives. They would then develop collective understanding of the incident and develop solutions based on the data they generated during dialogues, reflections and interactions. The organisation's history, culture, values and beliefs also influence their actions and decisions.

Furthermore, organisational learning is the responsibility of all staff, not just that of the managers or the quality department.

Organisational learning, Dixon (1999) advises, is enhanced in organisations that develop systems and processes to facilitate collective reflection and meaning creation. Staff who are involved in the incidents must participate in the reflection and interpretation processes so all relevant information is gathered and integrated into the organisation's systems. Staff influence, and are influenced by, other's perspectives and meaning structures. Interactions and multiple perspectives create new understanding and new meanings that initiate new actions and generate new learning.

Dixon (1999) warns organisations about the limitations of meetings and written materials as the means to facilitate organisational learning. Meetings or written information are means for communication but they do not generate reflections. Therefore, organisational learning will not materialise during departmental meetings, nor will it occur through newsletters or reports. Likewise, sending staff to courses does not result in organisational learning because listening to other people's perspectives does not create new knowledge due to the absence of collective reflection and collective meaning creation.

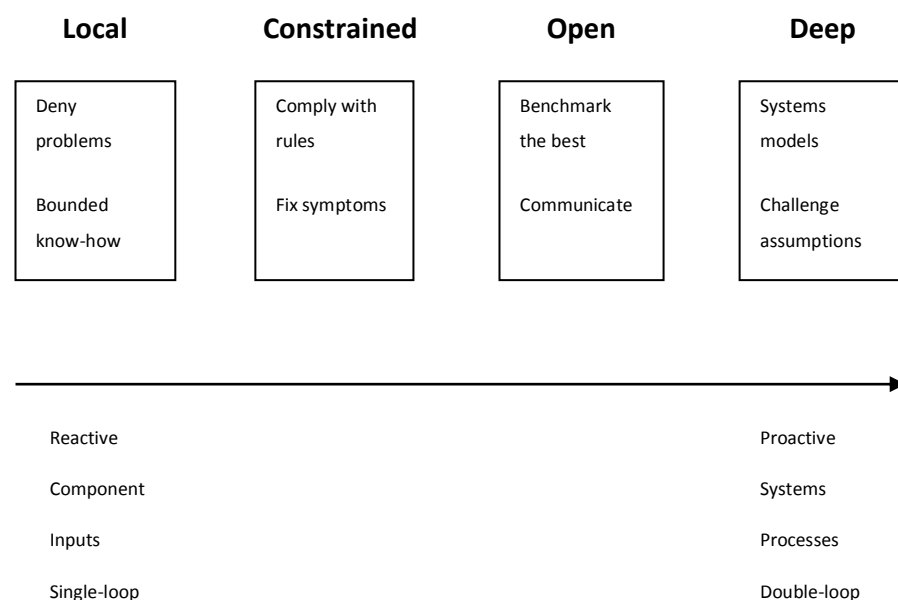
#### FOUR STAGES OF ORGANISATIONAL LEARNING

Carroll and associates (2002) developed the model of the four stages of organisational learning and recommended the model as a framework to guide analysis rather than as a prescription of learning capabilities. They assert that an organisation can demonstrate a mixture of the learning capabilities at different time. For a hospital to learn from patient incidents, it requires various learning capabilities to effect change and improvement. Their model is used in this case study

to analyse the stage of learning of a hospital through the experience of ten managers who are responsible for investigating patient incidents or signing off incident reports.

The following sections include the model of Carroll and associates (2002) and a summary of the learning capabilities recommended by experts and scholars, such as Weick and Sutcliffe (2007), Cannon and Edmondson (2005), Reason (1997) and others. They describe the learning practices, principles and assumptions in high reliability organisations and healthcare organisations. The synopsis includes both reactive and proactive processes that healthcare organisations can adopt after errors to prevent recurrences or minimise harm. Their propositions are similar to the characteristics of the model of the four stages of organisational learning and so they are grouped together according to the local, constrained, open and deep stage of learning. This model is illustrated in Diagram 1.

*Diagram 1: The model of four stages of organisational learning<sup>1</sup>*



<sup>1</sup> Carroll, J.S., Rudolph, J.W. & Hatakenaka, S. (2002). Learning from experience in high-hazard organizations. *Research in Organizational Behavior*, 24, p.119.



At the local stage of learning, Carroll and associates (2002) explain, the learning practice of an organisation is reactive and aimed at correcting local errors. The organisation assumes that its designs and policies guarantee problem-free operations, and industry standards, rules and procedures are the answers to correct errors. The organisation does not examine whether its underlying assumptions are appropriate. The detection and definition of errors is different in different departments and solutions are technical and task-specific. Corrective actions are decided by the department involved without considerations of the impacts on other departments and operators are blamed for the errors. The organisation's blaming and controlling culture inhibits the flow of information and discourages staff's participation in and contribution to identifying causes and solutions. Learning after errors, if it occurs, is limited within the department only.

Weick and Sutcliffe (2007) would describe the above organisation as a non-high reliability organisation. Such organisations rely on plans, routines, rules, training and hierarchical controls to evaluate performance and manage errors. Foregoing thorough investigations after errors, the organisation presumes simple diagnosis suffices and routines and procedures assure successes. It denies the presence of small errors and neglects the expertise of frontline staff in establishing the organisation's resilience.

Cannon and Edmondson (2005) refer to the aforementioned attitude as self-protective whereby the organisation rebuts the existence of errors and shoots the messengers. It blames the individual or the systems for errors. People are rewarded for efficiency in dealing with errors, but not for reflection and in-depth analysis. The organisation

does not commit resources, nor provide incentives to analyse errors or promote learning.

Perin (1995) comments that this kind of organisation only focuses on after-event analysis and investigations are task-specific or component-oriented because its goal is to maintain the effectiveness of routine operations. It denies errors and attributes errors as the fault of staff and does not evaluate whether organisational actions are contributing to the problems. Its solutions are disciplining or firing the operators. Management are more concerned with whether procedures have been followed, and interventions are geared at the implementation of more training and more policies and procedures to control and guide actions.

Westrum (2004) indicates this type of organisation as one with a pathological culture. In this kind of organisation, information is regarded as a resource for power and personal interest and therefore it is not shared freely among staff. The messenger is shot and bad news concerning errors is encapsulated to minimise the impact on the organisation. Responses to errors are slow, problems are solved locally and operators are blamed.

At the constrained stage of learning, Carroll and associates (2002) describe the learning practices of the organisation as one that are circumscribed by its assumptions, mental models and routines. It acknowledges the presence of errors and expects its designs and procedures will reduce problems to an acceptable level. Management reject suggestions that challenge their assumptions. The organisation regards regulations, compliance, professional standards, formal procedures, extra training and hazard barriers as the means of and

solution to preventing errors. They adopt best practices to fix problems but do not examine the organisation's underlying assumptions that influence the success of the interventions. The controlling orientation inhibits learning because staff will not report errors and learning remains a single-loop that aims to fix problems.

Weick and Sutcliffe (2007) explain why learning is limited in an organisation at the constrained stage of learning. Errors are unexpected events and the organisation finds it difficult to accept this reality because it expects its actions and plans will produce the expected results. Actually, expectations mislead the organisation into assuming that it understands the causes of errors and its plans and routines can solve its problems and guide its actions. But their expectations and assumptions are based on limited and obsolete information that has been used to deal with past events and thus organisational learning is impeded.

Singer and Edmondson (2008) refer to the controlling orientation in the prevention of errors as an "advocacy orientation" (p.44). It is a reactionary approach where errors are analysed by the department or by the discipline concerned and actions are modified after errors. The organisation has a bureaucratic structure and is controlling-oriented where it assumes rules and guidelines will influence and direct staff's actions. The organisation evinces the lack of learning after errors and the absence of a safe environment where staff can voice their concerns or challenge the organisation's underlying assumptions.

Reason (1997) points out that when an organisation adopts a reactive approach to errors it also demonstrates the "tick-off phenomenon" (p.113) and the "positional paradox" (p.113). Behaving with the tick-off phenomenon, the organisation concentrates on the active factors that cause errors and implements safety measures by writing more

procedures and meeting regulatory requirements. Exhibiting the positional paradox, the organisation blames, punishes and disciplines the operators who are merely following the prescribed procedures. Blaming the staff deflects the blame from the organisation even though the errors may be due to systems failures.

Westrum (2004) labels an organisation with a bureaucratic culture as one that applies rules to achieve departmental goals and follows standard procedures to handle incident information and errors. Staff have limited awareness of interactions outside their departments and the effects of errors are extenuated by the department's remedial actions. Learning is constrained because managers are only interested in the goals of their individual departments and not on identifying systems conditions that may contribute to the errors.

At the open stage of learning, Carroll and associates (2002) explain, the organisation supports an environment of open learning and facilitates an atmosphere of trust and teamwork. It advocates a questioning and learning attitude and a safety culture where people acknowledge doubt and emphasise mindfulness. Management are aware of the limitations of top-down control and they value staff's contributions, teamwork and learning. The organisation acknowledges that staff have emotions, conflicts and different perceptions and staff are encouraged to express their viewpoints and to learn through social interactions and from others' feedback. Thus problems and errors are identified at an early stage when they are more manageable. The organisation is developing the competency towards double-loop learning.

Cannon and Edmondson (2005) delineate a similar proactive process to identify and learn from small errors to prevent major errors and recurrence. All staff are trained to identify the technical and social barriers to learning. In healthcare organisations, the technical barriers are due to the complex technology, diverse specialties and multidisciplinary involvement in the delivery of healthcare, while the social barriers are due to the hierarchical and professional characteristics of a healthcare organisation. A learning-oriented organisation fosters a trusting environment that counteracts those barriers so staff feel safe to discuss and explore causes of errors and listen to others' perspectives. It acknowledges errors are part of a complex system, encourages the learning and sharing of lessons across and outside the organisation. Learning is promoted and encouraged by rewarding people to report, identify and analyse errors, and implement changes that reduce their recurrence.

Cooke and Rohleder (2006) propose a safety and incident learning model that they developed by simulation modelling. Reduction of organisational loss is accomplished through the minimisation of unsafe conditions and severity of incidents. This is achieved by identifying the causal structures rather than focusing on the diagnosis of a single root cause. To ensure learning occurs, the organisation encourages staff's participation and commitment to report errors and rewards staff for incident reporting. It implements actions that are based on learning and analyses its prevailing culture regularly. Learning is enhanced through an effective change process and sharing of information within and outside the organisation.

Singer and Edmondson (2008) label such an organisation as an inquiry- and learning-oriented organisation. An enquiry-oriented organisation acknowledges the ambiguities and gaps in the

understanding of errors and investigates errors from multiple perspectives, different sources and different disciplines to obtain insights and understanding about the issues. Staff are encouraged to challenge the organisation's underlying assumptions and test alternatives to address issues. The organisation cultivates a safe environment where staff can voice their dissent, reveal their failures and discuss their concerns. In a learning-oriented organisation, it encourages input from staff because the organisation acknowledges its limitations and emphasises interdependency. It uses both successes and failures as learning opportunities and staff share the common goals of improving and learning.

An organisation can progress to the deep stage of learning, according to Carroll and associates (2002), when it improves and advances the learning capabilities that are acquired during the open stage. The organisation acknowledges errors as one of the features of a complex and interdependent system. Its inquiry skills are based on facts and the relevant organisational, cultural and political factors. The goal of the improvement process is to generate new concepts and new techniques that challenge the organisation's underlying assumptions and cognitive habits. The learning practices establish new dialogues among different occupational groups, enact new behaviours, develop new skills and new knowledge, build new relationships and induce cultural change. Staff understand and practise systems thinking, respect people across disciplines, share mental models and accept diverse viewpoints. Management tolerate short-term difficulties and realise long-term benefits are achieved through learning.

Weick and Sutcliffe (2007) designate this type of organisation as a high-reliability organisation that implements the principles of

“preoccupation with failure, reluctance to simplify interpretations ... sensitivity to operations” (p.45), “commitment to building resilience and deference to expertise” (p.65). Staff are heedful of minor errors and near misses, which indicate vulnerabilities of the systems. They appreciate the importance of identifying and reporting errors so the organisation can correct and learn from them. The organisation encourages staff to be mindful of success and complacency because both of them distract and diminish vigilance and result in carelessness and errors. It encourages diversity in viewpoints and experience, analyses errors through different contexts, categories and expectations, and implements practices that incorporate different perspectives.

In a high-reliability organisation, as Weick and Sutcliffe (2007) explicate, management are knowledgeable of the frontline operations and promote interdependency and collectiveness to ensure staff are aware and part of the big picture. Therefore, staff will be more alert to any small discrepancies and correct them before their escalation into serious problems. Management value the expertise of the frontline staff who know how the organisation operates and its success is dependent on the interrelationships and interactions of the staff. The organisation continuously improves its capabilities to learn and to anticipate the unexpected.

Perin (1995) suggests adopting the context theory as an approach for incident investigations and organisational learning. The organisation analyses incidents “in their contexts and of their interdependencies” (p.160). It accepts and respects diversity of assumptions, values and interpretations that facilitate safety practices. Egalitarianism prevails and staff feel safe to challenge the organisation’s underlying assumptions, express differences and discuss errors. Inter-

departmental and inter-disciplinary gaps are reduced through the sharing of information and resources between departments, between disciplines and across hierarchical levels. They illustrate interactions and interrelations of the organisation's technical, social, and cultural dimensions and the reconciliation of differences and disconnectedness. Learning is enacted through a systematic and coherent approach to sharing lessons.

Reason (1997) presents the concept of safety culture that influences an organisation's assumptions and guides its actions to correct errors and organisational learning. He describes the four components of a safety culture as the reporting culture, just culture, flexible culture and learning culture. The organisation establishes an effective safety information system that collects, analyses and disseminates information regarding incidents and safety information. Hence, staff are conversant with the organisation's social, technical, organisational and political factors that direct and influence its safety practices.

With a reporting culture and a just culture, Reason (1997) explains, the organisation nurtures an atmosphere of trust where people are motivated and rewarded to report errors so that sufficient and quality information is collected and analysed. With a just culture, staff are aware it is a safety culture with accountability. With a flexible culture, the organisation respects the skills, experience and abilities of its staff and embraces diversity to facilitate the exchange of information. This approach enhances a learning culture that promotes learning by observing, reflecting, creating and acting.

Reason (1997) asserts that a safety culture is engineered by the commitment, cognisance and competence of the top management. They commit resources to promote and achieve safety goals and ensure staff are cognisant of the risks and failures that threaten its



operations. They ensure the organisation is competent to deal with errors by implementing an effective safety information system. It is motivated to continuously improve and reform, and uses both reactive and proactive measures to prevent and reduce errors. Reactive measures such as the incident management process are retrospective analysis that investigates errors to ensure post-event learning. On the other hand, proactive measures such as clinical audits assess the effectiveness of systems and processes to identify latent conditions and unsafe acts that may contribute to errors.

Westrum (2004) characterises this type of organisation as one with a generative culture that is mission-oriented. It adopts proactive processes so the right information is transferred to the right people for the accomplishment of the mission. After an error, the organisation undertakes in-depth analysis to identify systems conditions that contributed to the error. Staff are well informed of the overall situation so they can participate in the investigation process and are encouraged to voice concerns, think laterally and be imaginative in developing solutions. The organisation nurtures a cooperative, creative, flexible, open and safe environment for staff to innovate from opportunities and learn from errors.

## SUMMARY

Although the body of knowledge on patient incidents and patient safety is extensive, the progress in learning from patient incidents is slow. Studies on incident reporting have identified the organisational and human factors that influence and inhibit the effective management of patient incidents. Incident management is a process whereby healthcare organisations try to make sense of the events and

develop interventions to prevent recurrence. However, tools for incident management, in particular incident reporting, do not appear to result in significant learning. The concepts of learning from failures have not been clearly defined. Managers and incident investigators are learning agents who could acquire knowledge during incident management. The transfer of their knowledge to teams and the organization is not a simple process and the hierarchical structure and the name-blame-shame culture of healthcare organisations renders the learning process more difficult.

The characteristics and features of several models of organizational learning have also been described. They include two models of post-event learning, the characteristics of Carroll and associates' model of the four stages of organisational learning, and the reactive and proactive learning practices after errors in high-hazard organisations. In the next chapter, the methodology of this research will be presented. It includes the description of the context, scope and method of the research.

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## 3 METHODOLOGY

### INTRODUCTION

This chapter is divided into three parts, presenting the context, scope and method of the research. Firstly, the selection of the research site is outlined and its incident management policy will be described.

Next, the focus of the research and research question will be expounded. Lastly, the research strategy and methods of data collection, data analysis and triangulation will be illustrated.

### CONTEXT OF THE RESEARCH

#### RESEARCH SITE

Government-funded healthcare is provided and/or funded by 21 District Health Boards (DHBs), which were established in 2001 under the New Zealand Public Health and Disability Act 2000 (Ministry of Health, 2009a). DHBs are expected to improve and protect the health of the New Zealand public and one of their responsibilities is to run, own or fund public hospitals to provide quality acute care for people in their districts and enable as many people as possible to access non-acute services (Ministry of Health, 2009b). Public hospitals provide medical, surgical, maternity, diagnostic and emergency services in different settings such as in-patient, day stay or outpatient departments according to the needs of the patients (ibid.). *The Hospital* was selected as the research site because it is a regional hospital providing a range of acute and non-acute healthcare and is

equipped with specialised clinical support facilities for diagnostic and emergency services.

After the research topic was determined, I discussed with the *Quality Manager* of *The DHB* the aim of this research, which was to understand the learning experience of managers and that of *The Hospital* after patient incidents. One of her suggestions was to collect data from managers of different disciplines at different management levels from the acute, non-acute and clinical support services to capture a range of representation of views. She confirmed that the Ministry of Health and *The DHB* were committed to improving the quality and safety of healthcare. While acknowledging lessons have been learned from serious incidents, she conceded that no definitive models have been applied to measure the learning practices of healthcare organisations after incidents with minimal, minor or moderate consequences or near misses. Her opinion about the shortfall in measuring learning practices was similar to that of the view of the WHO (2008b).

This research was conducted in a healthcare organisation as part of a university programme. Access to the research site was guided by the research policies of Massey University and *The Hospital*. First, support was obtained from the *Kaumatua Kaunihera Subcommittee* and the consultation process is outlined in Appendix 1. Then, ethical approval was obtained from the *Northern Y Regional Ethics Committee* and a copy of their approval letter is presented in Appendix 2. Lastly, approval to access *The Hospital* to conduct interviews and examine its documents was obtained from the Chief Operating Officer of *The DHB*, and a copy of the letter to gain access to *The Hospital* is included in Appendix 3. The details of *The DHB* and the participating hospital in

the letter have been removed to maintain the anonymity of the organisation and the participants' identities.

#### INCIDENT MANAGEMENT POLICY OF *THE HOSPITAL*

*The Hospital* recognises its responsibility to provide safe, effective and efficient care for its patients and a safe environment for its staff, patients and other stakeholders (*The DHB, 2008*). The purpose of its incident management policy is to ensure that all patient incidents are "managed in a standardised and coordinated manner. ... Effective incident management includes an investigation that focuses on system failures and does not seek to blame an individual" (*The DHB, 2008, p. 1*), and aims "to minimise and/or prevent harm through timely, accurate and objective reporting and management of all incidents, accidents and near misses" (*ibid.*, p.1).

Its policy is based on the New Zealand Incident Management System and uses the Severity Assessment Code (SAC) to determine the severity rating according to the consequence of the incident and the likelihood of its recurrence (Communio, 2008). The severity rating guides the level of investigation and determines the need for escalation to the appropriate level of management. Most of the incidents that have been quoted by participants were near misses or incidents with minimal, minor or moderate consequences. They would be classified as SAC 3 or SAC 4 incidents that would be investigated locally within the department by line managers who are responsible for implementing actions to prevent recurrence (*The DHB, 2008*).

According to the incident policy of *The Hospital* (*The DHB, 2008, p. 11*), the investigation process, "may be as simple as asking three

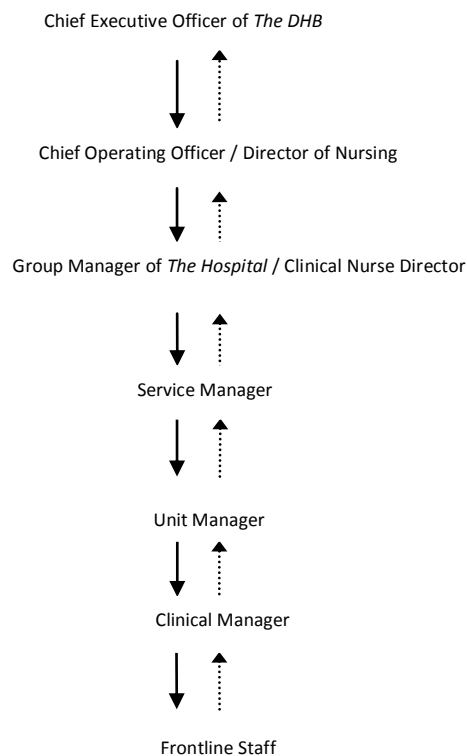
questions: What happened? Why did it happen? What needs to be done to prevent it happening again?" If the three questions cannot be answered easily, it advises investigators to apply other tools such as barrier analysis or the five whys, to investigate the incident. The results of investigations are analysed and actions are implemented. The departments are expected to analyse the results of all investigations and to report the trends, variations and improvements that have been recommended and implemented (ibid.).

In its policy, *The Hospital* (*The DHB*, 2008) has indicated that the success of the incident management process is dependent on the timely feedback to its staff on the outcomes of the investigations and the actions that have been implemented to reduce recurrence. It requires managers to inform staff during regular departmental meetings about the aggregated and trend data of incidents, discuss the outcomes of investigations and improvements, and acknowledge good practice identified through investigations. Feedback is expected to be provided to the staff and the patients/family on the outcomes of the investigation.

*The Hospital* expects every staff member to be responsible for incident management and adopts "a whole organisational approach with clear points of responsibility and accountability for notification, management and feedback at all levels of the organisation" (*The DHB*, 2008, p.4). Its reporting and responsibility line displays the traditional hierarchical structure of a healthcare organisation and a simplified organisational chart illustrating the reporting line is shown in Diagram 2 (on page 62). In its incident management policy, *The Hospital* delineates clearly the responsibilities of all staff at different levels for the management of minor and moderate incidents and near misses. All staff are responsible for notifying all incidents they identify,

minimising incident recurrence and participating in the investigation and implementation of recommendations as required (*The DHB*, 2008).

*Diagram 2: Reporting line of staff in incident management*<sup>2</sup>



Clinical managers are line managers who report to unit managers and are responsible for fostering an environment that encourages incident identification and incident reporting. They review all incident reports of their departments, prioritise incidents according to the organisation's severity rating system, investigate incidents, document findings, recommend actions and ensure implementations and outcomes of investigations are linked to the hazard risk register (*The DHB*, 2008).

<sup>2</sup> *The DHB* (2007) *Job description*. Retrieved from web page of *The DHB* on August 3, 2009.

The responsibility of the unit managers is different from that of the clinical managers. In addition to fostering an environment that encourages incident reporting and active incident management, they are responsible for ensuring appropriate resources are available to support the safety of patients and staff and for effective incident management. They are responsible for ensuring appropriate interventions are implemented, the effectiveness of interventions are monitored and evaluated and feedback is provided for all incidents throughout their services. They are also responsible for supporting staff to access to education and training on incident management (*The DHB, 2008*).

The top management are responsible for fostering an environment that encourages incident reporting and active incident management and for ensuring appropriate resources are available to support safety initiatives. They are also responsible for ensuring appropriate interventions are implemented, appropriate monitoring is conducted and regular feedback on all incidents is provided (*The DHB, 2008*).

The *Quality and Risk Department* is a support service and is responsible for managing the incident system and recommending policies and strategies to improve the quality and safety of healthcare. Through regular and ad hoc reporting, it is responsible for providing feedback and disseminating lessons learned from patient incidents from within and outside the organisation (*The DHB, 2008*).

## SCOPE OF THE RESEARCH

In a general sense, clinical managers are the investigators and unit managers are the sponsor managers in incident management. They are also the learning agents whose learning practices are pivotal in



and influential to the team learning and organisational learning of which this study is designed to explore. This research replicates the study conducted by Carroll and associates (2002) who examined the learning practices of members of incident investigation teams and their sponsor managers in high-hazard organisations. In their study, the investigation team investigated serious incidents and the managers signed off the investigation reports. Carroll and associates collected both qualitative and quantitative data. They interviewed members of the investigation teams and the sponsor managers, reviewed documents, and used questionnaires to collect quantitative data. They recommended further study by using their model as a guide to analyse the stage of learning of an organisation.

The focus of this research is to understand the relationship between incident investigation and organisational learning. The incident management process of *The Hospital* involves eight steps and they include “identification, immediate action, notification, prioritisation, investigation, incident coding, analysis and action and feedback” (*The DHB*, 2008, p.3). Carroll and associates (2002) define

*learning* as change in linkages between antecedent conditions and imagined or enacted behaviours, and *organizational learning* as an analogous change at an organisational level. ... Whereas learning is a *process* of change, the *content* of that process, the condition-action linkages, is *knowledge* (broadly construed to include explicit information, tacit know-how, etc.) (p.89).

Based on Carroll and associates’ (2002) model of organisational learning, the focus of this research is on one of the steps in the incident management process. It is assumed that investigation will lead to the development of recommendations and implementation of

interventions and subsequently, the occurrence of learning at the individual, team and organisational levels. The purpose of the research is to understand the process of learning after patient incidents through the experience of the managers, who were not involved in the incidents but were responsible for the investigations or signing off the incident reports. Using the model of Carroll and associates as the theoretical framework, the research question is: *'Can incident investigations generate valuable learning for investigators of patient incidents, and can their learning practices influence and lead to team learning and organisational learning?'*

## METHOD OF THE RESEARCH

In this section, the appropriateness of case study as the research strategy will be justified and the advantages and disadvantages of case study will be described. Next, the advantages and disadvantages of interviews and examination of documents as methods for data collections will be depicted. The process of the selection of participants will also be outlined. The process of data analysis will then be explained. Lastly, the methods employed in triangulation to evaluate the quality of the data and the research will be established.

## CASE STUDY RESEARCH

This research adopts a qualitative method. Maylor and Blackmon (2005) assert that qualitative methods are appropriate for researches that study the experience of an organisation and its staff when the researcher wants to explore a contemporary organisational phenomenon from the perspective of an external agent. Case study is

one of the qualitative methods that enable the researcher to study in detail a healthcare organisation within the context of incident investigation and learning from incidents. Data are collected by interviews with participants to understand their experience, thoughts and emotions during incident investigation and the ensuing learning process.

Yin (2003) defines case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (P.13). Patient incidents or near misses, albeit unintended, are problems of and produced by a healthcare organisation, and managers are expected to solve the problems and recommend changes to prevent recurrence. This is the real-life context wherein the experience of the managers lives and the researcher can neither manipulate the environment nor their behaviour; and thus case study is the chosen research strategy to understand a contemporary issue in a hospital (Dul & Hak, 2008; Flyubjerg, 2004; Hays, 2004).

This research is an “instrumental case study” (Stake, 1995, p.3) that aims to gain insight into the complex process of organisational learning after patient incidents. The case study method adopts a learning, understanding and practice-oriented perspective (Blaxter, Hughes, & Tight, 2001) to “uncover new and unusual interactions, events, explanations, interpretations, and cause-and-effect connections” (Hays, 2004, p.218-9).

Organisational learning is a socially constructed phenomenon and hence, case study is an appropriate research strategy to discover and describe how learning occurs (Dul & Hak, 2008; Stake, 1995; Yin, 2003) with the goals to “reconstruct and analyse a case from a

sociological perspective” (Hamel, 1993, p.1), and “highlight the features or attributes of social life” (ibid. p 2). It describes “objectively what is happening but simultaneously examines its meaning and redirects observation to refine or substantiate those meanings” (Stake, 1995, p.9) within a social, political, organisational and personal context.

As a health professional I have some knowledge of patient incidents and incident investigation. This shared knowledge allows me to develop a better understanding of the participants’ experience. “From this point of view, the proximity to reality that the case study entails, and the learning process that it generates for the researcher, will often constitute a prerequisite for advanced understanding” (Flyubjerg, 2004, p.429). But I acknowledge that my perspectives and interpretations may influence the research process.

This research adopts an interpretive constructivist paradigm where meanings are collaboratively constructed and knowledge is subjectively construed by each participant and the researcher (Guba & Lincoln, 2005). The researcher is a “passionate participant” (ibid., p.196), who assumes the role of an interpreter and “can experience the other truly as an other and not overlook his or her claim but let him or her really say something ... ” (Schwandt, 2001, p.264). A constructivist recognises “how people view an object or event and the meaning that they attribute to it is what is important” (Rubin & Rubin, 2005, p.27), and is interested in the “subjective and intersubjective social knowledge and the active construction and cocreation of such knowledge by human agents that is produced by human consciousness” (Guba & Lincoln, 2005, p.203). This case study is thus a synthesis of the different meanings assigned by the participants into

a coherent account (Rubin & Rubin, 2005) about incident investigations and the subsequent learning process.

Three rationales support case study as the appropriate research strategy for this study. First, it is practice-oriented to understand the experience of ten healthcare managers about incident investigation and the subsequent learning process. The complexity of organisational learning in a hospital is visualised through the participants' confirmatory and contradictory views (Blaxter et al., 2001; Stake, 1995). Second, the findings are based on the experience, actions and reflections of the participants after patient incidents, which could lead to changes that may improve patient safety and the learning capability of *The Hospital*. Third, the contexts and the interpretations of the participants' experience enable readers to "develop *vicarious experiences*" (Stake, 1995, p. 64) about the process of organisational learning after patient incidents in a hospital. This study provides a snapshot of the diverse views of the participants on patient safety, the challenges they encountered during incident investigations and development of recommendations and the lessons the participants and *The Hospital* acquired through the process.

Nevertheless, the limitations of case study cannot be understated. First, the findings are subjective because the researcher determined the research strategy, designed the interview questions, conducted the interviews and analysed the data (Weiss, 1995). Second, the finding is not intended for generalisation. The results of this case study do not represent the complete picture of organisational learning in a hospital or a healthcare organisation because the evidence was personally provided and interpreted by the participants, whose experience and perspectives were studied and interpreted by the researcher (Hays, 2004; Quinton & Smallbone, 2006; Stake, 1995).

Third, the purpose of this case study is to understand and analyse the experience of participants, which is a complex process. It is arduous to maintain the uniqueness of each participant's experience while trying to synthesise the different perspectives into a whole (Blaxter et al., 2001).

The sources of data for this research are the narratives of the participants. Narratives are one of the means by which people give meanings to their experience (Kramp, 2004), and therefore interviews were used to collect the participant's spoken words that conveyed the elaborated perceptions and interpretations about incident investigation and learning (Rapley, 2004; Rubin & Rubin, 2005). Qualitative interviews allow the researcher to present the data that "help the reader identify with the respondent ... by presenting event as the respondent experienced them, in the respondent's words, with the respondent's imagery" (Weiss, 1995, p. 10).

This case study is a synthesis of the participants' narratives to understand how they work in their ordinary environment (Stake, 1995). Narratives are the

most fundamental form of making sense of experience. ... They also provide us a forward glance, helping us to anticipate situations even before we encounter them, allowing us to envision alternative futures. Narrative enquiries do not ... start from explicit theoretical assumptions. Instead, they begin with an interest in a particular phenomenon that is best understood narratively. Narrative enquiries then develop descriptions and interpretations of the phenomenon from the perspective of the participants, researchers and others (Flyubjerg, 2004, p.431).

So, participants were regarded as fieldworkers in the research who shared their stories with the researcher and provided insights about their experience (Weiss, 1995).

#### INTERVIEW GUIDE

A set of interview questions was prepared to guide data collection (de Marrais, 2004; Rapley, 2004). They were based on the model of Carroll and associates (2002), the literature review on organisational learning after failures in high-hazard organisations, and the interview protocol of *“Root cause team guiding questions: For observations and interviews”* (Carroll & Boldrini, 1999) that I obtained from Professor Carroll via e-mail. The research supervisors reviewed the interview questions and identified a significant amount of closed-ended questions. To meet the purpose of the research, the schedule of the interview questions was modified to include more open-ended questions to elicit in-depth answers.

The interview questions consisted of two sections. Carroll and associates (2002) found that organisational learning practices were influenced by the investigators and their sponsor managers' work history and types of training they had on investigations. The first section, therefore, aimed to gather basic information about the participants' work experience, training on investigations and perceptions on patient safety. They were asked the length of time they had been employed by *The Hospital* and in their current position and the types of training they had on incident investigation. Then, the participants were asked to describe their personal perspectives and their interpretations of *The Hospital's* perspectives on patient safety. “Researcher and participants tend to filter each interview experience

through unique sets of experiences, beliefs, and assumptions about the topic of the research” (de Marrais, 2004, p. 55). The participants are also staff of *The Hospital* and thus their actions are influenced by its assumptions, beliefs, culture and values.

The second section of the interview questions aimed to gather participants’ evidence that answered the research questions: ‘*Can incident investigations generate valuable learning for investigators of patient incidents, and can their learning practices influence and lead to team learning and organisational learning?*’ Each participant has a unique experience about a particular event (Kramp, 2004) and their interpretations of that experience are a reflection of their knowledge, philosophy, values and professional ideology (Johnson, 2002). The participants were asked to use an incident that they investigated, or an incident report that they signed off, between three and six months prior to the interview for discussion. They were asked to describe the approaches to incident investigation, their individual learning process and *The Hospital’s* learning process after patient incidents. The views of the participants reflect different perspectives that are dependent on the tellers, the listener and the context of the story telling (Kramp, 2004).

A pilot interview was conducted with a healthcare manager to test the interview questions. Before the interview, I assured the volunteer that anonymity would be maintained. The volunteer was informed about the aim of the interview and that the content of the interview would not be used in the research. She agreed to the audio-recording of the interview and the pilot interview lasted for about twenty minutes. Some of the questions were not answered because they were unclear to the interviewee who considered the pilot interview as a cold call in which I knew the subject of the study and had developed



the questions. She felt that the question about patient safety was too general because she considered the concept of patient safety was a broad topic and suggested the question should be more focused and be restricted to the scope of quality management. I revised the question about patient safety, but stopped short of restricting it to quality management because I do not want to use a leading question that might get answers in favour of my interest. In fact, at the pilot interview and some of the interviews during the study, I noticed that some participants had linked patient safety generally with the health and safety policies. This demonstrates the diversity of the interpretations on patient safety conceptually and semantically.

Another suggestion of the volunteer during the pilot interview was the use of uncommon incidents that involved complex investigations because she thought participants might not have much to talk about on incidents with minor or moderate consequence. However, as one of the purposes of this case study is to know how *The Hospital* learns after near misses and minor or moderate incidents, I decided to keep the original question because those incidents indicate vulnerabilities of the organisation's systems and that learning from minor incidents may reduce the potential realisation of serious incidents (Battles et al., 2006; Carroll & Edmondson, 2002; Weick & Sutcliffe, 2007). Furthermore, the volunteer pointed out some healthcare managers might seek help or advice from other resource groups, so I included a question to ask the participants how they get help when they encounter difficulties during incident investigations.

After the first two interviews, one with a clinical manager and one with a unit manager, I decided the interview questions required another revision. The participants were asked to use incidents that they investigated or signed off between three and six months prior to

the interview and I noticed they had to think hard to find an incident that met this criterion. They also used other incidents that did not meet that timeframe as examples to describe their experience. So I removed the limit on the timeframe and asked the participants to use an incident that they had recently investigated or signed off. For the remaining eight interviews, the participants had more liberty to use incidents they considered appropriate to share with me to elucidate their experience about the investigation process and the learning process. With no restrictions on the timeframe and the types of incidents, the participants “owned the response and subsequent narrative ... detailing particularities of this experience and conceptualising them in a specific time and place” (Kramp, 2004, p. 114).

During the interview with the first unit manager, she explained her role in the management of near misses and minor or moderate incidents. Unit managers were generally not directly involved in the investigation. I realised some of the questions were not applicable because the questions focused on the actual investigation and development of recommendations. Therefore, I prepared two sets of interview schedules: one for the clinical managers and one for the unit managers. Appendix 4 is the interview guide that includes the two sets of interview questions.

Participants of interviews are the proprietors of their experience. They use their own words and expressions to describe their experience and the researcher uses questions to prompt in-depth responses from them (Blaxter et al., 2001). To enable the participants to express their views without posing leading questions, I also asked the participants to describe other unresolved issues and experiences related to patient incidents or investigations and their suggestions for

the resolutions of these. Kramp (2004) remarks, “The particular prompt that you select provides a frame that allows the narrator great personal freedom and choice. This is critical to the process of narrative inquiry, because the more that the process is focused on the participant and the power of each to construct the narrative, the greater the understanding from the telling” (p. 115).

### SELECTION OF PARTICIPANTS

The number of participants was pre-determined to include five clinical managers and five unit managers. In consultation with the research supervisors, the number of interviews with ten participants was considered to be sufficient to provide in-depth descriptions. The selection criterion was based on convenience sampling where the first five clinical managers and the first five unit managers who voluntarily agreed to participate were recruited. Their names were obtained from *The Hospital's* internal directory and all of them are health professionals. The clinical managers included two nurse managers and two clinical directors from four departments<sup>3</sup>, one manager from a clinical support department<sup>4</sup>, and five unit managers from different services. They have been working in *The Hospital* for four to 25 years and in their current position for seven months to ten years. So all of them are knowledgeable in their specialties and have had working experience in the New Zealand healthcare system as health professionals and as managers.

Participants were provided with an information sheet, which is shown in Appendix 5, to allow them time to understand the purpose of the

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<sup>3</sup> Departments that provide direct patient care, e.g., ED, ENT, ITU, medical, neurosurgery, oncology, operating theatre, orthopaedic, plastic surgery, rehabilitations, renal, surgical, etc.

<sup>4</sup> Clinical support departments that provide support services, e.g. blood bank, diagnostic imaging, dietary, laboratory, pharmacy, physiotherapy, radiology, etc.

study and the format of the interview. One or two days later, they were contacted by telephone or e-mail. Some of them agreed to participate when they were contacted, while others asked questions about the format of the interview and the time required. Some participants mentioned the names of other managers who might be interested, whom I contacted and subsequently recruited as participants. Fourteen information sheets were sent out in stages and followed up by telephone or e-mail. Recruitment ceased after the tenth participant was recruited.

Convenience sampling has its limitations. First, participants were not representative of their respective professional groups in *The Hospital*. The behaviour of incident reporting is different among different health professionals (Evans et al., 2006; Neale et al., 2007) and the experience of learning after patient incidents is perceived differently according to the cultural norms of the occupational groups (Currie et al., 2008). Nevertheless, the diversity of the participants' experience reflects the complexity of organisational learning in a hospital where healthcare services are provided by multidisciplinary teams. The descriptions and interpretations of the participants represent a snapshot of their perspectives and perceptions about incident investigation and post-incident learning.

Second, the findings from participants of convenience sampling are not generalisable because their experience does not represent the experience of all managers in *The Hospital*, nor are they generalisable to other managers of other healthcare organisations. However, these participants were recruited because of their positions and responsibilities in *The Hospital* where clinical managers are responsible for and have the experience in incident investigations and

unit managers are responsible for reviewing and signing off incident reports.

## INTERVIEWS

Interviews were conducted to collect narrative data from participants to understand the process of organisational learning after patient incidents. In Kramp's (2004) opinion, narrative is "a vital human activity that structures experience and gives it meaning" (p. 104). Organisational learning is a complex process and interview is an appropriate approach to gather evidence from the participants who are managers in a hospital "where different individuals or groups involved in the same live activity have complicated, multiple perspectives on same phenomenon" (Johnson, 2002, p.105). Notwithstanding, interview "is a window on a time and a social world that is experienced one person at a time, one incident at a time" (Rubin & Rubin, 2005, p.14), so the data could not provide a complete picture of *The Hospital's* learning process. Instead, the participants and the researcher collaborated to construct a retrospective account of incident investigation and learning (de Marrais, 2004; Mason, 2002; Rapley, 2004) which included their "actions, experiences, feelings and thoughts to try to understand the biographical, contextual, historical, and institutional elements that are brought to the interview and used by both parties" (Rapley, 2004, p.16).

As mentioned before, the participants in interviews own the responses to the interview questions. They were assumed to take an active role in shaping the conversations, but their answers were also influenced by the questions that were asked (Rubin & Rubin, 2005). Therefore, one of my assumptions about the interviews "begins with

commonsense perceptions, explanations, and understandings of some lived cultural experience ... and aims to explore the contextual boundaries of that experience or perception, to uncover what is usually hidden from ordinary view or reflection or to penetrate to more reflective understanding about the nature of that experience" (Johnson, 2002, p.106). Interview is a social encounter that never interacts within a "historico-socio-cultural vacuum" (Rapley, 2004, p. 26). The participants and the researcher brought in the institutional, social, and personal context to accomplish the common goal of improving patient safety through the sharing of lessons learned.

Face to face Interviews were the principle method for data collection and a tape recorder was used to obtain verbatim records of the interviews. During interviews, I used verbal utterances and non-verbal responses to encourage and engage participants in the conversations. This approach closed the researcher-participant gap and enabled participants to take an active, interactive and collaborative role in describing their experience in detail (Blaxter et al., 2001; Rapley, 2004). Nevertheless, I was aware that my gestures and reactions might influence their answers and interrupt the flow of their narratives.

The interviews were conducted at the participants' offices at a time that was convenient for them. Before the interview, I explained to them the format of the interview and ensured they were comfortable about the tape recording. Each participant signed a consent form, a copy of which is shown in Appendix 6. The consent forms were kept in a secure place, and will be for ten years according to the requirements of the Health and Disability Ethics Committee. I reassured the participants all identifiable information was removed to protect the confidentiality and anonymity of the participants and their

departments. I transcribed the contents of each tape recording after each interview and then the transcripts were sent to the participants for reading and editing.

The interview questions were used to guide the interviews and to elicit evidence from participants. Each interview lasted for about 45 to 50 minutes. Some of the participants described their experience comprehensively and expressed their views frankly. They actually guided the conversations and with some prompting they responded without being asked. This behaviour concurs with Mason's (2002) observations that "... interviewees may be 'answering' questions other than those we are asking them, and making sense of the social world in ways we had not thought of ... The logic that we should be receptive to what interviewees say, and to their ways of understanding ..." (p.231) allows the participants to describe vividly and live their thoughts and frustrations on incident management and organisational learning.

Similarly, other participants expanded the discussions to incident reporting and management of repetitive incidents such as patient falls. With some follow-up questions, they provided thick descriptions of the investigation process and the actions implemented that were based on learning from previous incidents. The spontaneity of participants' comments on incident reporting and the incident feedback mechanism provide additional information about *The Hospital's* incident management process. Such findings are not reported by Carroll and associates (2002), but are supported by other studies (Braithwaite et al., 2006; Evans et al., 2006; Kaplan & Fastman, 2003). This vital information allows the researcher to make suggestions to *The Hospital* to review its incident management system, which will be discussed in Chapter 5.

Initially, I planned to conduct a follow-up interview with each participant. After the seventh interview, I found that most of the participants had described their experience extensively and I only needed to follow up with two participants to find out about the outcomes of their recommendations. As all of the participants have a busy work schedule, I decided one interview with each participant had provided me with adequate evidence for analysis.

Using interviews for data collection has several drawbacks. First, the data were not collected by direct observations. They were the interpretations of the participants' perspectives that were contextual and subjective (Rapley, 2004). Therefore, I used the same interview questions to guide all the interviews and asked participants the same questions, though some of them answered the questions without my asking. I report both the confirming and conflicting evidence of participants' views and interpretations on the incident management process and the learning process of *The Hospital*. The confirming and conflicting views represent the multiple perspectives and interpretations of the management of patient incidents. In order to capture more robust and richer data, I also examined the incident reports to validate the credibility of the data collected during interviews.

Second, the data consisted of the participants' descriptions and interpretations of their own experience. I might misunderstand the meaning of their interpretations or confuse their interpretations with my interpretations of their experience (Rapley, 2004). To reduce the confusions, I asked them specific questions within a specific context. For instance, the participants were asked to describe the investigation process of a specific incident, how did reflections of that investigation



or incident help them learn, and what was the most notable lesson they learned from the incident.

Third, the participants' narratives were only one of the versions that represented their experience. They did not necessarily include all of the emotional aspects of the experience unless they were willing to share with the researcher (Weiss, 1995). Therefore, I asked the participants whether there were unresolved issues or other experience and provided them with the opportunity to express their views and discuss other problems they had encountered. These two questions allowed the participants to provide a rich description of their approval, concerns or disappointment about *The Hospital's* incident management process and learning process. During the interviews, the participants seemed to appreciate the chance to have their views be heard.

Fourth, the data collected during interviews include not only the stories of the participants, but also the meaning co-constructed by the researcher and the participants, who were "individuals-and-part-of-broader-story-of-the-whole-research" (Rapley, 2004, p.29).

Nonetheless, the participants' stories were corroborated because they used other similar incidents as examples to describe in detail and in-depth their experience of incident investigation and lessons learned. Rubin and Rubin (2005) comment, "Detail adds solidity, clarity, evidence and examples; depth adds layers of meaning, different angles on the subject, and understanding" (p.131).

Fifth, the data obtained from the participants may be incomplete because they were retrospective recollections and recounts of the experience that occurred months ago. So I asked the participants to use those incidents that they investigated or signed off recently as

basis for discussion and I examined the incident reports that they completed to validate their evidence.

#### EXAMINATION OF DOCUMENTS

Two types of documents were examined: the incident reports that the participants completed or signed off and *The Hospital's* incident management policy, quality plans, patient safety plans and information available to the public on its web page. The policies and plans provide an overview of *The Hospital's* goals, principles and approaches to patient safety. The goals and principles of its quality approach are to ensure they provide safe services where potential risks of healthcare and the environment are identified, prevented or minimised (*The DHB, 2008*). The quality approach of *The Hospital* consists of structure, process and outcome. Its structure comprises committees, roles and expectations and staff training. Its process includes organisational systems, documentation, risk identification, certification, audits and credentialing. The outcome of its quality approach is shown by the provision of safe and effective healthcare (*ibid.*). They prescribe the context within which patient incidents are managed and lessons are learned.

After each interview, I asked the participants to provide the reference number of the incident report that was used for discussions and I examined the documents at the *Quality and Risk Department*. The data obtained from the *Incident Forms* described the incidents, the immediate actions taken and the investigation process, and were collected for the identification of risks in *The Hospital*. They have limitations as a source of data because they are secondary data that

were produced primarily for reporting and recording purposes of *The Hospital*.

Carroll and associates (2002) speculate that an investigation report is “the artefact that drives the correction process and is encoded into work management and problem trending databases” (p. 102). I examined the incident reports to understand the background, the causes and the contributing factors of the incidents to appreciate the participants’ rationales for their actions and recommendations because they would reflect the participants’ thoughts and interpretations of the incidents and investigations. I expected the incident reports would provide insights into the learning process of the participants and their departments. On the contrary, most of the incident reports, except for two, documented briefly the causes and the immediate actions taken and outlined the recommendations. They did not reveal the extent of learning nor indicate the occurrence of learning. However, the *Incident Forms* complement and confirm the participants’ assertions about the brevity and lack of detail about the information related to the incidents documented on the *Incident Forms*. The findings from incident reports will be presented in the next chapter.

## TRANSCRIPTIONS

After each transcription of the interview, as Kramp (2004) suggests, I listened and re-listened to the tape four to five times and paid attention to the participant’s tones, emphases, sighs and pauses and became familiar with their “language, inflection, and especially the story itself” (p.116). I did not correct the participants’ grammar or figures of speech in the transcripts because they were their specific

styles of expressions. For those words that I could not hear, I wrote down the words that I guessed and indicated in the texts according to the transcription notions of Poland (2003) . Then, I checked each transcript twice or thrice against the tape to ensure accuracy, and twice for meaning and spelling before I delivered the transcript to each participant. Four participants made some minor editions on the transcripts. The re-listening and checking enabled me to be familiar with the evidence of each participant and I was making notes and identifying concepts as I was transcribing.

During transcription, I noticed some participants use 'you' when describing their actions and experience. From this aspect, I regard the participants as teachers and the case study offers me a learning opportunity on the subject of interest (Stake, 2005), namely organisational learning after patient incidents. Other participants used 'we' when recounting their story. From this aspect, I regard the participants as representatives who were describing the experience of the collective learning in their departments. I am the interpreter who synthesises the diverse accounts of the participants' experience and facilitates readers' understanding (ibid.) of the dynamics of team learning.

When the transcript was delivered, I asked each participant to sign the form, "*Authority of release of transcript*", according to the research policy of Massey University. A copy of the release form is shown in Appendix 7. All participants gave me their permissions to use the transcripts, with the editions as they indicated, for analysis and report. Transcription, Gibbs (2007) explains, is one form of interpretation of the participants' narratives from spoken words into written texts and therefore they must accurately reflect the participants' views . The permission granted by each participant

provides the confidence that the transcript is a valid copy of the conversations recorded during the interview. Their permission implies the researcher fulfils the ethical obligations that the interviews were recorded and transcribed truly and authentically.

## ANALYSIS OF FINDINGS

The narratives of the participants are the primary data for this research. After the analysis of the six available incident reports, I found they provided limited evidence to answer the research question. Therefore, data from interviews are the main source of data for analysis. An issue-focus analysis was adopted to interpret the narratives to generate concepts (Dul & Hak, 2008; Weiss, 1995) that represent the participants' experience on incident investigation and learning after incidents. The data were initially grouped according to the participants' answers to the interview questions and then excerpts were further categorised into concepts (Gibbs, 2007; Hays, 2004; Maylor & Blackmon, 2005; Weiss, 1995).

The concepts are based on Carroll and associates' (2002) model of four stages of organisational learning and literature reviews on patient safety, incident management and organisational learning after failures. They illustrate the meaning and logic of the incident investigation and learning process. But other concepts also emerged that are derived from the evidence provided by the participants. The concepts are specific to *The Hospital* and they include the incident management process, staff's behaviour in incident reporting and organisational practices. Gibbs (2007) advises that coding of data can be both concept driven and data driven. The purpose of this case study is to understand the phenomenon of organisational learning

after patient incidents. Therefore, concepts relating to *The Hospital's* incident management process and organisational practices uncovered during the study are as relevant as those concepts relating to organisational learning. This is because the incident management process and organisational practices influence the organisation's subsequent learning capabilities.

The process of coding started from the development of the interview guide to the establishment of themes and sub-themes. The interview questions were based on concepts of patient safety, investigation process, individual learning and organisational learning. The coding of themes is, in turn, based on the interview questions and the participants' responses to the questions. So, part of the analysis is based on literature reviews and Carroll and associates' (2002) model of organisational learning. They form the theoretical framework that guides data collection, data analysis and direct this case study (Maylor & Blackmon, 2005; Stake, 1995).

I have also used participants' evidence to direct the analysis because case study is a social construct by the participants and the researcher (Guba & Lincoln, 2005). I have used the techniques that Gibbs (2007) proposes and they include analysis of sentences and phrases, the "flip-flop technique" (p. 51) and the "warning the red flag" (p.51). I analysed sentences and phrases that illustrate specific concepts. For example, the phrase "*where people feel safe*" (Manager E) illustrates the participant's perceptions on a safe environment and a culture of safety that would encourage staff to report and learn from incidents. I used the flip-flop technique to compare the participants' extreme views on organisational learning. To illustrate, one participant comments that "*I think everybody learns from incidents that occurred*" (Manager G) while another participant considers that "*I'm not sure*

*that the hospital learns very much” (Manager D).* The extreme views of the participants illustrate the reality of organisational learning: it is a complex process and is easier said than done (Edmondson, 2004). I took notice of the warning the red flag. For instance, one participant remarks, *“some of the frustrations also for me is that I sent them off and then it’s like nothing, dead” (Manager B).* The frustration illustrates the participant’s perspectives of the ineffective feedback mechanism of *The Hospital’s* incident management system. The concepts derived from coding are grouped into seven themes and 24 sub-themes, which are represented in next chapter.

The themes and sub-themes are categorised into general groups and specific groups. They illustrate the relationships of patient safety and patient incidents, of patient incidents and incident investigation, and of investigation and learning. Gibbs (2007) commends the usefulness of theme hierarchy. First, theme hierarchy clarifies the relationship between concepts and prevents duplications of codes as a large volume of data has been collected during the ten interviews. Second, this approach allows the researcher to understand the participants’ perspectives and perceptions about the relationship between *The Hospital’s* organisational practices and the incident management process. The different perspectives and perceptions explain the participants’ actions, meaning and assumptions about the incident management process of *The Hospital* (ibid.).

The themes are derived from participants’ narratives on the actions, perspectives and reflections; and some of their assertions are exemplary and contradictory views. Rapley (2004) points out that “analysis as situated, in that it is intimately tied to the context of the here-and-now interaction, the interview interaction and the broader research project” (p. 27-28). The data represent

... a huge range of competing and contrasting ways ... that produces specific biographies, experience, identities, knowledge, etc. So from one perspective, a way to make sense of the interviews is to focus on the situated ways that ... enable specific work. From another perspective, these specific interactional moments of reflexively document the contemporary ways of understanding, experiencing and talking ... their talk is intimately tied to the context of its production – these local interactional contexts. However, in and through these local interactional contexts, the speakers draw on and reflectively produce the broader context ... The speakers are actively and collaboratively producing, sustaining and negotiating contemporary *knowledges* ... (Rapley, 2004, p.28).

Thus, the combination of the confirmatory, contradictory and exemplary views portrays a comprehensive picture of the investigation practices, the obstacles the investigators encountered and the lessons learned in *The Hospital*.

Nevertheless, the data collected during the interviews represent “just one possible version, a version that is contingent on the specific local interactional context” (Rapley, 2004, p. 28-29). The narratives are constructive and interpretive views of the participants. Similarly, the analysis of the data was my interpretive views that were influenced by my assumptions about patient safety and organisational learning (Kramp, 2004). Therefore, I have adopted several methods to improve the validity and quality of this case study.



### TRIANGULATION OF THE CASE STUDY

Validity relates to the accuracy of the data. It ensures that the data represent the concepts I intend to explore and that the findings I interpreted accurately reflect the views of the participants (Maylor & Blackmon, 2005). Stake (1995) and Yin (2003) suggest triangulation as the means to provide confidence as to the validity of the data of a case study. They suggest the use of multiple methods and multiple sources to reduce bias and improve the confidence of the validity. Therefore, I used interviews and examination of documents as the methods for data collection. I collected data from participants who were from different disciplines, different departments, different services and different management levels. Then I invited two health professionals who are at management level with Masters qualifications to assess the coding of my research. Abiding by the principle of triangulation I have used more than one method to collect data from different perspectives to understand the phenomenon of organisational learning (Maylor & Blackmon, 2005).

Interviews and documents are the sources of data for this case study. The interviews provide a rich description of the incident management process adopted by the participants, their perspectives and perceptions about *The Hospital's* organisational practices, and the experience of their learning process after patient incidents. The policy documents and quality plans represent the expectations and intentions of *The Hospital* and set the context for its incident management process. The participants' narratives describe the reality and the perceptions of its incident management process, some of which are in contrast to the intentions and expectations of *The Hospital*. Maylor and Blackmon (2005) assert that multiple sources of data enable the researcher to uncover conflicting data.

The interview questions guide the interviews and I asked all participants the same questions. Since there are no right or wrong answers, the participants' responses represent a diversity of perspectives and opinions (Maylor & Blackmon, 2005). Learning from an incident, be it individual or organisational, is a complex process. The interviews enabled the researcher to elicit a variety of perspectives and perceptions from different sources.

Since I am immersed and involved in the research, I might be prejudiced by the ideology of a researcher and lose sight of the aim of the research. The consultation process with the *Kaumātua Kaunihera Subcommittee* and the meeting with the Ethics Committees provided me with perspectives of the general public. I have adopted their suggestions and modified my research protocol to increase the confidence of validity of the research.

During the process of analysis and the writing of this report, I examined the excerpts and evaluated the concepts numerous times. I applied different explanations and different perspectives and similar themes emerged. I reviewed and revised the themes and sub-themes until I am satisfied that they represent participants' and the researcher's interpretations. Then I invited two health professionals to assess the themes to ascertain that their assessment matched my categorisation.

Two health professionals were invited to critique the themes and sub-themes that I established. They are healthcare managers who have Masters qualifications; one graduated from a university in New Zealand and the other in the UK. Both assessors were provided with the same copy of the research proposal and the same set of 74 excerpts from 'theme 2' to 'theme 7'. 'Theme 1' discusses views on

patient safety and were excluded because they are facts and self-explanatory.

The first assessor suggested the method of assessment, where she would not refer to the themes that I developed. Instead, she reviewed the excerpts independently. So she was blinded to the themes and sub-themes. The concepts that she came up with are similar to my coding, albeit with different wordings, and Appendix 8 presents the list of the concepts that she coded. The categories are mainly related to investigation and learning. We discussed her coding against the themes and sub-themes that I provided and we agreed our analyses were similar.

The second assessor matched the excerpts with the themes and sub-themes that I developed. The second assessor's comments, "Certainly ... although queries fitted in to themes already outlined. Few don't know' ... Lots of process related ones. ..." (Personal communication, August 8, 2009). Again, we discussed the results of her coding and those themes that were unclear to her. These two forms of assessments by two independent assessors reinforced the confidence of the validity of the data and the themes that they capture the perspectives and views of the participants (Maylor & Blackmon, 2005).

## SUMMARY

The chapter consisted of three parts. First, the context of the research has been outlined. This includes the characteristics of the research site, its incident management policy and the responsibilities of staff and managers in the incident management process. Next, the scope of the research has been delineated. It includes the focus of the case

study and the formulation of the research question that aims to understand incident investigation and the learning process of managers. Lastly, the methods for data collection, data analysis and triangulation have been described. The advantages and disadvantages of case study as the research strategy, and benefits and limitations of interviews and examination of documents as the methods for data collection have been presented. Narratives are the main source of data for this study because they provide vivid descriptions of participants' experience and perspectives. The process of the development of the interview guide has also been explained. The interview guide was based on Carroll and associates' model, literatures on organisational learning and feedback after the pilot interview. The process of data analysis has been explained. The analysis was a concept- and data-driven process during which seven themes were developed. The strategy of triangulation has been depicted. The confidence of validity was improved by multiple sources of data and independent assessment of the themes by two assessors. In the next chapter, the findings of the case study that include seven themes and 24 sub-themes will be presented.

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## 4 RESEARCH FINDINGS

### INTRODUCTION

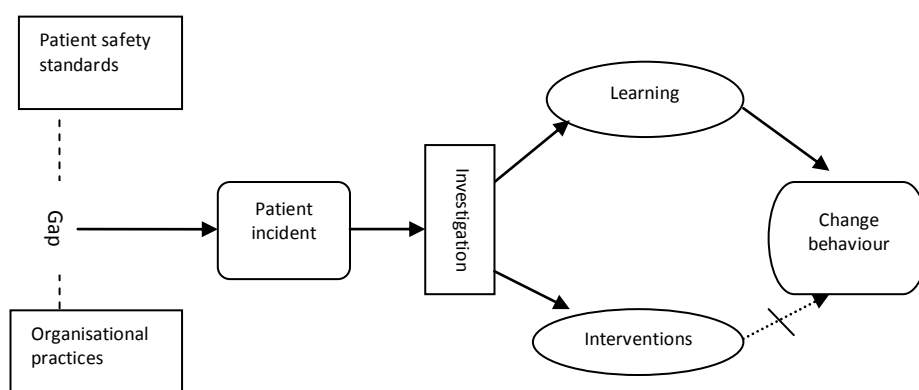
This chapter consists of three parts that present the results of the case study. First, the themes and sub-themes developed from analysis of the participants' interviews are presented. The themes are derived from concepts, which are based on the model of Carroll and associates and literatures based on patient safety, incident investigation and the learning process. They are also derived from the narratives of the participants, which are based on their perspectives and perceptions and relate specifically to the behaviours in incident reporting and the incident management process of *The Hospital*. Second, the findings from the incident reports are described. Third, exemplars that evince team learning and organisational learning at *The Hospital* are illustrated.

### FINDINGS FROM INTERVIEWS

Analysis of the data is based on the schema that I conceptualise that when gaps exist between patient safety standards and organisational practices, patient safety is breached and patient incident occurs. Subsequently, *The Hospital* investigates the incidents, implements interventions to prevent recurrence or minimise harm, and learns from the incidents. If learning occurs, new behaviours are enacted. If learning does not occur, the interventions will not change staff or the organisation's behaviours. The interventions may solve the symptoms temporarily, however, systems problems persist and incidents will recur. Diagram 3 (on page 93) is a diagrammatical illustration of the

schema that is used to guide analysis of data and discussion of the case study. After the analysis of the excerpts and the incident reports, seven themes and 24 sub-themes emerged. All excerpts that were coded into the themes are presented in Appendix 8.

*Diagram 3: Schema for analysis of patient incidents, investigation and learning*



### THEME 1: VIEWS ON PATIENT SAFETY

The participants' views and their interpretations of *The Hospital's* perspectives on patient safety are derived from the responses to the questions: "The term patient safety, what does it mean to you?" and "What are your interpretations on the hospital's perspectives on patient safety?" When asked about personal views on patient safety, most participants described one or two aspects of patient safety such as its goals, attributes and process. When asked about their views of the organisational perspectives on patient safety, they showed mixed feelings. Some participants perceived that patient safety was regarded as of strategic importance by *The Hospital* while five

participants perceived the stance of *The Hospital* as mere talk. From these comments, five sub-themes emerged. They include goals of patient safety, attributes of patient safety, facilitative processes, mere talk on patient safety and inhibitive conditions.

#### SUB-THEME 1-1: GOALS OF PATIENT SAFETY

Participants opined the goals of patient safety as being doing no harm and preventing unnecessary risks to patients along the continuum of care. Comments included:

*It's about ... a patient's journey through the course of their illness or when we were involved in their management when, really that there're no unexpected adverse effects or errors or anything in their management, but they're managed as safely as possible and that's free from risks as we can make it. (Manager E)*

#### SUB-THEME 1- 2: ATTRIBUTES OF PATIENT SAFETY

Many participants inferred patient safety as the provision of safe and appropriate care that meets patients' expectations. Comments included:

*... people would expect to be safe when it comes to the care that they are receiving, but they also expect to be safe in their environment. They expect to be safe with the advice and the information that they're given. They expect that their whole care ... is delivered in a safe manner. ... They have a right to be safe going home. So, yes, it covers everything almost from admission to discharge to future planning. (Manager A)*

#### SUB-THEME 1-3: FACILITATIVE PROCESSES

Some participants perceived patient safety as being of strategic importance to *The Hospital*. They maintained that safe and

appropriate care must be provided by skilled and qualified staff in a safe environment, with systems approach, through appropriate processes and by learning from mistakes. Comments included:

#### BY SKILLED AND QUALIFIED STAFF IN A SAFE ENVIRONMENT

*... to make sure that our processes and systems and our staff's qualifications and skills and actions that actually keep the patients safe or improve their conditions, ... not cause deterioration. (Manager I)*

#### WITH SYSTEMS PERSPECTIVES

*I think [our DHB] is particularly proactive. And, you know it's uncomfortable. It requires change and people are resistant to change, and it requires admitting that we are making mistakes or failing in some areas which people generally find uncomfortable to acknowledge. So I think I respect the initiative and the courage and dedication that it takes to keep pushing this agenda and making sure that we actually really do integrate into how we manage patients in the institution as a whole and in fact in the organisation as a whole, including the community. (Manager E)*

#### THROUGH APPROPRIATE PROCESSES

*I think we have a lot of environmental safety things and that we have Quality and Risk ... we do environmental look around ... and check for hazards. .... We have Infection Control. We have a lot of policies and procedures manuals in place that we update regularly that are also area-specific. We have things like the IV Medicine Management, we have Fire Training, we have Manual Handling, we have Restraints, we have rating scales for bedsores, I think from all those perspectives, we have a huge range of safety issues involved. We have training for*



*our [staff]. We have expectations of levels of certification that they ought to be at, that is also a safety thing. (Manager A)*

#### BY LEARNING FROM MISTAKES

*...we need to learn from our mistakes. That's probably the strongest message that I get from the hospital that we need to look at what we're doing, when there are incidents or near misses that we look at what were the factors that contribute to it. What could we learn from it and how could we look at minimising that in the future. (Manager F)*

#### SUB-THEME 1-4: MERE TALK ON PATIENT SAFETY

However, five participants considered *The Hospital's* emphasis on patient safety was mere talk. Some of their comments included:

*I think the hospital has an enormous focus on patient safety, and that's very significant in the quality and risk area. But I think from my perspective they TALK [emphasised by participant] about the importance and the escalation and all the stuff about patient safety... So while I think the organisation has this VIEW [emphasised by participant] and the IMPORTANCE [emphasised by participant], I don't know that it comes down to other floor level where we are often saying it's not safe for us. But the organisation certainly assumes the view that this is absolutely up the top there important. (Manager B)*

*And that sort of comes back to question one where ... how do you think the organisation interprets patient safety is that, yes it's very important, but when it's raised at a higher level, not a lot gets done. (Manager C)*

*I think we give a lot of face value to it, talk, but I don't think people are given the time or the resource to properly follow up incidents and identify trends. We wait till a catastrophe happens and then we all rush in. (Manager I)*

#### SUB-THEME 1-5: INHIBITIVE ORGANISATIONAL CONDITIONS

Some participants described the inhibitive organisational conditions that compromise patient safety. They were inadequate organisational support, understaffing and resource constraints and outdated facilities. Comments included:

##### INADEQUATE ORGANISATIONAL SUPPORT

*We've also taken incidents to clinical board level as well. ...The only thing that I would say around taking things to a higher level is that you get a lot of agreement that it's an issue, but then not a lot of action about how we're going to solve it. So it's about coming up with a solution yourself, but then quite often there is only so much that you can do yourself, and it needs buy in from the whole organisation to make change. (Manager C)*

*... But at the end of the day taking extra patients on as you can't manage safely actually is not doing patients favours. That's always a difficult one. ... There are ways of addressing the issues, but the fundamental thing is recognising that the issue is real and pressing, and ... there are consequences to patient safety potentially from not managing that adequately. And saying well we haven't got enough staff, we'll just have to cope and still trying to do it may not actually be an adequate response. (Manager E)*

#### UNDERSTAFFING AND RESOURCE CONSTRAINTS

*... One of that the barriers THERE [emphasized by participant] is that, yes, it is to be the best place when you are sick, but we still have a lot of constraints. Once again on staff and equipment and tests and all those things that are available.  
(Manager A)*

#### OUTDATED FACILITIES

*I don't believe the organisation is in a position at the moment to provide everything that we need to provide a safe environment, ... I believe we are working in a physical environment that is outdated given the complexity of patients that we have and the aging population we are dealing with, and that include the aging staff as well. (Manager H)*

### THEME 2: INVESTIGATOR FACTORS

Incident investigators and their sponsor managers influence the quality and outcomes of incident investigations. From the excerpts, two sub-themes emerged and they include the training in incident investigation and assumptions of the investigators or their managers.

#### SUB-THEME 2-1: QUALITY OF INVESTIGATION TRAINING

Most of the participants claimed that their training in investigations was limited and informal. Comments included:

*I guess the training is informal, I don't think there's been a lot of training over the years. It's sort of simply been this is the incident form, this is the process, and this is how you do it. From a reporting perspective, learning to do the investigation, it's been more hands on experience, I guess, and you learn as you go. Some of ... my previous managers have been very clear*

*about what information they require as part of the investigation to help them make their decisions. So it's been more been one-to-one rather than sort of formal education around incident management. (Manager B)*

*... there's not much as far as I know, information around how to investigate sort of minor errors apart from discussing at among your staff and looking at ways, in the ways to prevent it, and the way that the incident form is detailed, it makes you fill in ... what are you going to do to prevent this happening. So you have to think about ways that you look at to prevent things happening. ... (Manager C)*

#### SUB-THEME 2-2: ASSUMPTIONS OF INVESTIGATORS AND SPONSOR MANAGERS

The assumptions include no blame attitude, learning opportunity, inevitability of incidents due to systems vulnerability, being vigilant and reporting is a statistic. Comments included:

##### NO BLAME ATTITUDE

*... nobody comes to work on any occasion to actually make a mistake or to harm someone or anything like that. And so when it does happen, it's a significant event whether it meets that criteria within the incident management policy or framework, it is still a significant event for that person. (Manager H)*

##### LEARNING OPPORTUNITY

*One is having a culture where people feel safe to disclose it about making an error and take responsibility for it, as oppose to a sort of name-shame-blame culture which I think drives people underground when they try to avoid ... Because the*

*reality is there're many other people who could have made the same error or perhaps have, and will continue to do so, in part then you can then address the issues that have led to the error that being made, whether training, experience, systemic problems, whatever it may be. (Manager E)*

#### IDENTIFYING SYSTEMS VULNERABILITY

*.... it's difficult because there're so many factors that are involved and you know that you're going to end up with another error at some stage, but all you can do is try to prevent those errors occurring. (Manager C)*

*And not all of these are actual incidents, some of them are near misses, so again, that highlight there is actually an issue here, that it might be a training issue, it might be a resource issue, it might be an equipment issue. (Manager J)*

#### BEING VIGILANT

*... I don't care if I get 500 a month, that's fine. I am more concerned with the areas who don't write incident reports because, so it's kind of, if I get a lot of complaints of an area from outside, if the general public is writing them in, I have a concern. If I'm not getting enough incident reports from an area, I have a concern. So I want to keep my complaints down and my incident reports up because that demonstrates that people have been vigilant. (Manager J)*

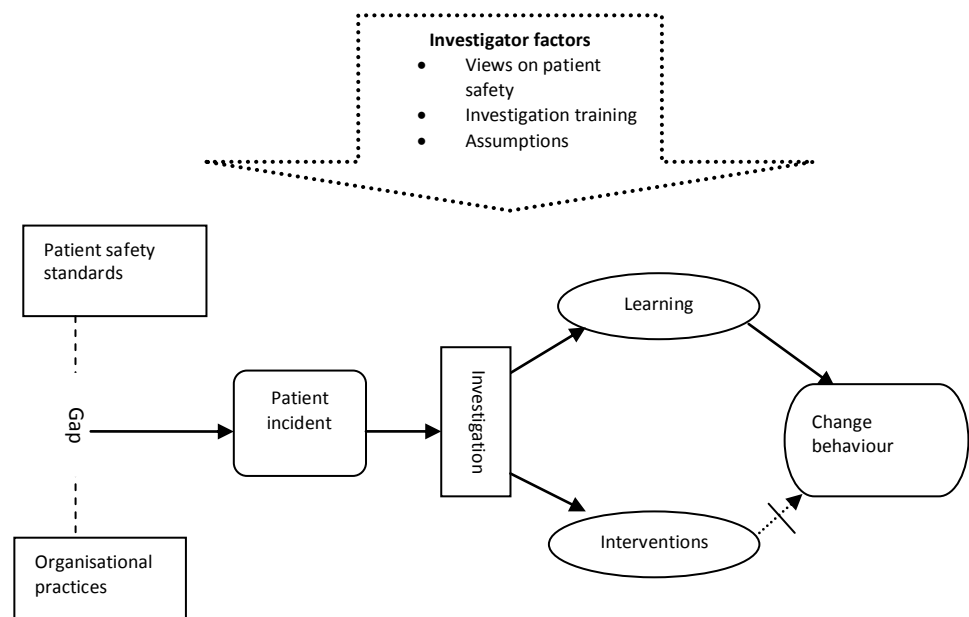
#### REPORTING IS A STATISTIC

*I don't believe that incident reporting mechanism is particularly useful. I think we get numbers, but I'm not sure what the numbers reflect. I think numbers reflect just how active people are about filling in incident forms. There may be*

*some learning if the Quality and Risk people look at incidents to see whether or not they reflect a pattern that could be changed. (Manager D)*

Diagram 4 is a simplistic illustration that summarises the investigators' factors that could influence the quality of the incident management process. The schema is based on the assumptions that the presence of incidents leads to investigations, recommendations and learning. The investigators' factors include their views on patient safety, training in investigation and assumptions. Other factors such as power and politics are excluded as they are not explicitly examined in this case study.

*Diagram 4: Investigator factors on incident management*



### THEME 3: OBSTACLES OF INCIDENT MANAGEMENT SYSTEM

When the participants were asked about the difficulties they encountered during investigations, many of them described the obstacles that undermined the effectiveness of the incident management system and three sub-themes emerged. They are the inadequacy of incident information system, deficiency of incident reporting and inefficacy of management of minor or moderate incidents.

#### SUB-THEME 3-1: INADEQUACY OF INCIDENT INFORMATION SYSTEM

Many participants commented on the incident information system, about the rigid format of the *Incident Form*, difficulty in retrieving information and ineffective feedback mechanism. Comments included:

##### RIGID FORMAT OF INCIDENT FORM

*What I think the forms that we've currently got are quite structured that what they want you to find out or what want you to do, and sometimes that's not as easy to follow, and frequently you can't find out why something happened. There is no space to mention all the other things that impact ... lots of area that the actual incident forms don't really give you spaces to comment on. (Manager A)*

##### DIFFICULTY IN RETRIEVING INFORMATION

*... we're great at gathering information, all sit nicely in Quality and Risk computer. But we don't review it, we don't see, oh, gosh, we had 20 incidents regarding this across the service. There's no... auditing of that, I suppose, or a look in a big general sense, ... and because it's quite difficult to get it out of the system, when to do what I've told you before about the*

*drop in falls I have to manually count the number of reports.  
(Manager G)*

#### INEFFECTIVE FEEDBACK MECHANISM

*... some of the frustrations also for me is that I sent them off and then it's like nothing, dead. So what happened? Occasionally in the more serious events of course that doesn't occur. But ... I don't ever see any incident as being minor, but is minor in the sequence sort of event. ... Then I sent it off to my manager. Now I have no idea what she writes on them, no idea at all. And I never see them again. The only thing I've ever seen then is the incident report ... that comes up quarterly or 6-monthly or whatever ... So, I have no idea what happened to them after that. Now, one assumes that if my recommendations weren't acceptable, then my manager would come back to me and say, 'Well, that's you know, nonsense and you need to be looking at something else.' But, I've never had that. (Manager B)*

#### SUB-THEME 3-2: DEFICIENCY OF INCIDENT REPORTING

Many participants conceded deficiency of incident reporting because of the reluctance of staff to report, insufficiency of documentation on *Incident Forms*, inaccessibility to sources of information and misuse of incident reports. Comments included:

##### RELUCTANCE OF STAFF TO REPORT

##### Fear of blame

*And then, there's the problem too people not wanting to fill them in. There is still a HUGE [emphasised by participant] issue with staff feeling that incident forms are punitive, and that if*



*they fill in too many, they're going to be in trouble or somebody is going to blame them, and getting across that that's not a blame thing is really hard. (Manager A)*

#### Lack of feedback

*They ... take all the time .... And then when you don't actually get the feedback, people ... will then why would I bother. Because I said earlier a person doesn't come to work to make a mistake, or to hurt someone, or to damage something. So when they've actually done that and gone through the process of actually then baring their soul on a piece of paper to then not getting any response ... It's ... actually quite harmful. (Manager H)*

#### Lack of confidentiality

*I don't believe that the format ... that we're using at the moment is actually that really user-friendly, and that can be quite constraining in terms of what and how people perceive them... as they are not confidential ... they have to put their name to it. (Manager H)*

#### INSUFFICIENCY OF DOCUMENTATION ON INCIDENT FORMS

*And I'd be inundated every time when I went to the mail and like another wall of incident reports that I've got, my god, throwing myself off something. ... What is this, there's nothing here, just baffle, nothing, didn't say nothing, doesn't tell me anything. (Manager J)*

#### INACCESSIBILITY TO SOURCES OF INFORMATION

*And you always seemed to find that the person who filled in the incident form that's the one you want to talk to has just*

*gone onto night duty, has just gone on to annual leave, or has just rung in sick for the next four days. (Manager A)*

#### MISUSE OF INCIDENT REPORTS

*Ah, it's a difficult question. When I look at incident reports I often, speculate as to why they've been filled out. Now, I could spend all day writing incident forms. ... The resource issues ... I could fill out an incident form. But really it would be a waste of my time to fill it out and whoever needed to review it, time to go and do it. And, I don't fill in many incident forms. There're clearly some staff who use the incident reporting mechanism as a way of dealing with their frustrations, and I think some staff may sometimes be vindictive about filling in incident forms. (Manager D)*

*I think incident form is a very valuable tool. I don't think we use them well. I think they're almost used as a punishment as oppose to a tool that gives us the opportunity to identify the risk and look at what we can do to manage that risk. (Manager H)*

#### SUB-THEME 3-3: INEFFECTACY OF MANAGEMENT OF MINOR INCIDENTS

Many participants conceded that minor incidents were not followed up due to the large volume and lack of time. Comments included:

*The other ones that I think don't get resolved well are the lesser ones.... there are probably smaller incidents with massive number that we DON'T [emphasised by participant] effectively manage. (Manager G)*

*I think the main barrier is the time it takes. And I think what the time can be wasted, pulling the notes, reviewing the notes,*

*talking to the individuals, providing documentation, and that time and detracts in doing other things. (Manager D)*

#### THEME 4: HINDERING ORGANISATIONAL PRACTICES

Many participants had identified certain organisational practices that impeded changes and learning after patient incidents. Three sub-themes emerged and they included bureaucratic process, silo phenomenon and dependency on policies.

##### SUB-THEME 4-1: BUREAUCRATIC PROCESS

Some participants described the bureaucratic process that includes decision-making removed from frontline staff, changes must be approved by various committees and slow at implementation of changes. Comments included:

##### DECISION-MAKING REMOVED FROM FRONTLINE STAFF

*I think some of that is that a lot of those decisions about budgets and needs [of] that area are too far removed from the actual ward, is somebody else's decision to find out how this balance up in an area against somebody else's ... (Manager A)*

##### CHANGES MUST BE APPROVED BY VARIOUS COMMITTEES

*And there is also if you want to devise individual things, there is all sort of committees you have to go through.... If you want to bring in a different form, you've got to put out draft, you've got to trial them, and then you've got to go to a committee, and got it approved. Change can take forever, so there's awful lot of things always stay draft because then you don't have to go through the forms committee. (Manager A)*

## SLOW AT IMPLEMENTATION OF CHANGES

*There was a separate process going on within the incident was reported, and so that process is continuing in parallel but, I wanted to find out this as soon as I could what were the issues, to see if there is anything that we could address immediately in terms of how staff work on the ward or other issues that could be remedied, I guess, to prevent it happening ... in the immediate future because the incident reporting process takes a long time to go through and changes to be recommended. So, this is to expedite. (Manager E)*

## SUB-THEME 4-2: SILO PHENOMENON

Some participants perceived that silo phenomenon was common in many departments, which was exacerbated by the inadequate organisational support when dealing with patient incidents.

Comments included:

*And I think that whilst we have a certain number of unit managers, we don't necessarily have an incident reporting meeting across all of those services. ... We still have a very strong silo approach, so people ... continue to work in their own way. And they need to do that because they've got so much to do in those cases ... And that the organisation doesn't require us to do that, and it doesn't provide us with the infrastructure that allows us to do it. (Manager H)*

*What I'm seeing in my little patch of the wood is duplicated in every other patch of the wood, so we've actually got a forest of problems. So I think that's a GAP [emphasised by participants],*

*so I don't know that the organisation has got the ability to figure that out just yet. (Manager I)*

#### SUB-THEME 4-3: DEPENDENCY ON POLICIES

One participant felt frustrated at the reactive response taken by *The Hospital* to patient incidents. The frustration stemmed from its perceived dependency on policies and procedures, some of which were deemed to be unnecessary and could not prevent patient incidents. Comments included:

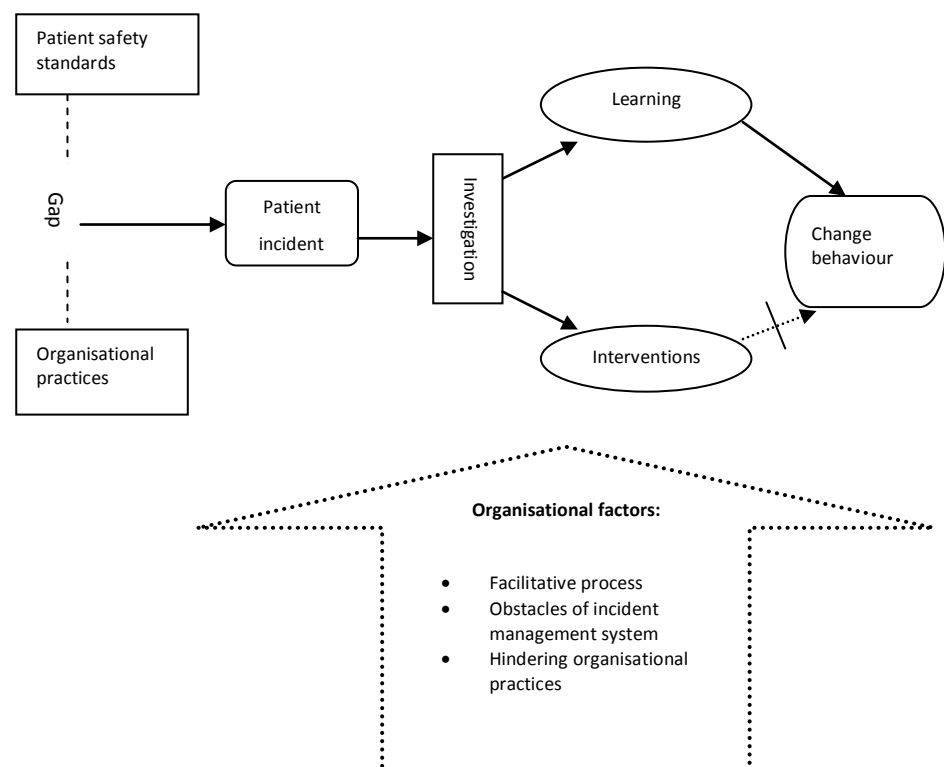
*But my frustration is often that's around or the recommendations are to develop a new policy, or to modify an existing policy, or to educate around the policy. And, I think that may protect the organisation because managers can stand up and say we have a policy on this. (Manager D)*

*I made a number of recommendations about looking at the way we document falls risk, that probably not going to be acted on. I think, for example, some patients are going to fall whatever we do, and I think we can spend more time documenting risks than actually taking action ... Problem is that, the process of assessment can be unnecessarily long, or indeed it may be unnecessary in itself ... [Staff] have to do risk assessment for falls, the possibility of developing confusion, pressure areas, and asks similar questions for each of those forms even in people who are clearly not at risk. (Manager D)*

Diagram 5 (on page 109) is a simplistic representation that encapsulates the organisational practices that impact on the effectiveness of the incident management process. Some organisational processes, such as skilled and professional workforce,

systems approach and learning from mistakes, can maintain patient safety and facilitate incident management. The inadequacy of the incident information system, deficiency of incident reporting and inefficacy of management of minor incidents are obstacles that affect the effectiveness of incident management. In addition, bureaucratic process, silo phenomenon and dependency on policies are organisational practices that hinder the incident management process and learning from incidents.

*Diagram 5: Organisational influence on incident management*



## THEME 5: APPROACHES TO INCIDENT INVESTIGATION

The research question of this case study is to find out whether incident investigations can provide valuable learning for investigators. The process of incident investigation affects the learning capabilities of the investigators, their departments and the organisation. Three sub-themes emerged that describe both the approaches to investigation and the sensemaking process to understand patient incidents. They included gathering information, developing recommendations and evaluating outcomes.

### SUB-THEME 5-1: GATHERING INFORMATION

Clinical managers and unit managers have different responsibilities in the incident management process at *The Hospital*. Clinical managers are responsible for investigating the incidents by gathering information from different sources by interviewing staff and patient, reviewing documentation and considering other contextual factors. Unit managers are responsible for reviewing and ensuring the execution of appropriate investigation. Comments included:

#### GATHERING INFORMATION FROM DIFFERENT SOURCES

*... our tendency is to, obviously discuss with staff, discuss with the family, review the medical notes, discuss with the other key stakeholders that might be involved ... and then write that up. (Manager G)*

#### INTERVIEWING STAFF AND PATIENT

*... interviewing ... the people involved to get their story. If the patient is competent and able to contribute to a conversation, then I also ask the patient how it was for them. ... So if we look at a fall, I would find out from the [staff] what did occur, were all the safety things in place, like with the bed down, were the rails up or the rails down, did the patient have the bell, had the*

*toileting regime been carried out, all those kind of things. And then I would say to the person in the bed if they were able to respond, 'What made you get out of bed without asking for help, and did you know, did you fall, how did you fall and what happened?' So sometimes you will get a very good picture. Sometimes you will get not such a good picture and it's hard to ascertain what actually happened, what caused the fall ...*  
*(Manager B)*

#### REVIEWING DOCUMENTATION

*I read what the staff had written on the form. I usually go to the notes and assess what was happening on that particular shift. (Manager A)*

#### CONSIDERING OTHER CONTEXTUAL FACTORS

*... the discussion between the [investigator] and myself basically went along the lines of, 'how could this happen, how did it happen, why did you think, what was the context around it happening, were they short-staffed, does she have a knowledge deficit here, did this [staff] should know the 5 rights if nothing else about medicine management, how did she make this mistake?' (Manager J)*

#### EXECUTING APPROPRIATE INVESTIGATION

*My role is not to investigate at that level, my role is to make sure the [clinical manager] has done it properly. ... So, yeah, the [clinical manager] does it and I basically verify that the [clinical manager] has done it. (Manager J)*

*If I'm not happy with it, I'll actually (1) send them back to them to say I'm not happy with this, this actually has not identified or addressed the issue. Or (2) ... actually I follow that up with,*



*... why you think that you actually answered to it in this way, but actually get the feedback if they had more insight into what they should have done, why they didn't, and how they address that in the future. (Manager H)*

#### SUB-THEME 5-2: DEVELOPING RECOMMENDATIONS

Participants were asked how they develop and implement recommendations. Many participants developed recommendations based on personal opinions, lessons learned, policies and by involving staff. Some of them also discussed resource issues and the roles of unit managers. Comments included:

##### PERSONAL OPINIONS

*I mean sometimes of course it's got to be based on opinions of keeping people safe in certain circumstances ... expertise about managing those things ... (Manager B)*

##### LESSONS LEARNED

*... you've got the knowledge of previous incidents, so that helps you come up with some of the recommendations. (Manager A)*

*... and I suppose what you then do is if you're reading or attending lectures or visiting other sites or going to conference ... you'll constantly be on the lookout for alternate ways to do similar tasks to make your department better. (Manager C)*

##### POLICIES

*Some of the recommendations will be based on policy as well. ... So it would be based on the requirement and standard of the organisation, yeah, mostly, it will be. (Manager B)*

## INVOLVING STAFF

*Frequently if you're the [clinical manager] and you're not at the bedside all of the time, you're not aware of some of the practicability, so [the staff] if she is at the bedside, she is the one who's often going to have the better ideas how to solve these problems. Everybody else's ideas might not be actually practical when you look at the real situation on the floor.*  
 (Manager A)

## BY PERSEVERING WHEN DEALING WITH RESOURCE ISSUES

*But, it doesn't stop you trying, and it doesn't stop you highlighting issues. ..., I still think there's an awful lot that you can just hammer away on your individual area that ... you can just keep working on the basics, and making it is safe as you can where you are. And I guess in some ways covering all your areas where you are ... well at least you've done your pieces, if you've done at least all these strategies, you minimise the risks as much as you can. You can keep that link at the other end. But, on the floor bases we're actually doing what we should be and, because you don't want to give up all the ideas just because you're not going to get a piece of equipment or something. (Manager A)*

*Sometimes it is very difficult when you get ... we need more staff or the [department] needs changing ... we need a new building. So those things are... kind of out of your control a little bit, so that can be quite, I suppose, disheartening to be able then to feed that back and say well we actually can't get more staff, but I'll try, and you know, frustrating to feed that information back. But then ... also gives you reasons to keep trying and keep putting ... alternative suggestions forward to*

*senior management around how we can change them.  
(Manager C)*

#### ROLES OF UNIT MANAGERS

##### Negotiating around

*But I also can hear what's appropriate in compounding department to what they need, what [other department] need. So I guess for me I am about trying to negotiate around, how we make sure how everyone's needs are met. ... And how we can all work together to meet that common goal. (Manager F)*

##### Offering emotional support

*I'm more the person going, 'Now, come on, you don't have to beat yourself up about this. These things are not that simple. There's a lot of other steps that can occur to make it happens. So don't think it's all your fault.' That's normally what I'm doing and that's what I have to do in this case too. (Manager G)*

##### Appreciating frontline staff

*I think out there we've got a massive group of people who are very innovative, they weren't never be able to get through a day's work, they weren't, given the constraints they work through, work with the workload that they carry ... and I think when they do come up with a good plan like that and works, it was absolutely fantastic. (Manager H)*

#### SUB-THEME 5-3: EVALUATING OUTCOMES

Some participants evaluated the effectiveness of their recommendations by the quantity of incidents or by using proxy measures such as feedbacks or audits. One participant conceded it was difficult to measure the outcomes. Comments included:

## QUANTITY OF INCIDENTS

*... So, after we put in the [interventions], we have dramatic drops in the complaints and the pressure areas risk and falls risk ... just by the mere fact that we've gone from, they weren't huge numbers, they are not statistically fantastic, I mean, they are like, say six a month down to two a month or something like that, but ENOUGH [emphasised by participant] to say to me that has worked. (Manager G)*

## PROXY MEASURES

*... because we meet regularly, so now we have a regular meeting, I think it's every six weeks we're meeting together to just find out is it all going and what's working and what's not. So from that perspective, yes, because I'll hear from meeting. (Manager F)*

*... things like labelling errors ... on blood samples or request forms or things like that, we can audit it, and have a look and see if those practices have changed ... So, that sort of things we can audit. (Manager E)*

## DIFFICULT TO MEASURE

*That's more of a challenge because ... I mean it's trying to measure the absence of something, that's the issue. And so if an incident doesn't occur but it occurs infrequently anyway. Does that mean say our recommendations have been effective or it's just an infrequent incident? (Manager E)*

## THEME 6: INDIVIDUAL LEARNING CAPABILITY

Incident investigations provide all participants with plenty of opportunities for learning. Individual learning occurs and three sub-themes emerged from the process of individual learning. They included reflections in incident investigations, sensemaking after patient incidents and turning lessons into actions.

### SUB-THEME 6-1: REFLECTIONS IN INCIDENT INVESTIGATIONS

Some participants described the rationales for reflections while others discussed the outcomes of reflections. Comments included:

#### RATIONALES FOR REFLECTION

##### Professional practice

*I think we, as health professionals none of us like it ... when something bad happened to our patients, whether it's through an error or omission or ... whether something happened despite the best care, appropriate care and management. So I think ...we inevitably end up ... ruminating on what happened and could it be done differently and could it be prevented. We probably spend more time thinking about those aspects than we do about the investigation process. (Manager E)*

##### Frustrations

*I guess as a manager sometimes is frustrating because you do get the repetitive sorts of things ... it's like how to get this other people to think about the safety stuff... I think I get quite frustrated sometimes when I'm dealing with them because ... just that little repetitive thing underlying is to why it happened and how did you get staff to do that. (Manager B)*

#### Severity of incidents

*Well, I would think about it, but it depends on how serious the incident it was, how much time I've been spent thinking about it. Yeah, some minor incidents I don't trouble my brain by extensive reflection ... So the time I spent dealing with the incident and reflecting on them will depend on how important I thought it was. (Manager D)*

#### OUTCOMES OF REFLECTION

##### Develop recommendations

*Do I think about or reflect? Yes, all the time, constantly thinking about how we can do things better, what staffing mix we've got, how we can manage the staff more effectively, and what improvement we can make within our own department, and what improvement needs to be made within this organisation to prevent errors, constantly. (Manager C)*

##### Evaluate past actions

*I guess because you see the trends, and because you see that when things that you thought you implemented weren't being done we still have the same results. So you go back and think or what did we fail to get across last time. Or we thought we explained that this is why things happened, this is the way to manage them. Then maybe we need to re-look at whatever strategy we put in place or what suggestions we made because that might not be working. So we re-work it. See, there is a lot of coming back to it and doing it again and thinking about it again. And, yeah, thinking about it how we did it and why we did it, I guess. (Manager A)*

Keep track of incidents

*Always reflecting on ... the incident form, the way that it was investigated and the outcome of the incident. And always remembering ... that's one of the good thing or key things I think as our roles as [unit manager] is that we see everybody, so we have an idea of what is common to all. (Manager G)*

#### SUB-THEME 6-2: SENSEMAKING AFTER PATIENT INCIDENTS

Some participants described the meanings that have been generated from patient incidents and incident investigations. They exemplify the concepts of preparedness, perception and persistence; all are relevant in incident management and learning. Comments included:

##### PREPAREDNESS

*... it's trying to stay on top of it before it becomes a problem, trying to think of things that could be obstacle before they are one. And just thinking all the time that if it's a big area of concern and that's something that we need to keep looking at. But, we shouldn't take for granted, and that different situation is going to make it different again. (Manager A)*

*... this particular incident that occurred really highlighted to me that despite the fact that that was the first time I've seen that particular thing happened in eight years, what it reflected was the underlying problem that could actually had implications to many other patients in terms of the way staff workload is managed and allocated on the ward... (Manager E)*

##### PERCEPTION

*I guess it's about you never ever take anything at face value. There's always much more than one side to a story ... it's often*

*things are about perception or expectation. And so, if you take it face value you tend to get it wrong. ... So, we look at it as in how it happened, so we look at the situation, what the workload is like, what we perceive this girl's insight to be into her own practice, what the outcome of that could have been on the patient? And we look at some learning stuff to go round that's for her. And I guess as a fallout that potentially other people pick up stuff as well. (Manager J)*

#### PERSISTENCE

*... the big focus is probably the [staff] on the floor has to have a knowledge, but management has to make sure that they've got the avenues that they're reminded that is what they need to know, that there is a programme in place that will teach them all these things on a regular basis, that there is some sort of check up to make sure that all those things are happening. So it's an on-going thing, not something that you can teach once, and assume that it will happen forever and ever. You have to come back and you have to remind people when you have to. It's almost house-keeping, you almost have to say on a regular basis ... what are we doing for our patients, what are the routines that we're getting into that will make it easier, and looking at all those other factors as well ... (Manager A)*

#### SUB-THEME 6-3: TURNING LESSONS INTO ACTIONS

Individual learning was evident in all participants and some of them demonstrated the transition from the constrained stage into the open stage of learning. They proposed some proactive approaches to promote patient safety and learning from patient incident, for



example, safe forums for discussions of patient incidents, peer reviews and regular feedback. Comments included:

#### SAFE FORUMS FOR DISCUSSIONS

*And I think being able to discuss it and highlight the issues to enable common learning around the incident, is very important. So it needs to be a forum that looks those like mortality/morbidity meetings or whatever it is, so that people can talk about this and ... feel safe in the process. But that what they bring up is taken seriously and get into consideration about how to best manage the process in future to minimise those risks. So, things are changing slowly but that sort of culture change takes a long time. (Manager E)*

#### PEER REVIEWS

*I've also done regular audits on the management of particular problems. I do an audit ... every 3 months for each group of [staff] ... I think that's the way of changing practice than someone filling in an incident form to say that someone's [work] wasn't very good ... Well, I don't think you should ever audit anyone else. True clinical audit should involve the person whose management is being looked at. So I get the [staff] to look at each other's [work] and I'm there to discuss and guide ... We involve [other department] and everyone learns. (Manager D)*

#### REGULAR AND MEANINGFUL INCIDENT FEEDBACK

*I think there is a whole lot of potential if we had an incident reporting process that reach a stage where the analysis and trending and feedback that we've got actually not only told us this is what we're doing, but actually said, you did this, with this happened, we did this and now we're actually seeing an*

*improvement here. I don't actually see that, or we're not seeing an improvement here, we made this investment, what are we going to do to actually re-address this, because what we are actually doing is not working. So yeah, we need that feedback. (Manager H)*

#### SUB-THEME 6-4: INNOVATIONS FOR CHANGE

Some participants put forward innovative approaches to improve patient safety. Comments included:

##### ADDRESS TASK FACTORS DUE TO WORKLOAD ISSUE

*I suspect one of the challenges is going to be, the number of trained and experienced ... certified [staff] on the ward at any one time, and how to manage the workload for all the ... staff on the ward. Because I know that, at the time the incident occurred we were quite short staffed, particularly of ... certified [staff] so ... the pressure on those remaining who were fully certified was considerably increased. (Manager E)*

Solution: Staff capacity compatible with patient acuity

*So the main response, fundamentally is going to be to ensure that there are adequate number of ... trained [staff], or to change practice so that you limit the number of people actually having treatment on the ward at one time and try to manage that workload better so that, ... the number of patients having treatment does not exceed the capacity that the [staff] to manage that safely. So may be that we just put limits on, say sorry we can't take another patient this day and have to be deferred. (Manager E)*

## ADDRESS TASK FACTORS DUE TO STAFFING ISSUE

*... may be if you look at, say for example, may be there are more falls between 9 o'clock and 11 o'clock at night in across [the department] than at any other time of the day. (Manager J)*

## Solution: Alternative approach to rostering

*Then you have to ask why is that? And then you say, 'Well, if we have ... a 9 o'clock starting on the night shift, or a 10 o'clock starting at the night shift, then may be, which that would take care of that, ... and so we could look at staffing things differently or rostering differently or thinking just a bit outside the square probably. (Manager J)*

## ADDRESS SYSTEMS PROBLEMS

*... the issue is bigger than just the clinical area. It's more a wider approach because that it affects not only [our departments], it affects [other department], it affects the manufacturer. (Manager F)*

## Solution: Incorporate multiple perspectives

*It is always better face-to-face and usually when there are issues that are bigger than just one person, and that as soon as you sit down to get them to realise that everyone got their own problems then and it's just easier in person to sort it all out. And then a group like that, get the key people involved and find out where the issues are, and then you could work through together and sort out because everyone can hear everyone else's problems, they are a lot more aware and more willing to help each other resolve it. (Manager F)*

## ADDRESS SYSTEMS PROBLEMS RELATED TO ACTIONS OF OTHER DEPARTMENTS

*In the evenings when people are rushed, ... the supply process should have calmed down by about 4 o'clock, but we get lots of admissions to hospital in the evening, and then the doctors might not have got around to charting until later, and then all a sudden they want the [treatment] and they want them now. So that's sort of rushed atmosphere certainly helps. Our physical layout ... is certainly not conducive to good ... practice. It's cramped ... it's just not enough room for people to work well, the bench space is really minimal. The scans that come down from [other departments] ... staff often scan them incorrectly and so they are crooked that you can't read them. They haven't got the patient label on them, or ... you can't see the patient label, all those contributing factors help to make an error. (Manager C)*

## Solution 1: Involve stakeholders

*[The procedure] improvement project has been taken up to the clinical board. We're trying to work with IS to develop ... an electronic discharge, improve ways of communicating with community providers around [the procedure]. We are also undertaking, well in the future we'll be undertaking some projects around quality improvement for discharge education and ... checks, so putting [staff] in the wards and to check every discharge. We're using a [staff] in a couple of wards to enhance information gathering around [the procedure] and to help discharge education for patients and that process picks up a whole lot of errors on discharge. (Manager C)*

## Solution 2: Reduce distractions

*... if it's a like sounding [object], we do things like highlight the [object] name or put the specific [object] in a slightly different*

*place to the other one so that people aren't grabbing similar [object] off the shelf ... About highlighting to individual staff that are more likely to make errors of their need to follow thorough [the production procedure] and checking process ... So yeah, it depends on what causes it, that's the type of things we do. And constantly looking at reducing noise and clutter ...*  
 (Manager C)

## THEME 7: ORGANISATIONAL LEARNING CAPABILITY

Team learning and, to some extent, organisational learning occurred in *The Hospital*. The extent of organisational learning is a function of the staff's receptiveness to changes and the learning capability of the organisation. Five sub-themes emerged and they are receptiveness of staff, limited sharing of learning, weak modes of intra- and extra-departmental transfer of learning and loss of knowledge.

### SUB-THEME 7-1: RECEPTIVENESS OF STAFF

Many participants felt that most of the staff were receptive to changes that promoted patient safety, although other staff were disillusioned with the organisation's inhibitive conditions. Some staff, however, rejected changes and thus incidents recurred. Comments included:

#### RECEPTIVE TO CHANGES

*I think at the end of the day in our hospital we all want to have the best for the patients. It's quite a nice place to work because you know that as long as you got the patient's best interest ... in front of you, then everyone will, usually will agree with you.*  
 (Manager F)

## RECEPTIVE BUT DISILLUSIONED

*... the staff are very supportive about making changes to improve because ... if you have ... [an] error... people are mortified that they made that error. And ... then they go through the whole sort of almost grief cycle where they're upset, and then they are angry that it occurred and angry that they're working in an environment that contribute to them making an error. So ... certainly supportive of change but at the same time hacked off that they are not working in a sort of more ideal environment. (Manager C)*

## REJECTIVE TO CHANGES

*... people have the ability to actually discount the results of the investigation that you do. So they actually decided that's not the answers that I wanted, then they can just totally discount it, because [they] don't actually have that global overview of what's happening, then that can continue to happen. (Manager H)*

## SUB-THEME 7-2: LIMITED SHARING OF LEARNING

Many participants conceded that there was limited sharing of learning outside their departments, inertia in learning across the organisation and the expectations that the organisation should lead safety initiatives. Comments included:

## LIMITED SHARING OF LEARNING OUTSIDE DEPARTMENT

*Well that's the difficulty that I've just identified, I don't think that actually happens. ... I don't believe that in terms of the common everyday incident forms that come through, I don't think that that learning actually happens in... many services. (Manager H)*

## INERTIA IN LEARNING ACROSS ORGANISATION

*The hospital in general, I don't have a great deal of faith that the hospital learns anything. ... Quality and Risk basically get a copy of every incident form, but they don't necessarily get a copy of the outcomes of that incident form, and that's the piece that's missing. Because a whole lot of us are working a way probably trying to fix the same problem in a single area whereas we actually were able to work together in a bigger group would probably have a much more global and more successful outcome. But it isn't, we're ... working hard to fix up something that probably is only symptomatic of a greater problem. (Manager H)*

*I don't know the hospital learns anything from the incident because we keep making them still. What does the organisation learn? It's a very good question I have no answer, sorry. (Manager J)*

## EXPECT ORGANISATION TO ACT

*... my expectations of them is that they will notice those trends ... I should notice local impact, but they should pick up on those wider reaching things. And ... that they would then come up and say, or be able to go through the higher level of intervention, I guess, and put through suggestions at a higher level that hopefully would carry a bit more weight than just me on the ward saying I need more staff, or I need better equipment, or that sort of thing. (Manager A)*

### SUB-THEME 7-3: WEAK MODES TO INTRA- AND EXTRA-DEPARTMENTAL LEARNING

Weak approaches to intra-and extra-departmental sharing of learning are adopted by *The Hospital*. Extra-departmental learning occurs only when other departments are involved. The commonest approach to intra-departmental sharing of learning was during meetings, which included departmental meetings and incident meetings. Other approaches were one-to-one conversation, education sessions and written communications. Comments included:

#### DEPARTMENTAL MEETINGS

*It's frequently done with study days. It comes up at those sorts of thing; it comes up with ward meetings all the time. And we have inter-disciplinary team meetings too ... and ... things are coming up regularly for discussion, and so yes, it's talk, talk, talk. (Manager A)*

#### INCIDENT MEETINGS

*Any significant incidents that may not necessarily be a serious event ... may well then also be escalated to the business meeting which is our management group meeting, so they are discussed there, and so we actually then get a senior manager, nursing and medical view on things that we actually look at what we need to do further. ... (Manager H)*

#### ONE-TO-ONE CONVERSATION

*... at individual level, just to get back to people to say, 'How's it going since I spoke to you, have you had any more issues?' And they might say no or yes, so it's sort of like making sure that there's a feedback loop to say well, we changed this, hasn't it actually worked, so just try to close that loop in it. (Manager I)*



## EDUCATION SESSIONS

*If that look like it was a bigger issue, I would talk to the educator and we would set up some kind of education if that was what was required. (Manager B)*

## WRITTEN COMMUNICATIONS

*... putting things in the communication book, and documenting around the ward. We have a big focus board that, sort of ... this month's highlighted area... (Manager A)*

## EXTRA-DEPARTMENTAL APPROACH

*So if it was something around respiratory equipment or something like that, then we would hopefully, ... through the repair workshop and things like that where we might start to identify that we've got a common problem in a piece of equipment. (Manager H)*

*... once a week [our service] have a meeting with [three other] unit managers ... because we have that sharing of going through [the same department] and coming back out again get our patients. So a lot of our things were about processes there. ... we'll talk about incidents ... (Manager I)*

## SUB-THEME 7-4: LOSS OF KNOWLEDGE

Two participants discussed the relationship between the loss of knowledge and patient incidents. Loss of knowledge and retention of staff impact on the organisation's learning capability and patient safety. Comments included:

## LOSS OF KNOWLEDGE

*There is the hassle too of the turnover of staff, I guess too, in that as you get something up and running, you change staff, you change teams ... So there's that constant changing of personnel as well, we're a fairly mobile workforce. So, those all sort of implicate a big time of how you work it all out.*

*(Manager A)*

## RETENTION OF STAFF

*... decision need to be made at senior management level so ... that with strategy in place to increase the [health professional] workforce need to be addressed. Like ... bonding newly graduated ... and paying off their student loans ... or something like this to actually improve retention and recruitment ... And, while that might seem a bit of a stretch to say, well, there is an incident here, why did you need to go all the way back here. The reality is sometimes that is the fundamental response that is needed, say we need to address workforce, training, recruitment and retention issues because otherwise this and many, many, many other incidents occur which fundamentally you can't prevent without an adequate number of people on board.*

*(Manager E)*

Diagram 6 (on page 130) is a simplistic figure that sums up the various factors that influence the incident management process and learning capability of *The Hospital*. The investigator factors include views on patient safety, investigation training and assumptions. Organisational factors include facilitative process, obstacles of the incident management system, hindering organisational practices and weak

modes of learning transfer. The seven themes and 24 sub-themes are summarised in Table 1 (on page 131).

*Diagram 6: Investigators and organisation's influences on incident management*

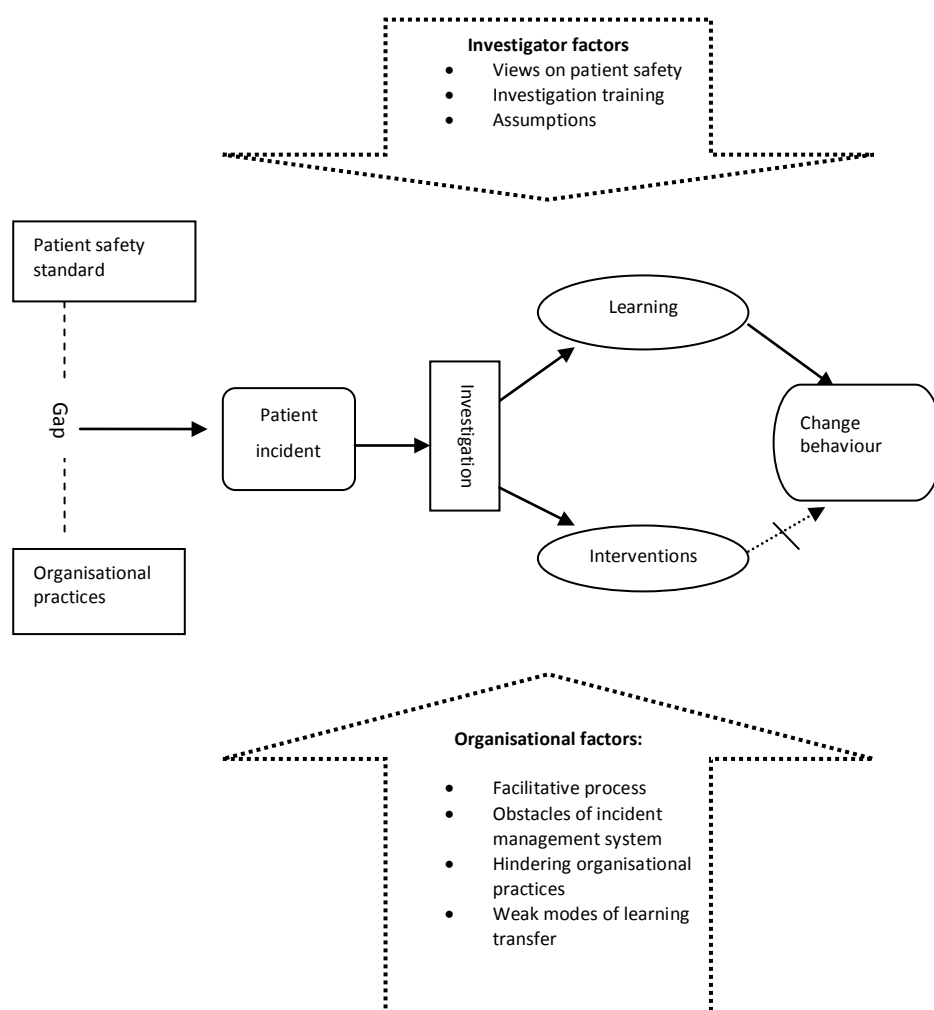


Table 1: Themes and sub-themes of learning after patient incidents

<p><b>1. Views on patient safety</b></p> <p>1.1. Goals of patient safety</p> <p>1.2. Attributes of patient safety</p> <p>1.3. Facilitative processes by skilled and qualified staff in a safe environment, with systems perspectives, through appropriate processes and by learning from mistakes</p> <p>1.4. Mere talk on patient safety</p> <p>1.5. Inhibitive organisational conditions due to inadequate organisational support, understaffing and resource constraints and outdated facilities</p>
<p><b>2. Investigator factors</b></p> <p>2.1. Quality of investigation training</p> <p>2.2. Assumptions of investigators and sponsor managers such as no blame attitude, learning opportunity, identifying systems vulnerability, being vigilant and reporting is a statistic</p>
<p><b>3. Obstacles of incident management system</b></p> <p>3.1. Inadequacy of incident management system due to rigid format of incident form, difficulty in retrieving information and ineffective feedback mechanism</p> <p>3.2. Deficiency of incident reporting due to reluctance of staff to report for fear of blame, lack of feedback and lack of confidentiality. Other factors include insufficiency of documentation on <i>Incident Forms</i>, inaccessibility to sources of information and misuse of incident reports</p> <p>3.3. Inefficacy of management of minor incidents due to large volume and lack of time</p>
<p><b>4. Hindering organisational practices</b></p> <p>4.1. Bureaucratic process includes decision-making removed from frontline staff, changes must be approved by various committees and slow at implementation of changes</p> <p>4.2. Silo phenomenon</p> <p>4.3. Dependency on policies</p>
<p><b>5. Approaches to incident management</b></p> <p>5.1. Gathering information from different sources by interviewing staff and patient, reviewing documentation and considering other contextual factors. Unit managers ensure appropriate investigations have been executed</p> <p>5.2. Developing recommendations based on personal opinions, lessons learned, policies, involving staff and by persevering when dealing with resource issues. Roles of unit managers are negotiating around, offering emotional support and appreciating frontline staff</p> <p>5.3. Evaluating outcomes by quantity of incidents, proxy measures and difficult to measure</p>
<p><b>6. Individual learning capability</b></p> <p>6.1. Reflections in incident investigation: Rationales for reflection include professional practice, frustrations and severity of incidents. Outcomes of reflection are to develop recommendations, evaluate past actions and keep track of incidents</p> <p>6.2. Sensemaking after patient incidents: preparedness, perception and persistence</p> <p>6.3. Turing lessons into actions include safe forums for discussions, peer reviews and regular and meaningful incident feedback</p> <p>6.4. Innovations for change: address workload issue by matching staff capacity compatible with patient acuity, address staffing issue by alternative approach to rostering, address systems problems by incorporating multiple perspectives and address systems problems due actions of other departments by involving stakeholders and reducing distractions</p>
<p><b>7. Organisational learning capability</b></p> <p>7.1. Receptiveness of staff include receptive to changes, receptive by disillusioned or rejective to changes</p> <p>7.2. Limited sharing of learning include limited sharing of learning outside department, inertia in learning across organisation and expecting organisation to act</p> <p>7.3. Weak modes of transfer of intra- and extra-departmental learning. Intra-departmental approaches include departmental meetings, incident meetings, one-to-one conversation, education sessions and written communications. Extra-departmental approaches include meetings among managers and interdepartmental meeting when other departments are involved</p> <p>7.4. Loss of knowledge</p>

## FINDINGS FROM INCIDENT REPORTS

The ten incidents that have been used for discussions were coded as the following: two incidents of patient falls, incorrect medication procedures, delay in seeing patients, missed treatment, inappropriate clinical assessment, discrepancy in label, unavailability of inpatient beds, near miss and incorrect labels on documents. To ensure the confidentiality and anonymity of the patients and the staff involved in the incidents, all information relating to them were not recorded.

Although ten participants were interviewed, only six incident reports were available for analysis. Two incident reports could not be located in the *Quality and Risk Department* despite the reference numbers were available. One of the participants used incidents that occurred in the department where she previously worked and was unable to provide me with the reference number of the report. One participant explained that he was conducting a parallel investigation and therefore the incident report did not record his investigation process and hence it was also excluded.

The data obtained from the six incident reports are reported using the headings such as manager's comment, causes and actions. These data, which are presented in Appendix 9, showed that the information documented by staff was brief and the comments and recommendations proposed by the investigators did not provide insights into the investigation or learning process. This is in contrast to the detailed and in-depth descriptions of the participants during the interviews, when they described how they investigated and what they have learned from patient incidents and incident investigations.

## EXEMPLARS OF LESSONS LEARNED

Despite the obstacles due to the incident management system and the hindering conditions of *The Hospital*, team learning and organisational learning have occurred. Some participants described the changes implemented as a result of the learning from patient incidents and incident investigations. They included lessons learned from patient falls, communication issues and equipment inspections. Comments included:

### LESSONS FROM PATIENT FALLS

*We discovered that a lot of the falls happened pre-meals ... or during the night when patients wanted to go to the toilet. ... a lot of them tend to be very independent, a lot of the investigations that I did into falls that if they weren't related to meal hours, they were still often related to the patients wanted to get up and go the bathroom, but felt that the [staff] were too busy. So they didn't want to bother those already busy girls, and would wait and wait and wait, ... in the hopes that busy girl would come on her own steam and found them, and then they would say, 'we've got to the stage that we were desperate to go', so they get out and go themselves anyway and fall. (Manager A)*

Solutions: Anticipate patients' needs and install visual aids

*So we found that if we then make a conscious effort before meals to say to people, 'Do you want to go?' and to take them, then we could reduce the number of [falls]. ... The other thing we did too was ... behind every patient we had a ... laminated sheet that states quite clearly how the patient can be mobilised, ... And it's there as a visual reminder ... so that if you walk into the room now, you didn't know any of the patient,*

*you would ... look up at the board instantly says 'transfers with a belt, walks with assistance of one'. (Manager A)*

#### LESSONS FROM COMMUNICATIONS ISSUES

*But, I think, there is a lot of that [staff to staff] as well, I think we don't often think to tell people ... and, I don't think it's holding on to information thing. I think it's just a lack of thinking to share it. I don't think we willingly, I don't think we get sort of territorial about the information; I don't think that at all. I think it's just that you don't think sometimes ... And so you assume they know what you know, and so you don't necessarily goes into the level of depth that you need to, because what they know might be three days old. Or ... you can assume that they know what you know, but, doesn't work that way. (Manager A)*

*But I know there's lots of information that's not transferred appropriately from the morning staff to the afternoon staff, or misinformation, or patient that is supposed to have certain things done but they are not done because they are not handover, or observations that should have been done and not done. ... (Manager G)*

#### Solutions: Handover project and communication tools

*I suppose that's another change that has come out of our incident forms and our looking at falls. And that our handover process used to be [staff to staff] ... you just heard about those patients. Now ... everybody has to listen to what's happening with everybody in the ward so that everybody knows a little bit about everybody, and will be able to cover or assist, or realise*

*that if somebody hasn't got the information that they need, then when you go for your break, things are likely to go wrong. (Manager A)*

*... I think everybody learns from incidents that occurred ... So, I think that greater lessons are learned, but they're probably not written down as such. But even the SBARR tool, some of those tools and things that people bring in, documentation audit, handover project are all around minimising clinical risks and lessons that we've learned from when hasn't gone well. Yeah, so there's quite a lot, I think, of examples where the hospital has learned. (Manager G)*

#### LESSONS FROM EQUIPMENT INSPECTIONS

*So, when we get a number of incidents around a certain issue, for example, we had one a couple of years ago around suction. A couple of times even though suction provided on emergency trolley, there were patients in beds, six by six bedded areas that ... in some wards don't actually have access to oxygen / suction. Arresting in there then was not able to use suction on the trolleys, and the suction unit not being available at the bed either. (Manager G)*

#### Solutions: Collaborative actions

*So, we did a big audit of all of that because it came from various wards, and we had found out that these units hadn't been replaced by anybody or reviewed by anybody. So, we've got all of them replaced. Since then the resus committee had also changed ... the whole emergency trolley system. So, those*



*are kinds of things that get picked up and changed. (Manager G)*

## SUMMARY

In this chapter the schemata for the development of the themes and sub-themes have been illustrated. Seven themes and 24 sub-themes were derived from the narratives of participants. The themes related to factors that influence the incident management process and the learning process of the participants and their departments. They include the investigators' views on patient safety, the quality of their training in incident investigation and assumptions that affect the quality of the investigation. Organisational conditions and practices can either facilitate or hinder the incident management process and the learning capability. The facilitative conditions include skilled and qualified staff, systems approach and learning from mistakes. Hindering practices include the obstacles in the incident management system, the bureaucratic process and the silo phenomenon.

Notwithstanding these, some participants have exemplified the concepts of preparedness, perception and persistence, which could be the leverage for the progression and improvement of the organisation's learning capability. The findings also show that team learning and, to some extent, organisational learning occurs in *The Hospital*. In the next chapter, the discussion is a synthesis of views on patient safety and approaches to incident investigations that influence and lead to learning by the participants and *The Hospital*.

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## 5 DISCUSSION

### INTRODUCTION

The discussion is divided into three parts. The first part discusses investigator factors and organisational factors that influence incident investigation. The investigator factors relate to the participants' views on patient safety, their training in and their assumptions about incident investigations. The organisational factors pertain to the incident management system and organisational practices that influence the incident management process and the learning capability of *The Hospital*.

The second part describes the learning capability of the participants and of *The Hospital*. The discussion on individual learning of the participants is confined to the roles of reflections and sensemaking of incident investigations. The discussion on team learning is based on the participants' efforts to reduce patient incidents and the modes of transfer of knowledge within their departments and *The Hospital*.

The third part presents the point of leverage by which *The Hospital* can improve its learning capability. The discussion includes the application of the concept of preparedness to reduce patient incidents, the relevance of the concept of perception for incident management and the significance of persistence to continuous improvement of patient safety and learning after patient incidents.

## VIEWS ON PATIENT SAFETY

Staff's views and perspectives on patient safety influence how they perceive the organisation's approach to incident management. It is obvious that there are mixed feelings among the participants about *The Hospital's* perspectives on patient safety and patient incidents. *The Hospital*, according to one of the participants, is "... particularly proactive [in] ... admitting ... making mistakes or failing in some areas which people generally find uncomfortable to acknowledge ..." (Manager E). To guide its quality activities and to reduce errors, as another participant describes, *The Hospital* implements, "... a lot of environmental safety things ... a lot of policies and procedures manuals in place ... We have training for our [staff]. We have expectations of levels of certification that they ought to be at ..." (Manager A). Being a healthcare organisation, *The Hospital* exhibits some of the features of a high-hazard organisation, that is, they are compliance-oriented, regulation-reliant and policy-dependent (Carroll et al., 2002).

It is evident that *The Hospital* is actively implementing different strategies to maintain and improve patient safety, but some participants would like to see *The Hospital* walk the talk. Although patient safety is high on the agenda, there is the perception that "... when it's raised to a higher level, not a lot gets done" (Manager C). Similar opinion is voiced by another participant where: "... we give a lot of face value to it ... We wait till a catastrophe happens and then we all rush in" (Manager I). These perceptions mirror the study of the petrochemical plant in which Carroll and associates (2002) found that the members of the investigation team in a learning organisation showed mixed feelings about the organisation's efforts to implement changes after failures. In their study of the incident of the "charge

*heater fire*", one of the members of the investigation team commented, "There are no legs on the management of change efforts. It is a lot of talk"(Carroll et al., 2002, p. 111).

Evidence substantiates the participants' perceptions that patient safety is mere talk in *The Hospital*. Several organisational conditions are highlighted by participants that compromise frontline operations and jeopardise patient safety. They include inadequate organisational support, understaffing and resource constraints, and outdated facilities. *The Hospital* proposes systems approach to errors (*The DHB*, 2008) because systems failures are one of the major contributing factors to preventable errors (Andrews et al., 1997; Davis et al., 2001; Michel et al., 2007). But, according to participants, when "*... taking things to a higher level is that you get a lot of agreement that it's an issue, but then not a lot of action about how we're going to solve it. So it's about coming up with a solution yourself ...*" (Manager C).

Although patient safety is regarded as paramount by *The Hospital* and it acknowledges systems failures contribute to patient incidents, it assumes local solutions are sufficient to solve problems. Actually, local remedial actions attenuate the effects of the failures and inhibit improvement and learning (Reason, 1997; Westrum, 2004).

Another behaviour of *The Hospital* that illustrates it does not always walk the talk is related to resource issues. This is succinctly described by one participant, "*... taking extra patients on as you can't manage safely actually is not doing patients favours. ... And saying well we haven't got enough staff, we'll just have to cope and still trying to do it may not actually be an adequate response*" (Manager E). Without the organisation's acknowledgement of unsafe staffing and high workload, patient safety is compromised. Other participants also expressed their concerns about the old design and old facilities of *The*

*Hospital* that do not cater to the complex needs of the current patient populations. Understandably, the health dollar is not unlimited and *The Hospital* is operating under a fixed budget. Certain top management decisions, as Reason (2008) explicates, are made by concession because they are influenced by economical, political and financial factors.

The data of this case study were collected from August to October 2008. In March 2009, *The Hospital* launched its patient safety plan and set six priorities to improve the safety and quality of its services. It acknowledges the causes of patient incidents are multifactorial and can be attributed to systems factors, process factors and human factors, all of which influence the performance of the whole organisation. Specifically, *The Hospital* has announced that it will focus on human factors and envisages training all staff in safety principles and integrating those principles into its culture (*The DHB*, 2009). Currently, it is finalising its organisational structure “as a fundamental cornerstone of a quality culture through joint decision-making” (ibid., p. 4) and “ensuring that improvements in patient safety continue and are embedded in both campus and service redevelopment projects” (ibid., p. 7). With the support of the top management this initiative is laudable and has the potential to enhance patient safety.

## INVESTIGATOR FACTORS

An incident management process aims to identify systems problems in the management of patient incidents and disseminate lessons learned (Communio, 2008). Carroll and associates (2002) assert that the quality of the investigation is dependent on the investigator's

knowledge and understanding of the incident management process as well as their skills in investigation. They found that investigators who have training in teamwork and investigation have more influence on management's acceptance of their recommendations. Hence, incident investigators and their sponsor managers influence the outcomes of incident investigations.

Since the introduction of the national incident management programme in February 2008, all participants had attended a half-day training session on incident management. The training describes the objectives of patient safety, the influence of human factors on errors and introduces some tools for incident investigation (Communio, 2008). But, as one participant explains, it was only recently through this type of training that *The Hospital* started "... teaching people how to actually investigate things thoroughly and logically and properly (Manager J). *The Hospital* expects its managers to apply a systems approach to errors, but incident investigation is a complex process and a half-day session may not equip investigators and managers with all the skills and knowledge necessary for adequate incident investigation. According to some participants, "... there's not much ... information around how to investigate sort of minor errors apart from discussing at among your staff and looking at ... the ways to prevent it ..." (Manager C).

Training in root cause analysis (RCA) would be more valuable for incident investigators. The two-day RCA training can provide them with the opportunity to learn about the theories and practise the iterative process whereby the sequence of events is re-created and the contributing factors of an incident are identified (Communio, 2008). Braithwaite et al. (2006) found that investigators trained in

RCA have a better understanding of the concepts of patient safety and this understanding facilitates the subsequent improvement process. A similar approach is also recommended by Vincent (2007) who proposes the use of investigators who understand the human, clinical, social and political issues inherent to healthcare organisations and patient incidents.

In their study of the “*charge heater fire*” incident, Carroll and associates (2002) also found that investigators who have training in incident investigation were more aware of the influence of the assumptions of the organisation, or of the investigators, on the efficacy of the investigation. Assumptions are mindsets that people hold about the world which influence their interpretations, decisions and actions (Senge, 2006). In fact, the participants hold different assumptions on patient incidents and incident reporting, and some of their assumptions complement *The Hospital’s* principles of its incident management policy. They include the no blame attitude, inevitability and preventability of incidents, identification of systems vulnerabilities and learning opportunities. On the other hand, some participants infer that incident reporting is a reactive approach that would not lead to improvement or learning.

All participants, implicitly or explicitly, assume the attitude of no blame towards their staff that “... *nobody comes to work ... to make a mistake or to harm someone ... [but] it is a significant event for that person*” (Manager H). This attitude illustrates that participants acknowledge the emotional turmoil that staff experience after patient incidents and their supportive attitude complements the non-punitive principle of *The Hospital’s* incident management policy. Health professionals who are involved in a patient incident are the “second victim”, a term coined by Wu (2000, p. 726), because they experience

fear, doubt, anger, despair and isolation. They might fear the loss of trust from patients and colleagues, doubt their competence, or project their anger towards their colleagues and the organisation. These negative attitudes predispose them to stress and burn out (Scott, Hirschinger, & Cox, 2008; Wu, 2000). Organisational awareness and responses that support staff who are involved in patient incidents would improve their morale and assist their recovery from the trauma (Scott et al., 2008). In addition, the non-punitive principle encourages open discussion of mistakes and explores options for improvement that prevent recurrence (Wu, 2000).

*The Hospital* acknowledges incidents are inevitable because it operates in a complex, interdependent and highly-technological environment, but it also realises improvement is achievable by a systems approach to incident management (*The DHB*, 2008). This approach is concurred with by one of the participants, "... you're going to end up with another error at some stage, but all you can do is try to prevent those errors occurring" (Manager C). Safety experts agree that inevitability of incidents should not curb improvement efforts because systems and processes can be improved upon and become more resilient to systems vulnerabilities (Leape, 1994; Reason, 2008; Weick & Sutcliffe, 2007).

Some participants and *The Hospital* also share the same assumptions about the roles of near misses. Near misses highlight systems vulnerabilities; but they also provide insights about the latent conditions that might contribute to patient incidents and the lessons about the remedial strategies taken by staff to avert those risks (Clarke, 2006; Kaplan & Fastman, 2003). The incident management process informs and warns the organisation about the presence of errors or near misses, and one of the participants perceives active



reporting “... demonstrates that people have been vigilant” (*Manager J*). Being vigilant to errors and near misses is an essential behaviour in safety practice; a behaviour that *The Hospital* is eager to promote.

In its recently-released patient safety plan, *The Hospital* sets a target of improving the reporting of near misses by ten percent in the year 2009 to 2010 (*The DHB*, 2009) and aims to use patient incidents as learning opportunities. Nevertheless, patient safety experts remind us that incident reporting is but one of the post-event reactive measures that collect data through the voluntary reporting of incidents by staff and it is not a valid measurement of safety efforts (Pronovost et al., 2008; Vincent, 2007). One participant rightly points out that reporting does not equate to learning because “... numbers reflect just how active people are ... filling in incident forms ...” (*Manager D*).

In fact, incident reporting in itself does not lead directly to learning. This participant’s assertion, which is similar to that of Cooke et al. (2007), argues that learning is limited from incident reporting “... because at the moment what’s recorded and fed back is the number of incident reports rather than the consequences of the incident reporting ...” (*Manager D*). The quantity of incident reports reflects a statistic but it does not imply improvement or that learning has occurred (Pronovost et al., 2008). Likewise, periodic reports of incident trends and data do not constitute learning (Shojania, 2008) because they only provide warning signals and safety information to the organisation and increase its awareness of patient safety (Vincent, 2007).

Indeed, the incident reporting mechanism is only useful as far as the information collected provides lessons for learning and improvement. The recurrence of incidents is symptomatic of systems problems and, without addressing the fundamental causes, *The Hospital’s*

assumptions and reliance on local solutions would not resolve latent conditions. It has adopted a safety philosophy and assumes the philosophy will guide staff's actions. This assumption overlooks the diverse perspectives among staff and portrays the characteristic of a controlling-oriented organisation and is an impediment to organisational learning.

In the "*charge heater fire*" incident, Carroll and associates (2002) described how, before training in incident investigation, members of the investigation team did not realise how their underlying assumptions had influenced the investigation process. In a controlling-oriented organisation, management does not challenge the organisation's underlying assumptions that its policies and rules could improve safety (Carroll et al., 2002). In contrast, in a learning-oriented organisation, management respects the diversity of perspectives and assumptions that facilitate safety practice and enhance collaborative learning (Carroll et al., 2002; Perin, 1995).

## INCIDENT INVESTIGATION

During investigation, Carroll and associates (2002) propose, investigators should distinguish facts and perceptions, discover causes and contributing factors, develop understanding and meaning, design recommendations and actions, and evaluate effectiveness and outcomes. Most of the participants adopt *The Hospital's* customary approach to incident investigation and their "*... tendency is ... discuss with staff, discuss with the family, review the medical notes, discuss with the other key stakeholders that might be involved ... and then write that up*" (Manager G). When investigating minor incidents, some participants focus on "*... whether the usual precautions were in place ...*" (Manager A). Some of them also interview the patients to

obtain insights into the care delivering process and areas for improvement, while others will look “... *at contributing factors to why that might have happened*” (Manager C). Although many participants claimed that training in incident investigation is limited, they adopt a collaborative and participative process to incident management.

While some participants consider various viewpoints and other contributing factors during the investigation, many participants tend to look for linear cause-effect relationships and compliance to policies and procedures when they investigate minor incidents. They analyse incidents based on their professional knowledge, organisational policies and industry standards. For some incidents, such as the checking procedure of a medication, a compliance-focused perspective may provide the solutions. But, for incidents that are recurring, such as patient falls, a broader perspective must be adopted to uncover systems problems. Individual learning of the participants is evident because they practise systems thinking, share mental models and accept diverse viewpoints during the investigation (Carroll et al., 2002). This case study shows that many participants are practising between the constrained stage and open stage of learning and displaying both controlling- and learning-orientations. Such behaviours are in accord with the findings of Carroll and associates (2002) that individuals and organisations can demonstrate a mixture of different stages of learning at any one time.

Five of the participants are unit managers who do not investigate incidents with minor or moderate consequences. Their roles are similar to that of sponsor managers who support, assist and facilitate investigators in their decision-making (Carroll & Edmondson, 2002). When the investigation does not address the issues, before signing off the reports, as this participant explains, “... *I’ll actually (1) send them*

*back to them to say ... this actually has not identified or addressed the issue. Or (2) ... actually I follow that up ... get the feedback if they had more insight into ... how they address that in the future (Manager H).*

This expectation correlates with Carroll's (1995) opinion that incidents and incident investigations should provide learning opportunities for staff to review local work processes, discuss issues, discover insights and explore alternatives for improvement. Reflection on routine practices and contemplation of assumptions would augment an organisation's learning capability. Similarly, in the "*charge heater fire*" incident, Carroll and associates (2002) noticed that in a learning-oriented organisation, managers facilitated their teams to challenge the underlying assumptions, evaluate the effectiveness of current processes and develop alternatives to prevent recurrence of incidents.

In this case study, it is conceptualised that one of the outcomes of an incident investigation is the implementation of recommendations. Some of these recommendations are based on *The Hospital's* policies, lessons from previous incidents or participants' personal knowledge. There is a strong tendency for some participants that "... *recommendations will be based on policy ...*" (Manager B). This approach is similar to the nuclear plant in the "*fall from roof*" incident (Carroll et al., 2002) where recommendations are reactive and aim to enhance compliance with organisational policies and procedures. Reactive and compliance-reliant measures are the common approach to errors in a controlling-oriented organisation.

Some of the recommendations are based on the participants' "*opinions of keeping people safe ...*" (Manager B), "*... knowledge of previous incidents ...*" (Manager A) and lessons gained after "*... visiting other sites or going to conference ...*" (Manager C). Although

external knowledge may be adopted, these solutions are usually based on local or professional knowledge and therefore learning from patient incidents is limited to within the department or the discipline concerned (Carroll et al., 2002; Westrum, 2004).

Learning may be limited within the department, but many participants appreciate the efforts of the frontline staff and acknowledge that “... *we’ve got a massive group of people who are very innovative ... given the constraints they work through ...*” (Manager H). Some participants also realise the limitation of top-down control because “... *you’re not at the bedside all of the time, you’re not aware of some of the practicability, ... [the staff] is the one who’s often going to have the better ideas how to solve these problems ...*” (Manager A). They understand staff must be involved in the development of interventions because their involvement ensures the interventions are practical, applicable and acceptable to the staff; and this approach enhances the effectiveness of the interventions in the prevention of incident recurrence (Benn et al., 2009). Obviously, team learning occurs because participants, being the learning agents, are modelling their learning practices in their departments. As they develop their personal skills and knowledge through incident investigations or signing off incident reports, they facilitate team learning through the sharing of their knowledge with the staff of their departments (Argyris & Schön, 1978; Carroll & Edmondson, 2002; Carroll et al., 2002).

For most of the minor incidents, the participants feel that they are able to implement the recommendations they developed. However, they also acknowledge that *The Hospital* has “... *a lot of constraints ...*” (Manager A). When dealing with resource constraints, participants rely on local efforts but “... *it doesn’t stop [them] highlighting issues.*”

...“ (Manager A) to make sure the top management are aware of the risks. Organisational decisions are influenced by economical, political and financial constraints (Reason, 2008). Therefore, some of the recommendations and decisions, as one participant recounts, “... *are ... kind of out of your control [and it’s] ... disheartening... and ... frustrating to feed that information back, but then ... also gives you reasons to ... keep putting ... alternative suggestions forward to senior management around how we can change them*” (Manager C).

Alternatively, some participants “...*negotiate around ...*” (Manager F) and collaborate with other stakeholders to develop practical solutions to meet the common goal of improving patient safety. Many participants are displaying a learning-orientation to incident management where they persevere to improve *The Hospital’s* systems and processes collaboratively with other stakeholders.

One of the measurable outcomes of incident investigations is to assess the effectiveness of interventions. To quantify the effectiveness of the incident management policy, *The Hospital* has formulated a set of success indicators, which include timeliness, outcome and notification (*The DHB*, 2008). One of the outcomes is a declining trend in serious patient harm (*ibid.*). Accordingly, nine of the ten participants assess the effectiveness of their interventions by the decrease in the quantity of incidents.

The decrease in the quantity of incidents, however, is not a reliable indicator of improvement in patient safety because the reporting of patient incidents only highlights the presence of safety issues (Vincent, 2007). Quite often, as many safety experts warn, incident reporting under-represents the quantity of patient incidents, under-detects the types of incidents that cause harm, under-reveals the consequence of patient incidents and under-determines the extent of

improvement efforts (Benn et al., 2009; Pronovost et al., 2008; Sari, Sheldon, Cracknell, & Turnbull, 2007; Shojania, 2008). In fact, one participant points out that the measuring of effectiveness of interventions is “... *a challenge because ... it’s trying to measure the absence of something ... Does that mean ... our recommendations have been effective or it’s just an infrequent incident*” (Manager E)?

Pronovost et al. (2008) suggest assessing the effectiveness of the interventions by considering whether the organisation “learned from the mistake, intervened and reduced the probability that another would be harmed from a similar event” (p. 6). Therefore, proactive measures are more meaningful for the assessment of the effectiveness of the organisation’s processes and for the identification of unsafe actions that might contribute to patient incidents (Reason, 1997). Auditing of clinical practice by peers is one of the proactive measures. It is a systematic and critical review of professional practice against set criteria or standards (Royal Australian College of Surgeons, 2008), a process employed by one participant, who explains that, “... *true clinical audit should involve the person whose management is being looked at ...*” (Manager D). Clinical audit is a quality tool to assess the standard of professional practice. It is also an educational exercise that assists practitioners to evaluate their own and peers’ performance and to plan improvement efforts (Royal Australian College of Surgeons, 2008).

Organisational learning is demonstrated by changes in behaviour and culture (Carroll et al., 2002). The correct and appropriate application of a procedure is one of the means to assess the competency of staff regarding that procedure (Pronovost et al., 2008). But a more valid measurement of the extent of effectiveness of an intervention is demonstrated by the enactment of new behaviour that becomes the

norm, the development of new knowledge that is disseminated throughout the organisation, and the endorsement of new culture that is shared by all staff (Carroll et al., 2006). In a complex environment such as *The Hospital*, to change behaviours is not an easy task. It requires cultural change and the commitment of the organisation and all of the staff to ensure learning occurs after patient incidents, regardless of their severity. In addition, the aim of incident management process is to initiate systematic investigation and develop meaningful and practical solutions that address systems problems (Bagian, 2006; Reason, 1997).

#### INCIDENT MANAGEMENT SYSTEM

Solving systems problems depends on the effectiveness of incident management and the capability to learn from patient incidents. In turn, they are influenced by organisational systems. Some of the obstacles that impact on the effective management of patient incidents are observable in *The Hospital*. The participants describe the experiences manoeuvring through hurdles due to the inadequacy of the incident information system, the deficiency of incident reporting and the voluminosity of minor incidents. These obstacles lead to ineffective incident feedback and discourage reporting.

The incident information system of *The Hospital* is inadequate because of the rigid format of the *Incident Form*, insufficient incident information and the ineffective incident feedback mechanism. Staff are expected to report incidents by using the *Incident Form*, which is “... a triplicate type of form, small little place to write ...” (Manager J) and “... are quite structured ... what they want you to do ...” (Manager A). Many participants find the *Incident Form* restricts their ability to



include all of the relevant information that might contribute to an incident.

On examination of the *Incident Form*, there is fine print on the front page that advises staff to use extra pages as necessary (*The DHB*, 2005). Among the six incident reports that were examined, two of them included extra pages that described the investigations in detail. The information relating to the investigation process that was documented on the other four *Incident Forms* did not provide much information about the investigations other than a brief description of the causes. The brevity of these investigations may be because the consequences of the incidents were minor. Their recommendations were mainly based on policies and procedures and this approach resonates with *The Hospital's* assumptions that "compliance with safety rules will improve safety" (Carroll et al., 2002, p. 100), which was not challenged during incident investigations. This is similar to the findings of Carroll and associates' (2002) in the incident of "*fall from roof*" where the incident reports lacked details, insight and clarity, and showed little evidence of inquiry; and the investigation team recommended actions to improve the compliance with the plant's current policy. This practice typifies one of the characteristics of a controlling-oriented organisation (ibid.).

The function of an effective safety information system is to collect, analyse and disseminate incident information that facilitates the effective management of patient incidents (Reason, 1997).

Effectiveness of the incident management system depends on the voluntary reporting by staff. Through incident reporting, staff provide valuable information about *The Hospital's* processes and areas for improvement. But participants find "... *people don't have [or] don't spend the time writing down every single thing that happened*"

(*Manager A*), so the incident reports lack meaningful information. But inadequate information may indicate staff lack the understanding of the purpose of the incident management policy or that they are unclear as to the types of incident to be reported.

Also, as another participant affirms, "*I'd be inundated every time when I went to the mail and like another wall of incident reports that I've got ... doesn't tell me anything*" (*Manager J*). Albeit a valuable tool for information collection, for some participants incident reports have become a source of annoyance. This puts the efficacy of the incident reporting system in doubt. The large number of incident reports also increases the workload of managers because of "*... the time it takes ...*" (*Manager D*). In the year 2007 to 2008, *The Hospital* received an average of 800 incident reports each month (*The DHB*, 2009). Unsurprisingly, some participants concede that "*... there are probably smaller incidents with massive number that we DON'T [emphasised by participant] effectively manage*" (*Manager G*). Although *The Hospital* adopts the Severity Assessment Code rating system to prioritise the level of investigation (Communio, 2008), participants are burdened by the voluminosity of incident reports. The large amount of incident reports leads to ineffective management of minor incidents and important signals about systems vulnerabilities might be missed (Shojania, 2008).

Incident information is used to improve organisational processes and evaluate the effectiveness of incident management. At *The Hospital*, the *Quality and Risk Department* is responsible for managing the incident management system, collecting and documenting all causal and contributing factors, and analysing the contextual components of all incidents (*The DHB*, 2008). However, many participants are critical of the incident information system, "*... we're great at gathering*

*information, all sit nicely in Quality and Risk computer. But we don't review it ... because it's quite difficult to get it out of the system ..."* (Manager G). It is apparent that the collection of data by *The Hospital's* incident information system does not reflect the outcomes of improvement efforts nor does it evince the occurrence of learning after patient incidents. The incident information system should be improvement-oriented, as one participant suggests, that "... *not only told us this is what we're doing, but actually said, ... we did this and now we're actually seeing an improvement here ...*" (Manager H). This suggestion echoes Shojania's (2008) assertion that incident information systems must provide useful information, initiate improvement and lead to meaningful change.

Absence of visible change can be perceived as the organisation's weak response to incident management. One of the participants finds staff are disheartened because they "... *don't actually get the feedback ...*" (Manager H). Not responding to incident reporting discourages and de-motivates staff to report incidents because they feel their contributions are not valued (Benn et al., 2009; Kaplan & Fastman, 2003). Lack of feedback is recognised as the most significant barrier to incident reporting in healthcare organisations (Benn et al., 2009; NHS Confederation, 2008). *The Hospital* requires line managers to feedback to staff on the outcomes of the investigation and to ensure lessons are shared across the organisation (The DHB, 2008). But participants perceive *The Hospital* as a poor role model in the aspect of incident feedback and this is shown by the frustrations of one participant who "... *send [the reports] off and then it's like nothing, dead ...*" (Manager B). Already some participants have conceded that the large amount of minor incidents is not managed effectively and therefore timely and appropriate feedback is delayed

or absent. The vicious cycle of lack of feedback is exacerbated by the overload of minor incidents.

In fact, incident data must be managed and monitored systematically so that relevant information is provided to staff at different levels to initiate appropriate interventions (Kaplan & Fastman, 2003). *The Hospital* can incorporate the five mode feedback scheme proposed by Benn et al. (2009) into its incident management process. The five modes include “bounce back, rapid response, raise risk awareness, inform staff of actions taken and improve system safety” (Benn et al., 2009, p. 16). At the “bounce back mode”, the manager feeds back to the incident reporter and acknowledges the receipt of the report. During the “rapid response mode”, immediate responses are initiated while the investigation is being conducted. At the “raise risk awareness mode”, the manager informs all frontline staff about the risks and the correct procedures to be followed. The end of the investigation is the “inform staff of actions taken mode”; the manager feeds back to the incident reporter and all staff about the findings and the changes implemented. Finally, in the “improve systems safety mode”, changes are implemented, effectiveness is evaluated and lessons are shared across the organisation. The aims of the five mode feedback mechanism are to acknowledge the contribution of staff for reporting incidents and inform all staff about the outcomes of incident investigations.

Incident reporting is one of the retrospective activities that helps organisations identify risks and learn from errors. All staff of *The Hospital* are responsible for reporting any unplanned events that have caused or have the potential to cause patient harm (*The DHB*, 2008). But there are occasions when incident reporting has been misused and common misconceptions exist around this mechanism, as

expounded by one of the participants, “... *they’re almost used as a punishment as opposed to a tool that gives us the opportunity to identify the risk and look at what we can do to manage that risk*” (Manager H). The practice of no blame and non-punitive attitudes has not changed staff’s perception about incident reporting, as another participant finds that “... *there’s the problem too people not wanting to fill them in ... and getting across that that’s not a blame thing is really hard*” (Manager A). Still, as another participant observes, “*There’re clearly some staff who use the incident reporting mechanism as a way of dealing with their frustrations ...*” (Manager D).

Incorrect use of incident reporting undermines the roles of incident management as one of the improvement tools. One participant rightly suggests that “... *all the staff and the clinical managers could have lots of more education on how to fill them out, what to do about them ...*” (Manager G). To improve the usefulness of the incident reporting process, *The Hospital* must clarify the reporting criteria to ensure relevant information is documented. Relevant and meaningful information helps identify risks, prioritise resources, develop interventions and evaluate the effectiveness of investigations. Education of staff on incident reporting and clarification of reporting criteria would lessen the burden of the incident investigators and staff who report incidents (Pronovost et al., 2008).

The burden of blame on frontline staff discourages incident reporting (Clarke, 2006; Wu, 2000). Staff in healthcare organisations, especially health professionals, are reluctant to discuss errors because acknowledging errors might reduce their self-esteem and self confidence (Cannon & Edmondson, 2005; Clarke, 2006). This behaviour is embedded in the traditional culture of healthcare organisations that emphasises the infallibility of health professionals,

the aversion to errors and the attitudes of blame-name-shame (Clarke, 2006; Leape, 1994; Waldman & Yourstone, 2007). To overcome this misconception, *The Hospital* is promoting a just culture with accountability (*The DHB*, 2008). However, participants feel that it could do more to dispel the traditional blame-shame attitudes by nurturing a safety culture “... where people feel safe to disclose it about making an error and take responsibility for it ...” (Manager E).

Another deterrent to incident reporting in *The Hospital* is staff's concerns about the lack of confidentiality in incident reporting because its incident management system is not an anonymous reporting system. Benn et al. (2009) explain the disadvantage of anonymous reporting where staff do not put their names on the incident forms. With anonymity, the investigator cannot contact the incident reporter and so they cannot jointly identify risks and failures, develop practical solutions and learn from the incident.

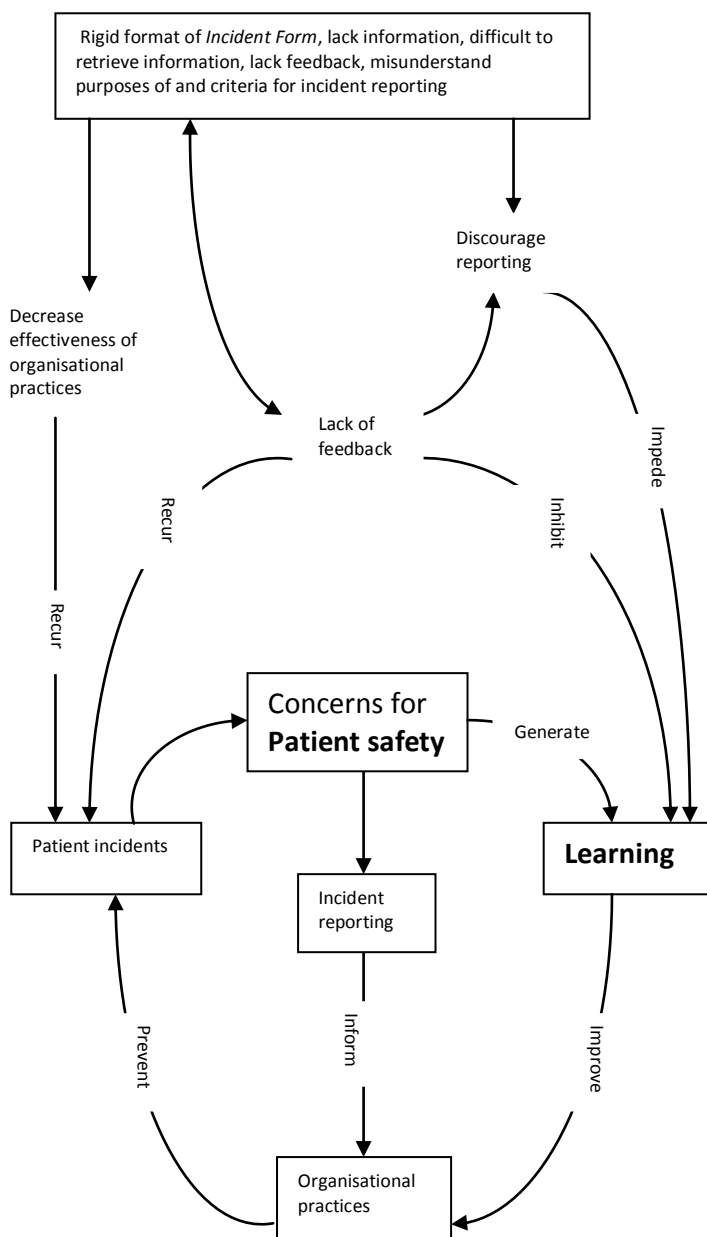
In many healthcare organisations, incident reporting remains voluntary except for incidents where a patient has been harmed. The potential for learning from patient incidents and improvement of patient safety is reduced if staff are reluctant to report incidents. By reporting the incident and participating in the investigation, staff describe the experience of what has happened or what they have witnessed. Both the investigator and the reporter reflect on the incident, makes sense of the experience, collect information about work processes, generate new knowledge and develop actions to prevent recurrence (Battles et al., 2006; Dixon, 1999).

From the examination of the six *Incident Forms*, it is evident that there is another misconception amongst staff about the process of and rationales for incident reporting in *The Hospital*. The documentation on the *Incident Forms* lacks detail, similar

observations that have already been described by many participants. This shows staff assume once they have completed the *Incident Forms*, they have fulfilled the obligation and responsibility required by the organisation. To improve the quality of the incident information system and enhance the effectiveness of the incident management process, staff must be made to realise that by sharing and making sense of the experience of patient incidents, albeit distressing and unpleasant, an opportunity to promote learning and to prevent recurrence of incidents is created. As mentioned by some participants, a safe environment must be provided where staff can safely and openly discuss their experience.

To improve the learning capability, *The Hospital* must address the obstacles of the incident management system, such as the lack of meaningful incident information, the difficulty in retrieving incident information, the lack of incident feedback and the misunderstanding amongst staff about the purposes of and criteria for incident reporting. Incident management is more than the recording of the quantity of incidents, Bagian (2006) explains, it must identify systems vulnerabilities and initiate systems improvement and learning. The effects on organisational learning due to the obstacles that are present in *The Hospital's* incident management system are illustrated in Diagram 7 (on page 159).

Diagram 7: Obstacles in incident management system





## ORGANISATIONAL PRACTICES

Organisational practices influence the effectiveness of incident management and capability of learning from incidents. Hierarchical structures remain dominant in healthcare organisations (Kitch, Ferris, & Campbell, 2008). In *The Hospital*, as this participant comments, “... a lot of ... decisions about budgets and needs [of] that area are too far removed from the actual ward ...” (Manager A). Hence, the effectiveness of its incident management process and the learning capability are impeded by its bureaucratic process. This is similar to the findings in Carroll’s (2002) study of controlling-oriented organisation in the “*fall from roof*” incident where the plant found it difficult to implement changes that top managers did not support. Besides, participants feel that their hands are tied by the hierarchical environment. One of the participants explains how a department circumvents its bureaucratic process and gives *The Hospital* an illusion of control: “... there is all sort of committees you have to go through ... change can take forever, so there’s awful lot of things always stay draft because then you don’t have to go through the ... committee” (Manager A).

In addition, a bureaucratic culture reinforces the use of policies and procedures to guide actions and prevent errors (Singer & Edmondson, 2008; Westrum, 2004). One participant is frustrated at *The Hospital*’s reliance on policies and procedures and its “... recommendations are to develop a new policy, or to modify an existing policy, or to educate around the policy ...” (Manager D). *The Hospital*’s approach is similar to Carroll and associates’ (2002) study of the “*fall from roof*” incident where the nuclear plant developed more policies to improve compliance at the frontline, an approach that attests to a controlling-orientation. The participant also challenges the assumptions of *The*

*Hospital* about the use of procedures to guide frontline practice, which are not necessarily effective in reducing patient incidents. This observation and comment also illustrates the antagonistic nature of professional culture and managerial culture in healthcare organisations (Currie et al., 2008).

The culture of healthcare organisations also exacerbates the silo phenomenon and impedes organisational learning. The professional and cultural characteristics of healthcare organisations encourage individualism and autonomy (Tucker & Edmondson, 2003). As health professionals, staff are empowered and valued as problem solvers who “*are perfectly capable of fixing the majority of incidents that come afore ... because ... they manage that situations as they occurred*” (Manager H). At the departmental level, *The Hospital* expects local solutions will solve incidents with minor or moderate consequences (*The DHB*, 2008). This empowerment and expectation exacerbates the silo phenomenon, encourages quick fixes or work-around and further hinders the identification of systems problems and limits learning across the organisation (Tucker & Edmondson, 2003; Westrum, 2004).

The different sub-cultures and assumptions of the diverse occupational groups influence the learning capability of an organisation. From the perspective of the frontline staff, the adherence to policies and procedures may appear to be a meaningless ritual when it is applied to every patient, including those who are not at risk, in effect a controlling mechanism imposed on them (Carroll et al., 2002). From the perspective of *The Hospital*, however, it is complying with the regulatory and legislative requirements to implement safety measures and develop policies and procedures to guide actions. Furthermore, it must disseminate and

institutionalise knowledge gained from patient incidents through a structural approach (Crossan, Lane, & White, 1999; DiBella & Nevis, 1998), which includes written procedures such as policies and procedures and hazard barriers such as visual reminders. To facilitate a safety culture, Johnstone (2009) suggests learning from patient incidents should be geared towards an excellence-orientation instead of an error-orientation. An orientation towards excellence will be more appealing to health professionals and the convergence of the professional sub-cultures and the organisation's safety culture would enhance the learning capability of *The Hospital* (Currie et al., 2008). Communications and collaborations between staff from different disciplines at different levels are essential for improvement and learning after patient incidents (Singer & Edmondson, 2008).

But the silo phenomenon is inhibiting the improvement efforts of the different departments. Departmentalisation is essential in *The Hospital* to provide efficient specialised healthcare, but it also creates the silo phenomenon (Waldman & Yourstone, 2007). As this participant observes, "*What I'm seeing in my little patch of the wood is duplicated in every other patch of the wood, so we've actually got a forest of problems ...*" (Manager I). Indeed, some participants question the learning capability of *The Hospital* because incidents are recurring. This is exacerbated by the organisational practice, as one participant expresses, where they "... *still have a very strong silo approach ...*" (Manager H) and the sharing of learning across *The Hospital* is inhibited because "... *the organisation doesn't require us to do that, and it doesn't provide ... the infrastructure ... to do it*" (Manager H). The silo phenomenon reduces each department to linear thinking where one department does not have access to the information or knowledge of another department, nor does each

department understand the implications of its actions on other departments (Dixon, 1999).

The efforts of individual departments will not improve the overall system when they focus on local problems (Carroll et al., 2002). Problem-focus and silo approach negate *The Hospital's* drive for systems approach. *The Hospital* is a people organisation, so it must consider how the staff's assumptions and perspectives influence, and are influenced by, the systems perspectives (Reason, 1997; Vincent, 2007). As complexity of the environment increases and workload pressure intensifies, staff are inclined to fall back on the habitual behaviours of problem solving and controlling-orientation (Carroll et al., 2002; Waldman & Yourstone, 2007). Controlling-orientation limits the organisation to practise single-loop learning that focuses on problem solving (Argyris & Schön, 1978; Carroll et al., 2002). Diagram 8 (on page 164) summarises the hindering conditions that diminish the effectiveness of *The Hospital's* efforts to improve patient safety and the capability to learn from patient incidents.



## INDIVIDUAL LEARNING

Individual learning is evident for all participants. Incident investigation is the conduit of learning for the participants, through whom their departments also learn. In their role as incident investigators, participants reflect on and make sense of the incidents and the investigations, from which they acquire new knowledge, develop actions and share the lessons with staff. Learning occurs as a result of reflecting, sensemaking, interpreting incidents and generating actions during incident investigations (Carroll et al., 2002).

For some participants, reflections “...*inevitably end up... ruminating on what happened and could it be done differently and could it be prevented ...*” (Manager E). This discontent brings about an action-oriented process during which people pause and ponder about the event to satisfy their critical and technical interests (Kemmis, 1985). The discontent arises from the perspective of a health professional where an unanticipated incident occurred despite appropriate care. For other participants, they are frustrated at “... *the repetitive sorts of things ...*” (Manager B). The frustration occurs due to the recurrence of some incidents and results in reflection. The act of conscious thinking helps participants to formulate “... *what improvement we can make within our own department and ... within this organisation to prevent errors ...*” (Manager C). The discontent and frustration lead to further reflection and generation of new actions (Boud et al., 1985).

However, an incident is “... only meaningful when seen from the perspective of the person construing their meaning” (Boud et al., 1985, p.23). When the meaning makes sense, it engenders new understanding, enacts new behaviour and generates learning (Battles et al., 2006; Weick, Sutcliffe, & Obstfeld, 2005). Reflection is a selective process that is based on the knowledge and background of

the person and the context of the incident. Therefore, each person's interpretations and sensemaking of the same incident would be different (Dixon, 1999). The process of reflection allows the participants to make sense of the incident during the investigation, to clarify ambiguity and to identify systems problems that contribute to the incidents (Battles et al., 2006).

During incident investigation, dialogues are the most common method participants used to exchange information and to make sense of the incident. In the incident of '*incorrect medication procedure*', the dialogues between the participant and the investigator involved "... *how did it happen? ... What was the context ... (Manager J)*? This process of questioning and answering between the participant and the investigator clarifies meaning, offers possibilities, induces reflection, guides actions and generates learning (Daudelin, 1996). Although the participants were not directly involved in the incidents, their role as the investigator or sponsor manager provided them the opportunity to make sense of patient incidents. This process of sensemaking dialogue enables the participants to generate new understanding of patient incidents. Therefore, managers must include staff in this kind of sensemaking dialogue to facilitate team learning and organisational learning after patient incidents (Battles et al., 2006; Dixon, 1999).

Patient safety is more than the prevention or minimisation of errors. It is the continuous effort of organisational learning and improvement in processes and systems that demand the participation of staff and the commitment of the organisation and its leaders (Carroll et al., 2002; Emanuel et al., 2008; Leape, 1994). Three exemplary concepts related to the management of and learning from patient incidents have been extracted from the excerpts of the participants'

sensemaking process. They are preparedness, perception and persistence. Preparedness is “... *trying to think of things that could be obstacle before they are one ... [and] we shouldn’t take for granted, and that different situation is going to make it different again (Manager A).* Perception is “... *about you never ever take anything at face value. ... it’s often things are about perception or expectation ...*” (Manager J). Persistence is maintaining the momentum of improving and learning that “... *management has to make sure that ... it’s an on-going thing, not something that you can teach once, and assume that it will happen forever and ever...*”(Manager A).

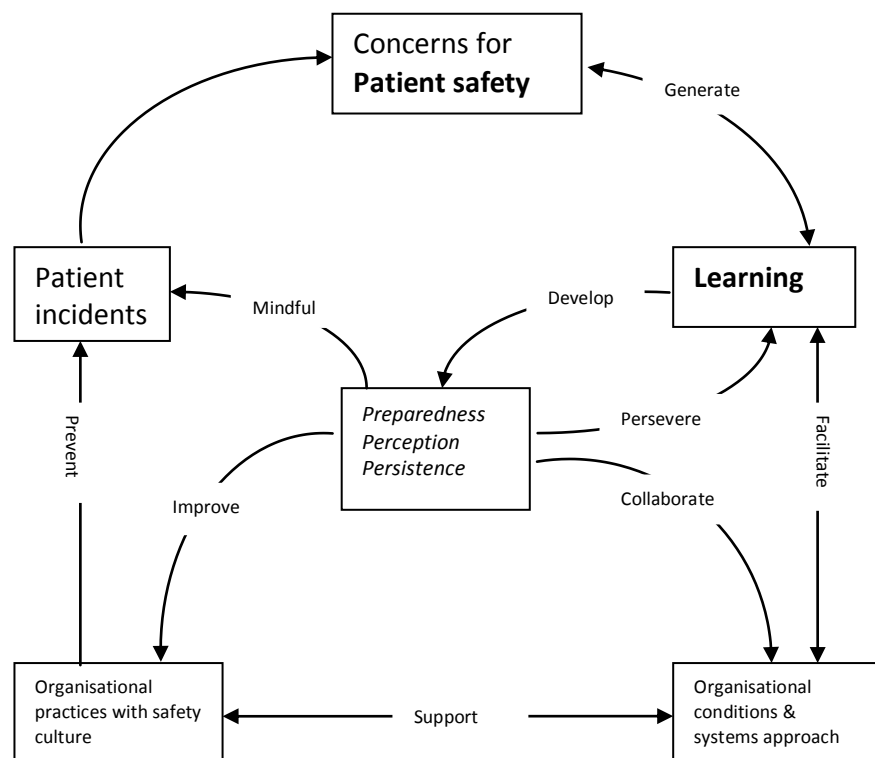
The concepts of preparedness, perception and persistence also allow the participants to view patient incidents from a different level. Rareness of an incident does not negate the importance of preparedness, as one participant notes, “... *despite the fact that that was the first time ... that particular thing happened in eight years, what it reflected was the underlying problem that could actually have implications to many other patients ...*” (Manager E). Other participants demonstrate their appreciation of the concept of perception before they signed off the incident reports. For example, in the incident of “*incorrect medication procedure*” where the staff forgot some of the steps, the participant discussed the incident with the investigator to understand the multiplicity of the context and contributing factors of the incident. Being open-minded and engaging the concepts of preparedness and perception help some participants appreciate the complexity of patient incidents and the investigation process.

Individual learning is evident in the participants and the majority of them are practising at a mixture of the constrained stage and the



open stage of learning. At the constrained stage, some of the participants consider complying with policies and procedures to prevent incidents is appropriate when they are dealing with minor incidents. They rely on rules and safety measures to solve problems, comply with regulations and policies, and practise single-loop learning (Carroll et al., 2002). Diagram 9 is a representation of the relationship between the concepts of preparedness, perception and persistence and organisational learning. As some of the participants demonstrate, practising the concepts of preparedness, perception and persistence could be the leverage for the transition from the constrained stage to the open stage of learning. This practice is parallel to a learning-orientation that adopts systems approach, challenges underlying assumptions and engages in double-loop learning (Carroll et al., 2002; Reason, Carthey, & de Leval, 2001).

*Diagram 9: Preparedness, perception and persistence and learning from incidents*



## TEAM LEARNING AND ORGANISATIONAL LEARNING

To some extent team learning takes place in many departments of *The Hospital*. Carroll and associates (2002) speculate that team learning occurs when members of the investigation team and their sponsor managers share the knowledge they gain from incident investigation with their colleagues. But, due to the obstacles of its incident management system and the presence of bureaucratic process and silo phenomenon, team learning in *The Hospital* is limited to a small group of people such as the staff who are involved in the incident and managers who are responsible for the investigation or signing off the reports. For others who are not directly involved in the incident, learning is a function of the appreciation of systems approach, the receptiveness to changes and the modes of transfer of learning.

In *The Hospital* there is some evidence of team learning in some departments. One of the principles of *The Hospital's* incident management process is systems approach (*The DHB, 2008*) whereby it is important, as this participant points out, “... to take a much more global perspective” (Manager H), “... get the key people involved and ... everyone can hear everyone else’s problems, they are a lot more aware and more willing to help each other resolve it” (Manager F). When staff appreciate the concepts of interdependency and interrelationship between departments and across the organisation, they accept the diversity of viewpoints, analyse problems through different contexts and expectations, and develop actions that incorporate different perspectives (Weick & Sutcliffe, 2007).

Systems approach prompts staff to be mindful of unanticipated interactions between unrelated processes by “... identifying a piece of

*risk that ... they need ... to be aware of, and they need to put strategies in place, and also to learn that this action actually creates this reaction ...” (Manager H).* Preparedness is comparable to mindfulness; and mindfulness is crucial for patient safety. As Weick & Sutcliffe (2007) implore:

Mindfulness is crucial for hospitals ... because reliability and safe operations have such an odd configuration. Safe, reliable performance “is a dynamic non-event - what produces the stable outcome is constant change rather than continuous repetition. To achieve this stability, a change in one system parameter must be compensated for by change in other parameters.” The problem is that when a system is operating safely and reliably, there are constant outcomes and nothing is happening. On the contrary, there is continuous mutual adjustment. One change is compensated for by another change (p. 40-41).

Hence, the absence of patient incidents in one department does not mean the system is safe. Learning from patient incidents is enhanced if all staff have knowledge in safety sciences, comprehend the effects of human factors on performance and practise systems thinking (Bagian, 2006; Reason, 1997; Senge, 2006; Weick & Sutcliffe, 2007). Everyone must be prepared for the unexpected, recognise the existence of different perceptions and persist in improvement and learning.

Although frustrated at the recurrence of incidents, many participants are confident that team learning has occurred. One of the participants shares their experience learned from patient falls, *“We discovered that a lot of the falls happened pre-meals ... or during the night when patients wanted to go to the toilet ... but felt that the [staff] were*

*too busy ...” (Manager A).* The participant uses the collective term “we” that illustrates evidence of team learning. The team demonstrates a shared understanding of the causal factors of patient falls, such as the needs and assumptions of the patients and the workload of the staff. They developed interventions to anticipate the needs of the patients and installed visual reminders that assist staff during the process of care delivery.

The interventions are a testament to team learning because they are based on the collective understanding of patient falls and developed by the collaborative efforts of staff. They portray the learning capability of the staff involved in incidents of patient falls, staff who have learned from similar incidents, clinical managers who investigate patient falls, and unit managers who sign off incident reports. Most of the lessons they learned, however, are tacit knowledge and the transfer of the tacit knowledge would have been limited. Nevertheless, team learning occurred in this department because the knowledge is being applied by the staff in their day-to-day work or is transferred among staff through informal and interactive channels such as story-telling, watching people at work, teaching people or being taught, delivering care to patients, supervising or mentoring (Pfeffer & Sutton, 1999).

Obviously, *The Hospital* is keen to learn from patient incidents and to improve patient safety. In its patient safety plan, *The Hospital* declares it will ensure staff are involved in quality improvement and patient safety activities and incident management training (*The DHB*, 2009). This approach is promising and would improve staff’s knowledge in safety principles and promote learning from patient incidents. The commitment to, competence in and cognisance of safety principles amongst top management is vital to patient safety,

but they must also provide the resources to achieve safety goals (Leape, 1994; Reason, 1997).

Many participants feel that staff are, in general, receptive to changes because “... *as long as you’ve got the patient’s best interest ... in front of you, then everyone will ... agree with you*” (Manager F). However, some staff are disillusioned with the latent conditions that exist in *The Hospital*. Still others reject the changes and so incidents recur. The sub-optimal organisational environment of *The Hospital* contributes to latent conditions. In spite of the best efforts, incidents occurred and staff are “... *angry ... that they’re working in an environment that contribute to them making an error ...*” (Manager C). Latent conditions are built-in organisational structures or managerial decisions that are beyond the control of the frontline staff (Reason, 1990). Successful learning after patient incidents is dependent on the staff’s receptiveness to and their involvement in the change process (Waldman & Yourstone, 2007).

It is apparent in *The Hospital* that some staff “... *actually discount the results of the investigation ... then [incidents] can continue to happen*” (Manager H). It is untenable when staff reject changes and incidents keep recurring. The onus resides on the managers who must explore the underlying reasons from the staff’s perspectives. Staff are actually challenging the organisation’s underlying assumptions and, in fairness, they are also “knowledge reservoirs” (Carroll et al., 2002, p. 106) who possess the expertise of the frontline operations and have insights into the causal structures that contribute to patient incidents. Hence, they have the legitimacy and professional knowledge to influence decisions regarding incident management (Carroll et al., 2002; Currie et al., 2008). They ignore the recommendations because

they perceive the changes as superficial and insignificant and would not lead to meaningful improvement. So, when *The Hospital* implements interventions such as training, policies and procedures, they are ineffective because they aim to change behaviours of staff and do not address systems problems (Mills et al., 2008).

When staff reject the interventions or challenge the effectiveness of a policy, the organisation must examine its assumptions whether compliance with policies could actually achieve the desired goals. As mentioned by one participant, the falls assessment for every patient is unnecessary because the policy could not reduce the number of patients who are at risk of falls. Relying on compliance with policies does not translate into improvement of processes and systems; it is a controlling-oriented process (Carroll et al., 2002). Therefore, recommendations that are based on compliance with policies are short-lived and ultimately ineffective (Clarke, 2006) because they are regarded as managerial control over professional autonomy and would be rejected (Currie et al., 2008). To promote learning from patient incidents, both the organisation and staff must learn to unlearn by acknowledging what they know might be incomplete or not working anymore (Waldman & Yourstone, 2007).

*The Hospital* has declared in its incident management policy and patient safety plan its commitment to learning from patient incidents. It encourages the sharing of lessons across and outside the organisation (*The DHB*, 2008, 2009a). *The Hospital* recognises the effectiveness of the incident management process is dependent on timely feedback and therefore it requires all departments to inform staff about the aggregated and trended data of incidents and discuss the outcomes of investigations and improvement efforts (*The DHB*,

2008). The sharing of information, as this participant states, is “... *frequently done with study days ... ward meetings ... in the communication book ... [or] focus board ...*” (Manager A).

Departmental meetings, staff education and written communications are the most common means for information transfer in The Hospital and managers assume team learning will occur. Departmental meetings would not improve the organisation’s learning capability.

Pronovost et al. (2008) remind us that meetings and education sessions are the most commonly used but also the weakest means for knowledge transfer to improve patient safety. Departmental meetings are one of the forums where staff and managers exchange information and discuss issues, but they are not a forum for team learning. Neither could departmental meetings generate collective reflection nor collective understanding about patient incidents, therefore team learning will not materialise.

Also, the communications book is considered as the appropriate modes for sharing knowledge with staff in some departments of *The Hospital*. The communications book is a feedback mechanism to inform staff about patient incidents and the outcomes of the investigations, but it is not an effective mode to facilitate organisational learning. Written communication about patient incidents cannot capture all of the tacit knowledge that is related to reflection, sensemaking and reasoning that occurs after a patient incident or during an incident investigation (Currie et al., 2008). The communications book represents a one-way communication channel (Sligo, 1994) that does not facilitate the process of collective sensemaking, which is essential in team learning and organisational learning.

Similarly, training of staff may increase their awareness about the subject or area of concern, but it does not generate individual learning or team learning. Pronovost et al. (2008) comment that training and reminding staff to be vigilant are the commonest but also the weakest interventions and would not improve the learning capability of an organisation after patient incidents. Although *The Hospital* is steering away from a blame culture, adopting a training approach is assuming staff's behaviour can be changed, problems can be solved and incidents can be prevented. Some incidents, as one participant observes, are still "... duplicated in every other patch of the wood, so we've actually got a forest of problems ..." (Manager I). The recurrence of incidents illustrates the adoption of a training approach is inadequate in managing patient incidents because, as Bagian (2006) explains, it focuses on a person approach and cannot solve fundamental issues contributed by systems problems.

Besides, the learning capability of *The Hospital* is hindered by its bureaucratic process and many decisions are made by the higher hierarchy in *The Hospital*, as one of the participant describes, "Any significant incidents ... may ... be escalated to the business meeting which is our management group meeting ..." (Manager H). Based on the descriptions of some participants, a flaw exists in *The Hospital's* incident management process because only managers are involved in generating interventions, whereas staff who are involved in the incidents are not invited to attend incident meetings and are deprived of the opportunity for collective reflection, sensemaking and action generation. Although managers acknowledge the stress and emotions of the staff, managers themselves are not personally involved in the incidents and therefore they cannot fully appreciate the staff's perspectives.



From the excerpts, it seems to be a norm in *The Hospital* that the membership of the incident meetings is reserved for managers who are of equal status while the participation of the frontline staff is not expected. This behaviour reflects a controlling-oriented organisation in which managers belong to the exclusive group of knowledge reservoirs (Carroll et al., 2002) who can exercise more influence over the responses and interventions to patient incidents (Currie et al., 2008). They command the responsibility for generating solutions and implementing actions whereas staff could not initiate changes without managerial support. This is contradictory to *The Hospital's* attempt to involve staff in the improvement of patient safety and learning from patient incidents.

To improve the learning capability of *The Hospital*, incident forums should be open to all staff, especially staff who are involved in the incident. Whilst remaining anonymous, they could attend the incident meetings, have their say and listen to other's perspectives in a trusting and safe environment such as a facilitated incident meeting. During a facilitated incident meeting, the facilitator quotes an incident to encourage dialogue amongst staff and allow other staff to initiate dialogue to share experiences of similar incidents (Communio, 2008). A facilitated incident meeting is a more effective platform for learning, where staff can share their stories about patient incidents. Stories create a vivid image for other members to experience the detail and consequences of the incident; the tellers and the listeners create a common understanding and empathic reactions that initiate new actions and induce new behaviours (Patterson, Grenny, Maxfield, McMillan, & Switzler, 2008). The dialogue also allows them the opportunity to take ownership to identify the issues associated with

the incidents and generate interventions that they would understand, support, implement and sustain (Battles et al., 2006).

To build the learning capability and promote new behaviour in *The Hospital*, managers as well as staff must be encouraged to be involved in the generation of solutions and be empowered in the change process. The perceptions of the staff must be considered because they are legitimate knowledge reservoirs (Carroll et al., 2002) and could also influence and facilitate team learning when they share, exchange, examine and challenge each other's meaning structures, create collective understanding and develop interventions collaboratively (Dixon, 1999). By endorsing the collective efforts of staff and managers, the learning capability of *The Hospital* would be enhanced.

No doubt, managers at *The Hospital* have ample opportunities to learn from patient incidents. They assume that the mechanism of informing staff at departmental meetings about changes and interventions to be implemented would generate learning and enact new behaviours. They hold the misconception that changes would occur because managers plan and make decisions at meetings. Pfeffer and Sutton (1999) demystify this misconception by arguing that changes do not effectuate by merely talking, analysing and planning amongst managers. To ensure receptiveness to and effectiveness of changes, staff must be involved in the generation of collective meaning and the development of interventions.

Although safety experts and researchers notice a paradigm change among health professionals and healthcare managers towards patient safety (Stelfox et al., 2006), learning after patient safety is still regarded as an organisational domain (Currie et al., 2008). This is

evident in *The Hospital* where many participants “... *rely on someone else ...*” (*Manager F*) and assume it is the responsibility of the organisation to facilitate learning. Since the *Quality and Risk Department* is responsible for reporting trends and outcomes of incidents and disseminating lessons learned through regular reporting (*The DHB, 2008*), participants’ expectations are not unreasonable. One of the participants assumes *The Quality and Risk Department* “... *should pick up on those wider reaching things ... [and] that they would ... put through suggestions at a higher level that hopefully would carry a bit more weight ...*” (*Manager A*). This is a legitimate expectation because organisational learning occurs only with the support of top management and their steadfast commitment to transform learning into actions.

On the other hand, *The Hospital* respects the autonomy and expertise of clinical managers and health professionals and assumes minor incidents could be effectively managed locally and lessons could be learned. Ironically, participants assume *The Hospital* would act on the information it gains from the incident management process and expect its hierarchical structure would manage errors and facilitate learning. The ambivalence of the participants’ behaviours illustrates the equivocation of both the participants and *The Hospital* on learning from incidents. *The Hospital* is dependent on the joint efforts of the multidisciplinary teams of health professionals and the administrative and support staff. Each group has its own assumptions and sub-cultures that influence the learning capability of the group and the organisation and they exhibit different perceptions and mental models on patient safety (Currie et al., 2008). Reliance on local solutions does not solve systems problems and solving local problems by individual departments or occupational groups limits

organisational learning. In actuality, organisational learning is everyone's responsibility, not just that of the managers or specialised departments (Dixon, 1999).

## PROGRESSION OF LEARNING CAPABILITY

*The Hospital* can build on its learning capability by establishing the concepts of preparedness, perception and persistence as effective ways to overcome organisational barriers to learning. The concept of preparedness implies mindfulness and not assuming (Reason, 2004; Weick & Sutcliffe, 2007). It is an attitude of *"trying to think of things that could be obstacle before they are one ..."* (Manager A), one of the attitudes that Reason describe as "mental preparedness" (2004, p. ii32). *The Hospital*, therefore, must develop the capability of its staff to identify risks in its systems and processes that might contribute to patient incidents. For instance, when applying the concept of preparedness to reduce incidents, it means staff must be aware of the contexts and consider the underlying assumptions. Patient incidents, for example, patient falls, may be coded under the same category for recording purposes, but each incident is different (Reason, 2004; Waring & Currie, 2009). To improve the learning capability of the staff, Reason (2004) suggests regularly training staff and providing them with the opportunity to practise their skills in recognising "error provoking situations" (p. ii32) that might affect the patients, the staff, the teams, the environment and the tasks (Vincent, 2006). At the organisational level, leadership in promoting and practising the attitude of preparedness must be demonstrated from the top level to the frontline, as Vincent (2006) envisages, where everyone is able "to discern, predict and articulate the safety problem before they arise" and "... constantly watch for the weakness in the system and the

conditions that might eventually combine to produce a catastrophe ...” (p. 173).

Preparedness entails both reactive and proactive measures to detect existing latent conditions that are potential risks to patient safety (Reason, 2004; Weick & Sutcliffe, 2007). Even in an organisation with stringent safety procedures and proactive safety measures, cautions Reason (2004), latent conditions cannot be completely and effectively eliminated. Therefore, *The Hospital* must conduct regular clinical audits to correlate the results with the trends in patient incidents to assess the effectiveness of its processes and policies and procedures. Being prepared is being proactive and regular review of organisational practices ensures interventions meet the changing needs of patients, identifies areas for improvement and reflects the prevailing culture and perspectives (Cooke & Rohleder, 2006; Reason, 1997).

The concept of perception indicates the importance of respecting and valuing the diversity of worldviews (Benn et al., 2009; Carroll et al., 2002). Learning is a process that involves all aspects of an organisation (Waldman & Yourstone, 2007), which operates within “interdependent contexts that represent and enact authority, prestige, and occupational structures. It acknowledges both objective and subjective knowledge as well as regarding actors’ interpretations and experience as evidence” (Perin, 1995, p. 169) . Moreover, the delivery of healthcare is dependent on the joint efforts of diverse occupational groups, therefore their views and perspectives must be taken into account because there is “*always much more than one side to a story*” (Manager J).

Healthcare is delivered by people to people; so all staff must be regarded as partners and participants in the planning and

implementation of the learning process (Waldman & Yourstone, 2007). Incident meetings, for example, should be a safe, egalitarian, inclusive and transparent forum where staff and managers have equal opportunities to participate in sensemaking dialogues after patient incidents (Communio, 2008; Dixon, 1999). Staff and managers take the roles of teacher and learner: learning begins with “unlearning own presumptions” (Waldman & Yourstone, 2007, p.235), sharing of experience and valuing of diverse perspectives (ibid.). Within a learning, trusting and supportive environment, they can openly and comfortably acknowledge doubt, mediate disagreement, challenge assumptions, innovate new ideas and build team spirit (Carroll & Edmondson, 2002). This encourages collaboration and cooperation, alleviates the effects of the silo phenomenon and bureaucratic process, and reduces the social barriers across different disciplines and different hierarchical levels (Cannon & Edmondson, 2005; Cooke & Rohleder, 2006; Perin, 1995; Reason, 2001; Singer & Edmondson, 2008).

The concept of persistence is the commitment to pursue continuous improvement and learning (Emanuel et al., 2008; Kohn et al., 2000; Reason, 2004; Vincent, 2006; Weick & Sutcliffe, 2007). Learning is *“not something that you can teach once, and assume that it will happen forever and ever” (Manager A)*. It is a never-ending process that demands the continuous support and commitment of top management and the organisation (Waldman & Yourstone, 2007; Weick & Sutcliffe, 2007). Frontline staff are the last defence to patient incidents, their knowledge in recognising organisational weakness and error-provoking conditions is imperative to patient safety (Reason, 2004). Regular training must be provided to ensure staff are equipped with this knowledge so they are competent to deal with errors,

innovate from opportunities and learn from incidents (Weick & Sutcliffe, 2007).

An effective incident feedback system is an on-going, cyclical and recurrent activity that can improve the organisation's learning capability after patient incidents (Benn et al., 2009). Regular feedback to staff demonstrates the organisation appreciates and values their contributions in identifying the weakness of its systems and processes and implements changes that are based on that information. Likewise, when staff are informed of the outcomes of incident investigations, they will be motivated to participate in the process as they appreciate the organisation's commitment to address systems problems (ibid.).

When the approach to learning is congruent with the organisational culture and practices, the desired culture will emerge (Currie et al., 2008). To ensure persistence in learning, Weick and Sutcliffe (2007) propose the adaptation of preparedness and perception through cultural change.

“This modification is not just a change in how people think; it is also a change in how they feel and act. You need people to absorb the lessons of mindfulness at an emotional level so that they will express approval when others hold certain beliefs and act in certain ways. For example, people need to feel strongly that it's good to speak up when they make a mistake, good to spot flawed assumptions ... They need to express key values as much through disapproval as through approval (pp 110-111).

To facilitate and promote a learning-orientation, the professional and cultural characteristics of healthcare organisations must be acknowledged (Waring & Currie, 2009). Instead of an error-

orientation, learning from patient incidents can be geared towards an excellence-orientation (Johnstone, 2009). An orientation towards excellence, Johnstone (2009) predicts, will be more appealing to health professionals. The convergence of the professional sub-cultures and the organisation's safety culture would enhance the learning capability of The Hospital (Currie et al., 2008).

Employing the concepts of preparedness, perception and persistence depends on the collaborative efforts of managers and staff at different levels from the diverse occupational groups. Their diverse knowledge and technical skills can enrich the learning capability of an organisation (Currie et al., 2008). To achieve this, managers must acquire knowledge about the norms and perspectives of the diverse occupational groups (Waring & Currie, 2009). Similarly, frontline staff must learn and be conversant with concepts such as human factors, systems approach and double learning. The sharing of knowledge with and learning from different disciplines facilitate communications, enhance learning capability and improve organisational processes (Carroll & Edmondson, 2002). A learning-orientation, Garvin (1993) visualises, is one in which the organisation fosters an open, trusting and accessible environment that stimulates learning, where all staff have the opportunity to reflect, exchange ideas and share knowledge of successes and failures. The practice of a learning-orientation is the result of "carefully cultivated attitudes, commitments and management processes that accrued slowly and steadily over time." (p. 91).

The transition from the constrained stage to the open stage of learning is complex and difficult. Carroll and associates (2002) advise that effective management of the relationship between controlling and learning would bring new insights and new ideas through the



collaborative efforts of staff and management. The learning capability could be improved through “connections among action, reflection, and emotion, in *energizing* knowledgeable action (implementation) based on actionable knowledge (sensemaking)” (p. 129). Making sense from patient incidents is to be prepared, accepting diverse perceptions, persisting on improving and learning and instituting a culture of safety. Diagram 10 (on page 185) illustrates the dynamics of the organisational barriers that impede learning and the leverage that can alleviate these barriers by establishing these three concepts into organisational practices.



## SUMMARY

Mixed views are perceived on *The Hospital's* efforts to improve patient safety and learn after patient incidents. It is evident that *The Hospital* is committed to promoting a safety culture and keen to adopt a learning-orientation to incident management. This commitment is hampered by obstacles in its incident management system, the presence of bureaucratic process, its reliance on policies and procedures, the existence of the silo phenomenon and the weak modes of transfer of learning within departments and across the organisation. The obstacles in the incident management system lead to an ineffective incident feedback mechanism. Lack of feedback discourages incident reporting and contributes to misunderstanding of the purpose of incident reporting. The bureaucratic process and the silo phenomenon decrease the effectiveness of organisational practices that aim to reduce incidents and limit the collaborative efforts to improve its systems and processes. The limited, or lack of, opportunity of staff's involvement in generation of actions impedes organisational learning because only managers are involved in the generation of actions after patient incidents. *The Hospital's* reliance on policies and procedures is futile because they do not address systems problems. The use of departmental meetings and training as modes of learning transfer does not facilitate collective learning.

Nevertheless, many participants display some of the characteristics of the open stage of learning. They employ the concepts of preparedness, perception and persistence, which assist them to overcome some of the organisational barriers. Preparedness is being mindful and not assuming. It entails both proactive and reactive measures to improve patient safety. Perception is respecting different worldviews and embracing the knowledge and skills of the diverse

occupational groups. Persistence is the commitment to persevere continuously in improving and learning. In the next chapter, the learning capability of the participants and *The Hospital* after patient incidents will be summarised and the ways forward will be proposed.

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## 6 CONCLUSIONS

### INTRODUCTION

First, the learning capability of the participants and *The Hospital* after patient incidents will be summarised and the mechanisms that could be leveraged by *The Hospital* to progress its learning capability will be proposed. Next, the prospects that *The Hospital* can improve on its incident management system, the modes of transfer of learning and organisational conditions will be suggested. Lastly, the limitations and assumptions will be outlined and the implications for future research will be recommended.

### LEARNING THROUGH INCIDENT INVESTIGATIONS

This case study presents the views of ten participants who are managers at *The Hospital*. They do not represent the viewpoints of *The Hospital*, nor do they represent that of its entire staff. It is a synthesis of the perceptions and perspectives of ten managers with regard to the process of incident investigation and their learning experience. Carroll and associates' (2002) model of four stages of organisational learning is the theoretical framework that guided the analysis of the learning capability of *The Hospital*. The research question is "*Can incident investigations generate valuable learning for investigators of patient incidents, and can their learning practice influences and leads to team learning and organisational learning?*"

This case study has shown with confidence that incident investigations have generated valuable learning for all participants. And, as learning agents, they influence and lead team learning in their

departments and, in a limited extent, they also influence organisational learning in *The Hospital*.

Most of the participants are practising between the constrained stage and the open stage of learning. They adopt a reactive approach when managing minor or moderate incidents by abiding with *The Hospital's* assumptions and approach, that is, they adopt best practice, hazard barriers, policies and procedures and training to prevent patient incidents. At the same time, within their scope of control and professional boundaries, they address systems problems and attempt to overcome obstacles by being prepared for the unanticipated, considering multiple perceptions, appreciating teamwork and persisting in improving and learning.

*The Hospital* displays the characteristics of the constrained stage of learning and, at the same time, attempts to apply some principles of the open stage of learning. Its learning capability is constrained by the bureaucratic process and controlling-orientation, a typical feature of a healthcare organisation. *The Hospital* places heavy emphasis on policies and procedures to manage patient incidents and to standardise frontline operations after errors. Its approach and assumptions preclude effective organisational learning from patient incidents and restrict its opportunity to examine the systems and processes for latent conditions that contribute to errors and recurrence, which many participants have identified. In addition, other organisational conditions that compromise patient safety exist in *The Hospital*. They include inadequate organisational support for local improvement efforts, resource constraints due to fixed healthcare budget and lack of staff, and physical constraints due to its outdated facilities.

Nevertheless, it is evident that *The Hospital* demonstrates the earnestness to apply some of the principles of the open stage of learning, for example, by promoting the culture of safety and advocating a systems approach to incident management. After learning from the results of auditing and incident management processes, *The Hospital* has implemented communications tools to improve staff-to-staff communications and supported inter-departmental collaborations in upgrading resuscitation equipment. The collaborative approach among different departments and health professionals to address systems problems not only improves patient safety, but also enhances its learning capability.

To augment its learning capability, *The Hospital* can champion and facilitate the dissemination of the concepts of preparedness, perception and persistence. Preparedness, perception and persistence are the leverage to ensure the impetus of improvement and learning from patient incidents. To be prepared is being mindful and not assuming. It involves proactive measures to ensure all staff, not only managers, are trained in and conversant with safety principles, and systems and processes are regularly assessed and improved. Perception denotes the importance of the valuing of perspectives and sharing of knowledge amongst staff to encourage intra- and extra-departmental collaboration, facilitate communication and support a learning-orientation. The cultivation and institutionalisation of this culture and practice is dependent on the continuous commitment of the whole organisation and visible leadership from the top management to the frontline.

Unlike the study by Carroll and associates (2002), which did not comment on the incident reporting system and the modes of learning transfer in the organisations they studied, this case study has

identified three areas that *The Hospital* can improve on that could mitigate the effect of its controlling-orientation. The first prospect is to revolutionise the incident management system to overcome the obstacles due to the inadequacy of incident information on *Incident Forms*, the difficulty in retrieving incident information from the incident management system, and the lack of feedback. To make reporting easier, *The Hospital* must review the format of its *Incident Forms* and clarify what and how to report to ensure relevant and meaningful information is documented and collected. To share incident information and promote learning from incidents, its incident information system must be accessible to all managers so they can obtain timely, useful and meaningful incident information about their departments and that of the organisation. To ensure the right information is delivered for the right actions, multiple feedback mechanisms must be developed to meet the needs of managers and staff at different levels from different disciplines who have different needs in information and learning. To encourage incident reporting and to facilitate learning, timely feedback must be provided to staff and investigators to acknowledge and value their contributions in the prevention of the recurrence of incidents.

The second prospect is to embrace alternative modes of transfer of learning. Departmental meetings, policies and procedures and training are weak interventions and ineffective forums for disseminating and sharing of lessons. To make learning from incidents a positive and transparent process, regular facilitated incident meetings are more appropriate, where staff and managers can share stories about patient incidents and develop interventions based on collective understanding. Policies and procedures are necessary to institutionalise lessons learned and standardise practice, but cultural change is the essence. *The Hospital* is moving in the right direction by



proactively promoting and institutionalising the culture of patient safety.

The third prospect is to attenuate the hindering conditions that restrict *The Hospital's* learning capability. The bureaucratic process and the silo phenomenon diminish the opportunity to share knowledge and inhibit the collaboration of different departments and different disciplines in the organisation. To progress from a controlling-orientation to a learning-orientation, *The Hospital* must acknowledge the limitations of top-down control. They must encourage the sharing of lessons learned across the organisation by facilitating transparent and inclusive forums for all staff. *The Hospital* has already taken the initial steps by promoting systems approach and a just culture. Continuous commitment, support and leadership can nurture a safe and trusting environment that facilitate a learning-orientation and dissipate the professional and hierarchical boundaries.

## LIMITATIONS AND ASSUMPTIONS

The case study aims to understand the learning capability of a hospital after patient incidents. The researcher has assumed the approach to learning is to take remedial actions to mitigate the gap between patient safety standards and organisational practices that result in patient incidents. The study on the learning practice of the participants has been limited to the extent of reflection and sensemaking of an unanticipated event during incident investigations, which subsequently led to the development of actions and enactment of new behaviours by the participants and their staff.

Patient safety is a pre-requisite of quality healthcare and the researcher, therefore, assumes the quality of healthcare is an imperative for all healthcare organisations. This case study has excluded the discussion of the history and development of quality of care. Instead, the discussion focuses on the patient safety movement during the last 20 years and on the management of patient incidents during the last decade.

The role of clinical governance in patient safety and the experience of patients and their family in patient incidents cannot be undermined in the promotion of patient safety. They have been excluded in this study because they are important and extensive subjects worthy of intensive study.

The cultural and professional characteristics of healthcare organisations are briefly discussed in this case study. The specific cultural and political characteristics of the individual occupational groups that influence individual learning and organisational learning are not studied because they deserve separate studies.

The behaviour in learning among the various occupational groups is not differentiated in this case study. The ten participants are from different disciplines and at different management levels, but they are assumed to be a homogeneous group of healthcare managers. The focus of the study is on post-event learning capability and knowledge acquisition during and after incident investigations.

This case study does not set out to elucidate the specific causes or contributing factors of particular types of incidents. Rather, it adopts a diachronic approach that begins with patient incidents, leads to investigation, results in recommendations and learning, and brings about changes in behaviour of staff and the organisation. The study is

to understand the 'how' of learning during and after the investigation process, and of the sharing of lessons learned within and outside their departments.

This case study has not compared the learning practices of the individual participants nor their departments. It described the investigation process and learning process to explore how the participants and the organisation learn. It does not attempt to judge the rightness or wrongness of their approach or perception.

The aim of this study is to understand the learning practices of the ten participants in a hospital after patient incidents. Unexpectedly, many participants described their perspectives and perceptions about patient incidents and the incident reporting system. This information is valuable for understanding their assumptions and their behaviour towards the incident management process. These findings are not discussed or mentioned in Carroll and associates' study.

## IMPLICATIONS FOR FUTURE STUDY

The interviews were conducted between August and October 2008. *The Hospital* has launched a patient safety plan in March 2009. It would be useful to conduct a follow up study with the ten participants to ascertain whether their perceptions and perspectives have changed since the introduction of the safety initiatives at *The Hospital*.

The ten participants work in different departments. The learning capability of the organisation could be better understood if the staff, clinical managers and unit managers of each department were interviewed to understand their perspectives. Different perspectives

and perceptions of staff at different levels of the same department would provide a different picture of the learning capability of each department, and this may help identify areas that could be improved upon for the promotion and facilitation of learning after patient incidents.

The study was conducted in only one hospital. The research could be replicated in other public hospitals, private hospitals or primary healthcare organisations to verify the findings. Future study can also be done to compare the learning capability of different types of healthcare organisations.

## ENDING NOTES

The study is conducted from my perspectives as a student of a university programme and a health professional. While trying to be objective, I am part of the New Zealand healthcare system in which I am working. So, my intention is to describe, not to criticise.

## 8 APPENDICES

### APPENDIX 1: MAORI CONSULTATION

Before gaining access to *The Hospital*, according to its research policy, *Kaumatua Kaunihera Subcommittee* was consulted because Maori consultation is one of the contexts of the New Zealand health system. The Health Equity Assessment Tool (HEAT) was used to evaluate the proposed project in relation to the needs of the disadvantaged groups such as Maori and Pacific groups and people with poor health from the low-socio-economic group and the HEAT assessment tool was submitted for the consultation. During the consultation meeting I answered questions and clarified several minor misunderstandings, after which the support of the *Kaumatua Kaunihera Subcommittee* was obtained for this study on 17 June 2008.

#### *Health Equity Assessment Tool*

1. What health issue is the policy/programme trying to address?  
To understand how a hospital learns after patient incidents/near miss to prevent or reduce the recurrence of similar incidents.
2. What inequalities exist in this health area?  
Study by Davis et al. (2006) in 6579 patients admitted into hospitals in 1998 show that 14% of Maori patients were associated with adverse events, as compare to 11% for non-Maori / non-Pacific patients.
3. Who is most advantaged and how?  
People who live in wealthier areas have features that promote their health.
4. How did the inequality occur? (What are the mechanisms by which this inequality was created, is maintained or increased?)  
Outcome gap occurs because
  - Health outcomes for Maori and Pacific peoples are in most instances worse than those for non-Maori and non-Pacific peoples
  - Poor health in low socio-economic group because they may be in poorer paid job, have lower incomes, or live in poorer housing / neighbourhood.
5. What are the determinants of this inequality?  
Structural features of society, economy and environment.

6. How will you address the Treaty of Waitangi in the context of the New Zealand Public Health and Disability Act 2000?  
The partnership, participation and protection principles of the Treaty of Waitangi are the foundations of quality assurance and quality improvement in the New Zealand health and disability sector. Built upon these foundations are the key quality dimensions of people-centred, access and equity, safety, effectiveness and efficiency.
7. Where/how will you intervene to tackle this issue? Use the Ministry of Health Intervention Framework to guide your thinking.  
Targeting the health and disability support services, specifically by minimizing or preventing recurrence of failures that inhibit effective use of services for all ethnic and social groups and thus improve access to appropriate high-quality health care.
8. How could this intervention affect health inequalities?  
Provide safe and quality healthcare services and reduce outcomes inequality.
9. Who will benefit most?  
Anyone who uses healthcare services will have access to safe and quality healthcare provided by committed health professionals and healthcare organisations.
10. What might the unintended consequences be?  
Participants may be anxious and emotional when discussing about patient incidents. They may worry about issues related to confidentiality of themselves, patients and staff involved in the incidents.
11. What will you do to make sure it does reduce/eliminate inequalities?  
Share the knowledge learned through this project with the hospital.
12. How will you know if inequalities have been reduced/eliminated?  
After presentation of the results to the participating hospital, there would be changes that address the issues of patient safety and decrease of patient incidents, e.g. implementation policies that address patient safety, transparency of reporting of patient incidents, and sharing of knowledge gained.

## APPENDIX 2: ETHICS COMMITTEE LETTER OF APPROVAL



### Northern Y Regional Ethics Committee

Ministry of Health  
3rd Floor, BNZ Building  
354 Victoria Street  
PO Box 1031  
Hamilton  
Phone (07) 858 7021  
Fax (07) 858 7070

31 July 2008

Ms Joyce Mok

Detail of address removed

Dear Joyce

**Case Study.** The experience of the Managers: The how of organisational learning after patient incidents in a hospital.

**Investigators:** Joyce Mok, Supervisor Dr Phil Ramsey.

**Ethics ref:** NTY/08/06/056

**Locations:** Participants choice.

The above study has been given ethical approval by the Northern Y Regional Ethics Committee.

#### Approved Documents

- Letter requesting access to the hospital.
- Information Sheet and Consent Form version 2 dated 19 July 2008.
- Consent Form version 1 dated 15 May 2008.
- Guideline for interview questions version 2 dated 19 July 2008.
- Research Protocol.

#### 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.

#### Final Report

The study is approved until **30 November 2009**. A final report is required at the end of the study and a form to assist with this is available at <http://www.ethicscommittees.health.govt.nz>. 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.

#### Amendments

It is also a condition of approval that the Committee is advised of any adverse events, if the study does not commence, or the study is altered in any way, including all documentation eg advertisements, letters to prospective participants.

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

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

Amrita Kuruville  
Northern Y Ethics Committee Administrator

Email: [amrita\\_kuruville@moh.govt.nz](mailto:amrita_kuruville@moh.govt.nz)

## APPENDIX 3: LETTER TO GAIN ACCESS TO RESEARCH SITE



DEPARTMENT OF MANAGEMENT  
Private Bag 11 222  
Palmerston North  
New Zealand  
Telephone: 64 6 356 9099 x 2777  
Facsimile: 64 6 350 5661  
<http://management.massey.ac.nz>

Chief Operating Officer  
*The DHB*

**Case Study: The experience of the managers**  
**The how of organizational learning after patient incidents in a hospital**

Dear

I would like to seek the permission of *The DHB* to undertake a research project at *The Hospital*. The purpose of this project is to understand how a hospital learns after patient incidents through the experience of the managers. The results of the study will be published so this information can be shared with other healthcare organizations to help improve and promote patient safety. The name of your organization will not be used unless your organization's permission has been obtained.

I am a Registered Nurse ... This project is a course requirement for the paper *152.800 Thesis* towards the Master of Business Studies at Massey University. The supervisors of this project are Dr Phil Ramsey and Professor Paul Toulson, Department of Management at College of Business, Massey University.

The proposed project is to understand how a hospital learns after patient incidents or near misses. In the last decade there has been increased discussions on patient incidents and patient safety by researchers and academics overseas and in New Zealand; and systems failures are identified as one of the causes of preventable errors. Health care is delivered in a complex, interdependent and highly technical environment; hospital management and healthcare professionals realise that to improve patient safety, they must identify systems failures, learn from patient incidents, and share the knowledge of their learning. The proposed case study intends to describe how a hospital learns after patient incidents through the experience of clinical managers and unit managers. The clinical managers were not involved in the incidents but were responsible for the investigation, and the unit managers were responsible to sign off the reports. The case study will use interviews and examination of investigation reports to collect data. Carroll, Rudolph and Hatakenaka's four stages model of organisational learning is the theoretical framework to guide analysis of the organisation's learning practices.





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I am writing to request the permission to conduct interviews at *The Hospital* and to access incident reports that participants investigated or signed off within three to six months before the interviews. *The DHB* is under no obligation to participate. Should the permission be granted, your organization has the right to:

- decline provision of any documents
- withdraw from the study
- ask any questions about the study at any time
- provide information on the understanding that the name of your organization will not be used unless permission is obtained
- be given access to a summary of the project's finding when it is concluded.

## Ethical Approval

This study has received ethical approval from Northern Y Regional Ethics Committee

Please feel free to contact the researcher /supervisor if you have any questions about the study.

Joyce Mok	Phone:	02102452118
	Email:	newsfan@xtra.co.nz
Dr Ramsey	Phone:	06-63569099 ext 2384
	Email:	P.L.Ramsey@massey.ac.nz
Professor Toulson	Phone:	06-63569099 ext 2389
	Email:	P.Toulson@massey.ac.nz

Regards

Yours sincerely

Joyce Mok

## APPENDIX 4: INTERVIEW GUIDE

### GUIDELINES FOR QUESTIONS DURING INTERVIEW<sup>5</sup>

#### Experience

How long have you been working for the organisation?

How long have you been at the current position?

What training or experience do you have in incident investigation?

#### PATIENT SAFETY

##### Personal perspectives

The term “Patient Safety”, what does it mean to you?

(as related to quality of care or risks that are resulted from treatment or care)

##### Organisational perspectives

What are your interpretations on the hospital’s perspectives on patient safety?

Based on a patient incident you investigated recently, incidents with minimal, minor or moderate consequence

#### INVESTIGATION PROCESS

1. How did you identify the causes/contributing factors of this incident?
2. Was the approach to the investigation based on the hospital’s procedure?
3. If you have the choice to investigate the incident by a different approach, would you change the approach of investigation?
4. What would you suggest to changes in the hospital’s investigation process? or
5. Describe the alternative process you would use?

##### During and after the investigation

1. What were the barriers you came across during this investigation?
2. How did you deal with these barriers?
3. If you have difficulties during the investigation, what do you do?  
(Run out of ideas? Need a sounding board? How to get help?)
4. How did you come up with the recommendations?
5. What are the assumptions you hold that influence your recommendations?
6. How were the recommendations implemented?

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<sup>5</sup> Guideline for interview questions (16 August 2008 version 3a)

7. When you introduce the recommendations / changes, what are the reactions of the staff?
8. If some of them suggest alternatives, how do you incorporate their viewpoints into the recommendations?
9. How did you know these recommendations were effective?

#### LEARNING PROCESS

1. Do you think about (or reflect on) the investigation process?
2. How does this reflection help you learn from this investigation/ incident?
3. What was the most notable lesson that you have learned from this investigation?
4. What are the logics (sense) you make out of this investigation?
5. After you completed the report, what do you expect the organisation learn from this incident?
6. How did you share what you have learned with others in your ward?
7. What would you do so that people from outside this ward can learn from this incident?
8. What issues were not resolved to your satisfaction? What would you recommend for their resolution?

#### OTHER

Do you want to share other experience you have had during and after this investigation?

### GUIDELINES FOR QUESTIONS DURING INTERVIEW (UNIT MANAGER)<sup>6</sup>

#### Experience

How long have you been working for the organisation?

How long have you been at the current position?

What training or experience do you have in incident investigation?

#### PATIENT SAFETY

Personal perspectives

The term “Patient Safety”, what does it mean to you?

(as related to quality of care or risks that are resulted from treatment or care)

Organisational perspectives

What are your interpretations on the hospital’s perspectives on patient safety?

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<sup>6</sup> Guideline for interview questions (16 August 2008 version 3b)

Based on an incident report you signed off recently, incidents with minimal, minor or moderate consequence

#### INVESTIGATION PROCESS

1. How appropriate was the investigation process based on the hospital's procedure?
2. If you have the choice to investigate the incident by a different approach, would you change the approach of investigation?
3. What would you suggest to changes in the hospital's investigation process? Or
4. Describe the alternative process you would use?

#### RECOMMENDATIONS

1. What is your opinion on the recommendations (of this report)? ( Practical, actionable, appropriate)
2. How did you know those recommendations are effective (Changes in staff's action / behaviour)?
3. Have you recommended alternatives?
4. When you introduced the alternatives, what were the reactions of the CNM / staff?
5. How did you know your suggestions are effective?

#### LEARNING PROCESS

1. When or after you sign off the report, do you think about (or reflect on) the investigation process?
2. How does this reflection help you learn from this incident?
3. What was the most notable lesson that you have learned from this incident?
4. After you completed the report, what do you expect the hospital learn from this incident?
5. How did you share what you have learned with other areas?
6. Any other issues that were not resolved to your satisfaction? What would you recommend for their resolution?

#### OTHER

Do you want to share other experience you have had during and after this investigation?

## APPENDIX 5: INFORMATION SHEET



**Massey University**  
COLLEGE OF BUSINESS  
Kaupapa Whai Pakihi

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### Information Sheet

#### Case Study

#### The experience of the managers:

#### The how of organisational learning after patient incidents in a hospital

#### Introduction

You are invited to participate in this study. I will contact you by phone later so you have time to consider whether to take part. You are under no obligation to participate in the study.

#### Principle Researcher

My name is Joyce Mok and I am a Registered Nurse .... This project is a course requirement for the paper 152.800 Thesis towards the Master of Business Studies at Massey University. The supervisors of this project are Dr Phil Ramsey and Professor Paul Toulson, Department of Management at College of Business, Massey University.

#### Purpose of the Case Study

The purpose of this project is to understand how a hospital as an organisation learns after patient incidents / near misses through the experience of the clinical managers and the unit managers. The former is not involved in the incident but responsible for the investigation and the latter signs off the investigation reports. The objective is to understand how the hospital learns from minor mistakes or near misses that are due to systems failures to prevent acceleration into adverse events. The managers' experience includes learning through the process of investigating patient incidents, recommending actions, implementing changes, following up, and sharing of the experience with other wards / departments.

#### Participant Recruitment

Names of the potential participants are obtained from the internal phone directory. Information sheet is sent to clinical managers / directors / leaders at different clinical and non-clinical wards / departments. The participants are selected by convenient sample. Two nurse managers, two clinical directors, one non-clinical leader, and five unit managers who agree to participate will be recruited.



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**Project Procedures**

The researcher will collect data by face-to-face interviews and examination of the investigation reports. I will transcribe the contents of the interviews and deliver the transcripts to the participants for confirmation and edition before the data are analysed. The identities of the participants are coded to ensure anonymity and confidentiality. Only the researcher and the supervisors of this project have access to the tapes and the transcripts. The signed consent forms, the tapes and the transcripts will be stored and safeguarded by the researcher for ten years; and then the researcher will destroy the data. The tapes may be returned to the participants if indicated in the written consent.

The researcher will also examine the participants' investigation reports to analyse the managers' post-incidents reflection and recommended actions to improve patient safety, and hospital's learning capabilities to adopt changes. All information related to the patients and the staff involved in the incident are excluded from the study to ensure confidentiality.

**Participant Involvement**

The in-depth interviews will be conducted at a place and time chosen by the participant. The interview will be audio taped and will last for about 60 minutes. A second 30-minute interview may be conducted to follow up on the outcomes of the investigation. The date for the second interview will be determined by the amount of time required to implement changes after the investigation of the incident. During the interview, the researcher will use questions to guide the participants to describe their learning experience through the investigation of a patient incident / near miss which occurred within three to six months prior to the interview.

**Potential Benefits**

The participants' experience and perspectives contribute to the knowledge on the personal and organisation's learning practices after patient incidents. This information helps reduce recurrence of patient incidents, and thus improve and promote patient safety. The results of the study will be published so the information could be shared with other healthcare organizations.



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**Potential Risks**

The discussion of patient incidents may incite anxiety and emotion of the participants. The context of the proposed project is a hospital's response after patient incidents or near misses. I assume the effects of these incidents are less serious and so the managers will be willing to discuss their experience. The contents of the investigation reports are also assumed to be less sensitive. There is a risk of inadvertent disclosure whenever information is being recorded, but I will endeavour to protect participants' confidentiality to the extent allowed by law.

**Participant's Rights**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study during or after the interview;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded.
- ask for the audio tape to be turned off at any time during the interview.
- have the opportunity to read and amend the transcripts of the interviews conducted with me.

**Health and Disability Advocate**

If you have any questions or concerns about your rights as a participant in this research study you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act.

Phone (NZ wide): 0800 555 050  
Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT)  
Email (NZ wide): [advocacy@hdc.org.nz](mailto:advocacy@hdc.org.nz)

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<http://management.massey.ac.nz>**Ethical Approval**

This study has received ethical approval from Northern Y Regional Ethics Committee.

**Organisational Approval**

The Chief Operating Officer ... has given permission for this study to be carried out at *The Hospital*.

**Please feel free to contact the researcher /supervisor if you have any questions about the study**

**Researcher**

Joyce Mok

Phone: 02102452118

Email: [newsfan@xtra.co.nz](mailto:newsfan@xtra.co.nz)**Supervisors**

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## APPENDIX 6: PARTICIPANT CONSENT FORM



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### Participant Consent Form

#### *Case Study*

#### *The experience of the managers:*

#### *The how of organisational learning after patient incidents in a hospital*

This consent form will be held for a period of ten years

#### Request for interpreter

English	I wish to have an interpreter.	Yes	No
Maori	E hiahia ana ahau ki tetahi kaiwhakamaori/kaiwhaka pakeha korero.	Ae	Kao
Cook Island	Ka inangaro au i tetahi tangata uri reo.	Ae	Kare
Fijian	Au gadreva me dua e vakadewa vosa vei au	Io	Sega
Niuean	Fia manako au ke fakaaoga e taha tagata fakahokohoko kupu.	E	Nakai
Samoan	Ou te mana'o ia i ai se fa'amatala upu.	Io	Leai
Tokelaun	Ko au e fofou ki he tino ke fakaliliu te gagana Peletania ki na gagana o na motu o te Papefika	Io	Leai
Tongan	Oku ou fiema'u ha fakatonulea.	Io	Ikai

- I have read and understand the Information Sheet requesting for volunteers to take part in the study. I am satisfied with the explanation I have been given by the researcher.
- I understand that I may ask further questions, and I know whom to contact if I have any questions about the study.
- I understand that taking part in this study is voluntary and that I may withdraw from the study at any time.
- I have time to consider whether to take part.
- I agree to my interview being audio taped.
- I wish/do not wish to have my tapes returned to me.
- 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.
- I wish/do not wish to receive a copy of the summary of the results.

I \_\_\_\_\_ hereby consent to take part in this study.

Signature

Date

Full name of Researcher

Contact Phone Number for researcher

Signature of Researcher

Date

## APPENDIX 7: AUTHORITY OF RELEASE OF TRANSCRIPTS



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### Authority for the Release of Transcripts

#### *Case Study*

#### *The experience of the managers:*

#### *The how of organisational learning after patient incidents in a hospital*

This form will be held for a period of five (5) years

I confirm that I have had the opportunity to read and amend the transcript of the  
interview/s conducted with me.

I agree that the edited transcript and extracts from this may be used by the  
researcher, Joyce Mok, in reports and publications arising from the research.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Full Name - printed \_\_\_\_\_

## APPENDIX 8: CONCEPTS CODED BY FIRST ASSESSOR

- Information lack
  - Global lack / perspective
  - Personal perspective
  - Experience
  - Time
  - Audit
  - Knowledge
  - Learning (lack of) + organisational learning & personal learning
  - Risk management
  - Investigation
  - Evidence
  - Trends
  - Information
  - Review
  - Strategy
  - Reflection
  - Change
  - Issues
  - Process
  - Culture change
  - Patient safety
  - Hurt /harm
  - Expectations
  - Attitude
  - Feedback (meaningful)
  - Action
- Assumption

## APPENDIX 9: EXCERPTS AND THEMES

### THEME 1: VIEWS ON PATIENT SAFETY

#### SUB-THEME 1-1: GOALS OF PATIENT SAFETY

*Keeping the patient SAFE [emphasised by participant] from harm, or minimising risk to the patient. It's minimising, eliminating, isolating risk, and I suppose making the patient's whole package of care safe. (Manager C)*

*Well in medical context, I guess it means that patients in hospital or out-patients should not suffer any harm as a result of their medical care. (Manager D)*

*It's about ... I guess, a patient's journey through the course of their illness or when we were involved in their management when, really that there're no unexpected adverse effects or errors or anything in their management, but they're managed as safely as possible and that's free from risks as we can make it. (Manager E)*

*Patient safety, to me that's about maintaining the wellness of the patient to whatever point that is, about optimising the care that is given to the patient, about not putting the patient at further risk apart of their illness. (Manager G)*

*Well, it's ... doing no harm to the patient would be the first. ... Hopefully that we don't inflict an injury that we could otherwise avoid, or an infection or anything. So anything that is avoidable, preventing of that. (Manager I)*

*It means that the patient shouldn't be harmed whilst during our care... (Manager J)*

#### SUB-THEME 1-2: ATTRIBUTES OF PATIENT SAFETY

*... people would expect to be safe when it comes to the care that they are receiving, but they also expect to be safe in their environment. They expect to be safe with the advice and the information that they're given. They expect that their whole care, I guess, is delivered in a safe manner. ... They have a right to be safe going home. So, yes, it covers everything almost from admission to discharge to future planning. (Manager A)*

*... information that they are given, and it's also they are given the right information, they are given the timely information, that they are given enough information so they can make decision that will go on to be safe. (Manager A)*

*... families tend to think that everybody should be safe in the hospital and that hospital is the best place for you when you are sick. (Manager A)*

*... It's about... a patient's journey through the course of their illness or when we were involved in their management ... (Manager E)*

*... it's about ensuring that what the care we're providing is the best care, is the most appropriate care, and that we provide safe care so that we're keeping our patients from harm, and ensuring that they get the treatment that they should get. (Manager F)*

#### SUB-THEME 1-3: FACILITATIVE PROCESSES

##### BY SKILLED AND QUALIFIED STAFFING A SAFE ENVIRONMENT

*To me it simply means keeping the patient SAFE. It means, and so that means making sure that the [staff] that are looking after the patients have the skills to do the job... (Manager B)*

*... to make sure that our processes and systems and our staff's qualifications and skills and actions that actually keep the patients safe or improve their conditions, ... not cause deterioration. (Manager I)*

*... that the environment in which they are being nursed is conducive to the safety of the person. (Manager B)*

*And safety is all about quality, and so, if it's a safe environment, then usually it's a quality type of environment. (Manager J)*

*... is to support a facilitative process whereby the staff that working with the patient and their family / whanau provide a safe environment and that is a physical environment, social environment, emotional environment that help get through hurdle. (Manager H)*

*... essentially that might mean with equipment, with procedures, with personnel, by communication, anything that would, basically mean the patient doesn't get harmed. (Manager J)*

## WITH SYSTEMS PERSPECTIVES

*I think they are very thorough. I think they're proactive. They work hard to try minimise any risks to patient safety. I think it's difficult in such a complex field as health. And I think they, they work hard to achieve that. Having said that I think it comes from a background where the emphasis on patient safety in health services as a whole has not been very high, until more recent time. So I think in, it hasn't been a systematic, and I think the Health and Disability Commissioner has been instrumental in helping to change that management culture of safety really, as well as, you know the whole systems approach. (Manager E)*

*I think [our DHB] is particularly proactive. And, you know it's uncomfortable. It requires change and people are resistant to change, and it requires admitting that we are making mistakes or failing in some areas which people generally find uncomfortable to acknowledge. So I think I respect the initiative and the courage and dedication that it takes to keep pushing this agenda and making sure that we actually really do integrate into how we manage patients in the institution as a whole and in fact in the organization as a whole, including the community. (Manager E)*

## THROUGH APPROPRIATE PROCESSES

*I think we have a lot of environmental safety things and that we have Quality and Risk ... we do environmental look around ... and check for hazards. .... We have Infection Control. We have a lot of policies and procedures manuals in place that we update regularly that are also area-specific. We have things like the IV Medicine Management, we have Fire Training, we have Manual Handling, we have Restraints, we have rating scales for bedsores, I think from all those perspectives, we have a huge range of safety issues involved. We have training for our nurses. We have expectations of levels of certification that they ought to be at, that is also a safety thing. (Manager A)*

*It's about ensuring that the steps in the process of the patient's journey are checked and double checked along the way. (Manager G)*

*We know that there's somebody else on the other end we could find if we need more help. We all have reporting lines to go through if you're getting into a situation where you don't know what to do next. (Manager A)*

*I think patient safety is paramount in the DHB's perspective, ... it's certainly well stated and I guess it's such a key requirement, it's not a strategy that we're striving for, ... essentially base part of our services,*

*so it must be there, otherwise we couldn't function. ... certainly amongst the compliance with accreditation standard and so on... (Manager G)*

#### BY LEARNING FROM MISTAKES

*...we need to learn from our mistakes. That's probably the strongest message that I get from the hospital that we need to look at what we're doing, when there are incidents or near misses that we look at what were the factors that contribute to it. What could we learn from it and how could we look at minimising that in the future. (Manager F)*

#### SUB-THEME 1-4: MERE TALK ON PATIENT SAFETY

*I think the hospital has an enormous focus on patient safety, and that's very significant in the quality and risk area. But I think from my perspective they TALK [emphasised by participant] about the importance and the escalation and all the stuff about patient safety... So while I think the organization has this VIEW [emphasised by participant] and the IMPORTANCE [emphasised by participant], I don't know that it comes down to other floor level where we are often saying it's not safe for us. But the organization certainly assumes the view that this is absolutely up the top there important. (Manager B)*

*Is very important, although you get mixed messages in that they, the organization SAYS [emphasized by participant] it's very important, and puts a lot of efforts into quality and also the whole incident near miss accident form procedure. But I wonder sometimes whether our focus, as far as providing resource, is actually that patient focused on patient safety. (Manager C)*

*And that sort of comes back to question one where... how do you think the organization interprets patient safety is that, yes it's very important, but when it's raised at a higher level, not a lot gets done. (Manager C)*

*I believe the intent to maintain the safe environment is there, but it is very constrained by a number of issues.... I don't believe the organization is in a position at the moment to provide everything that we need to provide a safe environment... (Manager H)*

*I think we give a lot of face value to it, talk, but I don't think people are given the time or the resource to properly follow up incidents and identify trends. We wait till a catastrophe happens and then we all rush in. (Manager I)*

*I actually think a lot of it is lip service, quite frankly. I think at a clinical level we try very hard. I think as you get up into the more senior management, I think it's about lip service. (Manager J)*

#### SUB-THEME 1-5: INHIBITIVE ORGANIZATIONAL CONDITIONS

##### INADEQUATE ORGANIZATIONAL SUPPORT

*We've also taken incidents to clinical board level as well. ...The only thing that I would say around taking things to a higher level is that you get a lot of agreement that it's an issue, but then not a lot of action about how we're going to solve it. So it's about coming up with a solution yourself, but then quite often there is only so much that you can do yourself, and it needs buy in from the whole organization to make change. (Manager C)*

*Or they might expect that the Quality and Risk team would in fact be guiding a lot of the stuff around the incident reports and providing us with reports ... So, I think in that respect they don't make it easy for us to actually track and implement. (Manager J)*

##### UNDERSTAFFING AND RESOURCE CONSTRAINTS

*We work understaffed, so then you're not sure that there's enough skilled people to keep people safe. It's pressure on the staff... (Manager B)*

*Probably the forth one, foremost one in my mind at the moment would be staffing constraints. .... and that include the aging staff as well. (Manager H)*

*I think we try and do what we can a lot of the time. I think that we are often under resourced staffing-wise, which makes things difficult. (Manager J)*

*... because families tend to think that everybody should be safe in the hospital and that hospital is the best place for you when you are sick. One of that the barriers THERE [emphasized by participant] is that, yes, it is to be the best place when you are sick, but we still have a lot of constraints. Once again on staff and equipment and tests and all those things that are available. (Manager A)*

*We have significant issues around our safety pertaining to beds, appropriate beds for the patients, the issues of bariatric management, or that type of things. ... aging and more complex conditions of patients and our ability to actually get them to put where they can*



*manage around their own ideal and the other more complex rehabilitative processes that they have to learn. (Manager H)*

*I think probably we would like to do better but we're not actually resourced to do better or equipped to do better. (Manager I)*

*... I think that if they were serious about patient safety they would provide a resource, probably more of a human resource to actually facilitate a lot of the stuff. (Manager J)*

#### OUTDATED FACILITIES

*But some of that is also around the old geographical design of the wards and how the wards are established and they were built 30 years ago and ... now is 2008, and so there is no disrespect to the fact that areas that we work sometimes are unsafe. (Manager B)*

*I don't believe the organization is in a position at the moment to provide everything that we need to provide a safe environment, ... I believe we are working in a physical environment that is outdated given the complexity of patients that we have and the aging population we are dealing with, and that include the aging staff as well. (Manager H)*

## THEME 2: INVESTIGATOR FACTORS

### SUB-THEME 2-1: QUALITY OF INVESTIGATION TRAINING

*Attend a hospital study on the different aspects of investigating incident forms and how to respond to them. (Manager A)*

*I guess the training is informal, I don't think there's been a lot of training over the years. It's sort of simply been this is the incident form, this is the process, and this is how you do it. From a reporting perspective, learning to do the investigation, it's been more hands on experience I guess, and you learn as you go. Some of ...my previous managers have been very clear about what information they require as part of the investigation to help them make their decisions. So it's been more been one-to-one rather than sort of formal education around incident management. (Manager B)*

*...I was oriented to the position and received some training provided by our Quality team member, and had been to orientation lectures and also a quality forum session on incident ...management. (Manager C)*

*... there's not much as far as I know, information around how to investigate sort of minor errors apart from discussing at among your staff and looking at ways, in the ways to prevent it, and the way that the incident form is detailed, it makes you fill in ... what are you going to do to prevent this happening. So you have to think about ways that you look at to prevent things happening. ... (Manager C)*

*No formal training and I attended the last workshop that they ran here a few months ago. (Manager D)*

*I had a bit of experience over the years just when incidents had occurred or being reported. There was a full day incident management training for ... managers ... that I attended. (Manager E)*

*Limited amount of training. I had attended Quality and Risk forum, which do go over how to assess them. There's also been a recent change with the new incident form policy that means we now doing risk assessment scoring for each incident form, so I got some one-to-one training for that. Just to make sure I knew how to do it, make sure I'm assigning the appropriate scores. ... It's not ... a formalised thing. It was just I saw that it was a new policy, I wasn't quite sure and I just wanted to make sure that ... I was doing the right scoring, so I've just asked our Quality and Risk facilitator just to go through with me. (Manager F)*

*... I have done a lot of in house training and education ... And the most recent thing I did was a day on the new incident reporting system and ranking of incidents. So, that's directly. Indirectly, I've done post-graduate diploma in business management and I'm currently doing my [post-graduate study], so part of what we do there is around risk management, around the ways to investigate, around the ways to come up with better solutions for issues. So, a lot of those principles again apply. (Manager G)*

*... I've done various in-services that's been provided by the various Quality and Risk department over the years. My initial training in filling out incident form was ... quite a few years ago. And more recently with the new incident management process, I did attend the basic training in managing the incident form. (Manager H)*

*Most of it I've learned on the position of taking part in ... training, which is managing incidents, but they're like the emergency ones .... But otherwise most of it's just been informal learning. (Manager I)*

*... probably about 10 years ago... So essentially what we did was collated the information, investigated it, looked at it a no-blame type stuff, and carried on. Then, obviously I've also been involved in writing incident reports. I went in had the usual training that you get with Quality and Risk, which I think back then was actually pretty sketchy, was a kind of you see one, do one, teach one. It's firmed up a lot now. And, essentially I probably never, ever had a mentor come to me and say, 'Hey, look, you've done this well, but you haven't done it well.' And I don't think I ever had anyone come back and say in order to do this you need to investigate along these lines. ... (Manager J)*

*They have done some root cause analysis training, and I think that's ridiculous that we are now 2008 and are only just getting investigation training ... So, I think it is bizarre that ...[20+] years after I started before they start teaching people how to actually investigate things thoroughly and logically and properly. (Manager J)*

#### SUB-THEME 2-2: ASSUMPTIONS OF INVESTIGATORS AND THEIR MANAGERS

##### NO BLAME ATTITUDE

*If it is on individual level, like you actually have to single somebody out, like we're certainly not working in a blame environment, it's more about supporting that person to improve. (Manager C)*

*Look, I mean most people in the past, for instance, have had an excuse for their behaviours, which is often being justifiable. The situation [the health professional] complaining the [staff] didn't see the patient, [the staff] might well have another patients that he was seeing, there hasn't been an issue. (Manager D)*

*... we certainly have a culture that we try to promote no blame so that we are investigating, and we do need to remind staff that it isn't about blaming, it is about the looking at the process. (Manager F)*

*I think, generally speaking, for me and... for the team as well, it's that the incident ... that we receive or that we do, is not actually being completed to actually condemn someone, or an action that someone decided to make. It's actually a process of identifying an area of risk or a situation that happened that the person felt unprepared to be able to deal with. And that from that we actually do the learning... (Manager H)*

*... nobody comes to work on any occasion to actually make a mistake or to harm someone or anything like that. And so when it does*

*happen, it's a significant event whether it meets that criteria within the incident management policy or framework, it is still a significant event for that person. (Manager H)*

*So it's not only JUST [emphasised by participant] about tracking, trending and getting some remedial actions or improving the process, it's also actually about sitting with that person or being aware of what that impacted on that individual and bringing in place the things that they need to actually help them to actually heal from whatever that incident was that happened. (Manager H)*

#### LEARNING OPPORTUNITY

*...we need to learn from our mistakes. That's probably the strongest message that I get from the hospital that we need to look at what we're doing, when there are incidents or near misses that we look at what were the factors that contribute to it. What could we learn from it and how could we look at minimising that in the future. (Manager F)*

*I see incident form is not being something that comes through because someone got a problem or something, I see it as a process whereby the team that's directly involved in that incident actually are going to learn something from it. That the learning may be only that actually we couldn't have done anything differently, but to actually get to that point whether you acknowledge that there has to be some investigations, has to be some insights to the results of those investigations. (Manager H)*

#### IDENTIFYING SYSTEMS VULNERABILITY

*... probably our most common incident would be a [production] error where you had something [produced], ...and it either gets picked up prior to it being, ..., we have a [production process] and then a check process, so it will get picked up at the check process, and very rarely it gets picked up on the ward prior to administration. (Manager C)*

*This ... wasn't about policy, it was about identifying that a significant problem that compromised patient safety had occurred, the outcome was not serious. (Manager E)*

*Well, I think the incident reflects the way incident reporting happens in this organization that my experience most incident reports don't actually relate to where patients had been harmed. They relate more to the potential for harm. (Manager D)*

*Generally speaking I believe that certainly within my team ..., if full investigation is undertaken ... quite often an incident form is*

*completed, but it doesn't necessarily identify an incident, what it does is identify a period or a situation of risk. But, given the strategies that were put in place to actually avoid any incident from happening around that piece of risk, an incident did not occur. (Manager H)*

*I think what I am trying to say here is that I believe that people that are producing incident forms are not necessarily producing incident forms related to a specific incident, and quite often in the investigation..., there actually is no incident, but ... what it has actually identified is a potential risk that may have occurred. (Manager H)*

#### BEING VIGILANT

*... I don't care if I get 500 a month, that's fine. I am more concerned with the areas who don't write incident reports because, so it's kind of, if I get a lot of complaints of an area from outside, if the general public is writing them in, I have a concern. If I'm not getting enough incident reports from an area, I have a concern. So I want to keep my complaints down and my incident reports up because that demonstrates that people have been vigilant. (Manager J)*

#### REPORTING IS A STATISTIC

*I don't believe that incident reporting mechanism is particularly useful. I think we get numbers, but I'm not sure what the numbers reflect. I think numbers reflect just how active people are about filling in incident forms. There may be some learning if the Quality and Risk people look at incidents to see whether or not they reflect a pattern that could be changed. (Manager D)*

### THEME 3: OBSTACLES OF INCIDENT MANAGEMENT SYSTEM

#### SUB-THEME 3-1: INADEQUACY OF INCIDENT INFORMATION SYSTEM

*What I think the forms that we've currently got are quite structured that what they want you to find out or what want you to do, and sometimes that's not as easy to follow, and frequently you can't find out why something happened. There is no space to mention all the other things that impact ... lots of area that the actual incident forms don't really give you spaces to comment on. (Manager A)*

*I think one of the changes is using the 'risk scale'. I could probably formalise what I do in my head and run it through the risk registry if it scores 'x' points, then I should be looking at it and doing it. But it scores under that, I think may be we need to change whether we have to have the same process or not [for minor incidents]. (Manager I)*

*... incident reports have been generated for the whole 25 years I've been here, I think the forms are exactly the same probably, few minor changes, but, realistically, a triplicate type of form, small little place to write and this is what you do. (Manager J)*

#### DIFFICULTY IN RETRIEVING INFORMATION

*I think the worry is ... the Quality and Risk don't necessarily have the ability in terms of their information support ... to actually trend and actually start to look at why we're not doing those things. And of course Health and Safety is not necessarily ... able to provide us with a recommendation yep we do need to go out and find another five bariatric beds or whatever at any one time. (Manager H)*

*Quality and Risk basically get a copy of every incident form, but they don't necessarily get a copy of the outcomes of that incident form, and that's the piece that's missing. (Manager H)*

*I think it's important to report incidents and to report risk. I think it would be MUCH [emphasised by participant] better to have a less cumbersome system and, with the development of IT and, more use and the more familiar use, I could bet that will be great in the next ten years that [staff] can just flip a button on a certain thing and that reported the numbers are kept and reviewed... (Manager G)*

*... we're great at gathering information, all sit nicely in Quality and Risk computer. But we don't review it, we don't see, oh, gosh, we had 20 incidents regarding this across the service. There's no... auditing of that, I suppose, or a look in a big general sense, ... and because it's quite difficult to get it in out of the system, when to do what I've told you before about the drop in falls I have to manually count the number of reports. (Manager G)*

*What I would like to do, I would like to sit down and do some trending. Unfortunately the system we have doesn't really facilitate that. I'm sure it allows it, that goes 1, 2, 3, 4, 5, 6, 7, but ... I don't have time. But the reality is it's very labour-intensive, and, I don't have time. (Manager J)*

*... I would like some better reporting. I would like to be able to, either go into the computer system that Quality and Risk kept and tag some information, may be pulled up ... [a department's] incident reports over the last 6 months, and be able to run some figures on that. ...Because that's the sort of stuff that's quite interesting to have a look*

*at and you can often develop trends, and we then can target areas which are specific... (Manager J)*

#### INEFFECTIVE FEEDBACK MECHANISM

*... some of the frustrations also for me is that I sent them off and then it's like nothing, dead. So what happened? Occasionally in the more serious events of course that doesn't occur. But ... I don't ever see any incident as being minor, but is minor in the sequence sort of event. ... Then I sent it off to my manager. Now I have no idea what she writes on them, no idea at all. And I never see them again. The only thing I've ever seen then is the incident report ... that comes up quarterly or 6-monthly or whatever ... So, I have no idea what happened to them after that. Now, one assumes that if my recommendations weren't acceptable, then my manager would come back to me and say, 'Well, that's you know, nonsense and you need to be looking at something else.' But, I've never had that. (Manager B)*

*... the hospital incident reporting process is currently quite robust and I think the INTENT [emphasized by participant] is fine. I just don't see anything happens with the intent. And it might happen somewhere, but it doesn't certainly filter back to us. (Manager B)*

*... I made a number of recommendations about looking at the way we document falls risk, that probably not going to be acted on.... But, I don't expect them to be followed through. (Manager D)*

*But ... no one is tracking that I haven't completed these forms. ... There's no feedback to me ... Not worrying me, because it's not my priority ... I use my own judgement, so it needs fixing or it doesn't. The ones that don't I just let them slide there. I suspect that I'm not the only one that does that. (Manager I)*

#### SUB-THEME 3-2: DEFICIENCY OF INCIDENT REPORTING

##### RELUCTANCE OF STAFF TO REPORT

##### Fear of blame

*And then, there's the problem too people not wanting to fill them in. There is still a HUGE [emphasised by participant] issue with staff feeling that incident forms are punitive, and that if they fill in too many, they're going to be in trouble or somebody is going to blame them, and getting across that that's not a blame thing is really hard. (Manager A)*

*... sometimes people are very reluctant to admit that they might have done something wrong, sometimes or that things need to change.*  
(Manager A)

#### Lack of feedback

*I am a huge advocate for incident reporting. But I think that's why a lot of people don't report stuff because they can do nothing about it. ...I say to my staff... report it. I may not be able to do anything about it, I can only elevate it. If people above me choose to do nothing about it, then I have no control. I mean I can try to do what I can about it , ...*  
(Manager B)

*They ... take all the time ... And then when you don't actually get the feedback, people ... will then why would I bother. Because I said earlier a person doesn't come to work to make a mistake, or to hurt someone, or to damage something. So when they've actually done that and gone through the process of actually then baring their soul on a piece of paper to then not getting any response ... It's ... actually quite harmful.* (Manager H)

*... staff get volution with doing them because they never get feedback and they never get, and they never get recognition.* (Manager G)

*I expect the organization to take NOTE [emphasised by participant] of what is happening. Now I doubt that occurs, OK. I doubt that occurs, because there is never any feedback to me... I've got this little pile here for [unit manager] today, I will send those away and there will be little word said. So you know, that's frustrating for managers ...* (Manager B)

#### Lack of confidentiality

*I don't believe that the format ... that we're using at the moment is actually that really user-friendly, and that can be quite constraining in terms of what and how people perceive them... as they are not confidential I ... they have to put their name to it.* (Manager H)

#### INSUFFICIENCY OF DOCUMENTATION ON INCIDENT FORMS

*... the documentation is sometimes difficult to, people don't have, don't spend the time writing down every single thing that happened.*  
(Manager A)

*There is also the anecdotal things that I think are huge problems with incident forms in that frequently what you get handed over to another shift is a sort of a miniature version that Chinese whisper words*



*ended. .... And so things can get hugely blowing out of proportion, and that happened a few times that and things almost turned into a serious event when they're actually being minor. (Manager A)*

*And that often the documentation isn't that clear as to what did happen and you need to do all that investigating because sometimes when you read the incident form it all looked absolutely catastrophic, but when you get there it was all relatively minor. (Manager A)*

*I ask my staff to give me all three because sometimes the information they write on the white copy tells me nothing. So if you were the data inputter then you would have a struggle to actually load into the data. (Manager B)*

*From the reporting perspective, I think staff need education and I try to teach my people about what they need to report ... and so the only reason why I change that slight part of the process is so that I can make SURE [emphasised by participant] the information is on the form when it's going to be loaded in or otherwise it's nonsense. (Manager B)*

*And I think ... all the staff and the clinical managers could have lots of more education on how to fill them out, what to do about them, because ... sometimes you will get an incident form and it will just say 'trip up on the wire or something like that'. What wire? Where was that? What did you do about it? Did you fix that? (Manager G)*

*And I'd be inundated every time when I went to the mail and like another wall of incident reports that I've got, my god, throwing myself off something. ... what is this, there's nothing here, just baffle, nothing, didn't say nothing, doesn't tell me anything. (Manager J)*

#### INACCESSIBILITY TO SOURCES OF INFORMATION

*And you always seemed to find that the person who filled in the incident form that's the one you want to talk to has just gone onto night duty, has just gone on to annual leave, or has just rung in sick for the next four days. (Manager A)*

*It's actually trying to do them straight away so that you've got access to the notes, to the patient, to the family, to the nurse or the other people that you need. (Manager B)*

*... sometimes you only get one side of the story because the patient is unable to contribute. So that's a barrier in trying to get the whole picture and may be some reasons why stuff happened. (Manager B)*

*Well, one was just the lack of availability of the particular staff involved, you know, they weren't on duty and that next week as it happens I don't have an immediate access to them ... (Manager E)*

#### MISUSE OF INCIDENT REPORTING

*Ah, it's a difficult question. When I look at incident reports I often, speculate as to why they've been filled out. Now, I could spend all day writing incident forms. ... The resource issues ... I could fill out an incident form. But really it would be a waste of my time to fill it out and whoever needed to review it, time to go and do it. And, I don't fill in many incident forms. There're clearly some staff who use the incident reporting mechanism as a way of dealing with their frustrations, and I think some staff may sometimes be vindictive about filling in incident forms. (Manager D)*

*Let's put it like this, I don't think the incident reporting mechanism is a particular useful way of changing behaviour. I think there are better ways dealing with performance issues than filling in bits of paper and sending them off to a central office to document what happened... (Manager D)*

*I think the ones that don't get resolved probably are, the communication ones, the ones where there's been some kind of argy-bargy between different groups that's over a long term period spoiled the relationships and therefore then risks for the patients. (Manager G)*

*But ... we go to times where we are at the risk of falling into a state of lethargy about incident forms because we get so many which as I said earlier around the perception of what should happen as oppose to what needed to happen. (Manager H)*

*... usually those ones had not been investigated before I get to them. They're just saying, 'This is happened, I've got no idea who did it, I'm not really interested, I just want you to know sort of thing.' (Manager I)*

*OK, well, to be honest, if it's to me, if it's just a 'I'm ticked off' and I want you to know 'I'm ticked off' type incident form, I won't investigate it. But if it's a trend or it caused harm to the patient, then I'll normally follow it up. (Manager I)*

*I would say that most of the incident forms I get, unless I got them from a clinical manager, are ones fill in there's no investigation; it's a*

*venting of something that ticked somebody off. So it might be a [staff] pointing out that ... someone else's process which could impact on the patient. (Manager I)*

*... they're just a waste of time filling them in. They're just to say, telling TALES [emphasised by participant] of people ... But some of them are good, some of them you can use to change behaviour or change processes that do have a gain for the organization. But in a place this one, like I might get five or ten or 15 a week some days, so, how many are just personal, so. (Manager I)*

*I think incident form is a very valuable tool. I don't think we use them well. I think they're almost used as a punishment as opposed to a tool that gives us the opportunity to identify the risk and look at what we can do to manage that risk. (Manager H)*

*So sometimes that depends on the mood of the people who filling them in. ... I think some of them filling in to a petty category in which then overrides the importance of doing incident reporting and that because you're trying to score points rather than actually improve the system ... (Manager I)*

#### SUB-THEME 3-3: INEFFECTACY OF MANAGEMENT OF MINOR INCIDENTS

*And that the other problem with the whole incident process too is there are time constrained when you are meant to have it responded to. (Manager A)*

*The other ones that I think don't get resolved well are the lesser ones ... there are probably smaller incidents with massive number that we DON'T [emphasised by participant] effectively manage. (Manager G)*

*... especially my area is quite big,... and so, I probably get close to, how many would I get, I probably get close to maybe, 200 incidents reports a month. I just can't manage 200 incident reports as well as everything else that I have to do. (Manager J)*

*It is sometimes difficult to get them done in a timely manner, so that it just makes it laborious for us. (Manager B)*

*I think the main barrier is the time it takes. And I think what the time can be wasted, pulling the notes, reviewing the notes, talking to the individuals, providing documentation, and that time and detracts in doing other things. (Manager D)*

*... with the review of the incident form policy, a big issue that comes up again and again with all new policy is often it will involve a lot of staff education, a lot of time ... and that is not always taken into account. Just the time it takes up to train up the staff. (Manager F)*

#### THEME 4: HINDERING ORGANISATIONAL PRACTICES

##### SUB-THEME 4-: BUREAUCRATIC PROCESS

##### DECISION-MAKING REMOVED FROM FRONTLINE STAFF

*I guess, the problem with something is that it's always slow moving... within the hospital takes ages, you can identify that you need different equipment or a change in equipment, and ..., you need to identify what you've got, you need to try get a replacement, ... and organise fundings. Budgets are done a long time in advance, and if it is a case that falling on within this particular budget, then you're out of luck till next July. You've got a limited health dollar that you're arguing for. (Manager A)*

*I think some of that is if that a lot of those decisions about budgets and needs [of] that area are too far removed from the actual ward, is somebody else's decision to find out how this balance up in an area against somebody else's (Manager A)*

##### CHANGES MUST BE APPROVED BY VARIOUS COMMITTEES

*And there is also if you want to devise individual things, there is all sort of committees you have to go through.... If you want to bring in a different form, you've got to put out draft, you've got to trial them, and then you've got to go to a committee, and got it approved. Change can take forever, so there's awful lot of things always stay draft because then you don't have to go through the forms committee. (Manager A)*

##### SLOW AT IMPLEMENTING CHANGES

*There was a separate process going on within the incident was reported, and so that process is continuing in parallel but, I wanted to find out this as soon as I could what were the issues, to see if there is anything that we could address immediately in terms of how staff work on the ward or other issues that could be remedied, I guess, to prevent it happening ... in the immediate future because the incident reporting process takes a long time to go through and changes to be recommended. So, this is to expedite. (Manager E)*

*And safety is all about quality, and so, if it's a safe environment, then usually it's a quality type of environment. I'm thinking for example the beds ... they've just been audited and most of them are actually well pass their use by dates. But, the resource isn't there just to go and replace 50 beds at a time, or 100 beds or even all of the beds. So, the bed source, not the money resource, I'm sure they will find the money from somewhere. But the actual, someone to go out and then we have to try it, and so it's the length of time it takes. ... (Manager J)*

#### SUB-THEME 4-2: SILO PHENOMENON

*The only thing that I would say around taking things to a higher level is that you get a lot of agreement that it's an issue, but then not a lot of action about how we're going to solve it. So it's about coming up with a solution yourself, but then quite often there is only so much that you can do yourself, and it needs buy in from the whole organization to make change. (Manager C)*

*... I feel that ... the [clinical manager] has responsibility for the management of [the staff] on the ward and that will be appropriately left with that person so long as I feel that I'm fully informed at the end of the day of the issues and that, we have discussed appropriate ways to learn from the incident and then try to prevent that happen again. (Manager E)*

*Probably a lot of the problem from my perspective is they go across a lot of what we call silos. (Manager I)*

*What I'm seeing in my little patch of the wood is duplicated in every other patch of the wood, so we've actually got a forest of problems. So I think that's a GAP [emphasised by participant], so I don't know that the organization has got the ability to figure that out just yet. (Manager I)*

*... there have been incidents that..., my personal opinion would have been better investigated, but they tend to be across services, because various services do it in a different way, and it's not consistently applied. (Manager G)*

*And I think that whilst we have a certain number of unit managers, we don't necessarily have an incident reporting meeting across all of those services. ... we still have a very strong silo approach, so people ... continue to work in their own way. And they need to do that because they've got so much to do in those cases, that you know. And*

*that the organization doesn't require us to do that, and it doesn't provide us with the infrastructure that allows us to do it. (Manager H)*

*Because a whole lot of us are working a way probably trying to fix the same problem in a single area whereas we actually were able to work together in a bigger group probably would have a much more global and more successful outcome. But it isn't, we're ... all working hard to fix up something that probably is only symptomatic of a greater problem. (Manager H)*

#### SUB-THEME 4-3: DEPENDENCY ON POLICIES

*But my frustration is often that's around or the recommendations are to develop a new policy, or to modify an existing policy, or to educate around the policy. And, I think that may protect the organization because managers can stand up and say we have a policy on this. (Manager D)*

*Look, I have a problem the hospital has policy on everything ... There is for example a policy on how to deal with missing patients lost patients. There is one page algorithm that tells you what you should do. But, I wouldn't consult the policy, I would just use common sense unless I felt there was a reason for looking at the policy. (Manager D)*

*Now, I know I was supposed to comply with policies, the reality is people, busy clinicians [staff] don't have time to look at often very long policies in day-to-day management. (Manager D)*

*The reality is a lot of these policies aren't very useful, yeah? Patients get lost, as I talked about earlier we don't usually consult policy to see what to do. So having a policy to say something isn't particularly helpful if it's not consulted or is too unworthy complicated to look at. It was interesting I was involved in a discussion around the management of [specific patients], and there were two policies that were quoted as being relevant by two different individuals in terms of management of the incident, and they were conflicting policies. So I'm afraid I am not a big fan of policies. (Manager D)*

*I made a number of recommendations about looking at the way we document falls risk, that probably not going to be acted on. I think, for example, some patients are going to fall whatever we do, and I think we can spend more time documenting risks than actually taking action. ... Problem is that, the process of assessment can be unnecessarily long, or indeed it may be unnecessary in itself. ... [Staff]*

*have to do risk assessment for falls, the possibility of developing confusion, pressure areas, and asks similar questions for each of those forms even in people who are clearly not at risk. I mean, a lot of this is just not common sense. So I made some recommendations around that. But, I don't expect them to be followed through. (Manager D)*

## THEME 5: APPROACHES TO INCIDENT INVESTIGATION

### SUB-THEME 5-1: GATHERING INFORMATION

#### GATHERING INFORMATION FROM DIFFERENT SOURCES

*I read what the staff had written on the form. I usually go to the notes and assess what was happening on that particular shift. I talked to the nurse involved (Manager A)*

*... our tendency is to, obviously discuss with staff, discuss with the family, review the medical notes, discuss with the other key stakeholders that might be involved ... and then write that up. (Manager G)*

*I might send it to someone else that is referenced and asked them for their comments so that they can see a copy of it, not so much as a punishment, so that they can realise that they didn't follow a process or procedure, this is the consequence of it. (Manager I)*

#### INTERVIEWING STAFF AND PATIENT

*I talked to the [staff] involved and asked whether the usual precautions were in place, had anybody done a fall risk assessment on the patient, need to take into account [the conditions of patients] ... So all these impact on falls occurring, I guess. (Manager A)*

*... interviewing ... the people involved to get their story. If the patient is competent and able to contribute to a conversation, then I also ask the patient how it was for them. ... So if we look at a fall, I would find out from the [staff] what did occur, were all the safety things in place, like with the bed down, were the rails up or the rails down, did the patient have the bell, had the toileting regime been carried out, all those kind of things. And then I would say to the person in the bed if they were able to respond, 'What made you get out of bed without asking for help, and did you know, did you fall, how did you fall and what happened?' So sometimes you will get a very good picture. Sometimes you will get not such a good picture and it's hard to ascertain what actually happened, what caused the fall.... (Manager B)*

*... we go back to the person, the persons involved because ... 99 percent ... of the times there's two persons involved... (Manager C)*

*When I was notified that the incidents had occurred, in fact, it affected two patients at the same time on the ward. I went to the patients and discussed with them of what happened ... then went to the [clinical manager]. The [staff] who were on at the time of the incident were not on at that time. I've asked the [clinical manager] to investigate and let me know what the issue involved was so that we could ... address it and try to prevent it happening again. ... (Manager E)*

*The [clinical manager] discussed with the [staff], she reviewed the medical notes. And ... the [clinical manager] was going to talk to the consultant when she returned from leave. I see her the other day that she is back, I'm sure that's happened. (Manager G)*

*I might get the patient notes so I can see circumstances to find out who was around it, and then talk to the staff that are involved (Manager I)*

*So I was comfortable that the [clinical manager] had in fact spoken to all people involved in the incident, like the person who committed the incident as well as the other people on the shift that day which could have compounded the incident. (Manager J)*

*And it's about a process, I think, who you talk to, how you interview people, because we're not particularly good at interviewing people. ... I spoke with the staff who completed the incident report and I 'tell me about it', listened, got my head around it, went back, clarified it, wrote it down as she discussed it, went back and re-clarified it, I didn't paraphrase it, I write down what she said. I write down my question, I write down the answer, and then we go back again and we just check. (Manager J)*

#### REVIEWING DOCUMENTATION

*I read what the staff had written on the form. I usually go to the notes and assess what was happening on that particular shift. (Manager A)*

*So what I do is I pulled out the medical notes and I tried to clarify the time and what documentation is in there. ... My approach what I intend to do is having just got the notes and look through to establish what that was (Manager D)*

*Both these incident reports relate to or written by the same [health professional] on the same day. ... so I'll establish which [staff] were on*



*and I intend to write to [them] to say that there has been incident report relating to their declining to see a patient... (Manager D)*

*I might send it to someone else that is referenced and asked them for their comments so that they can see a copy of it, not so much as a punishment, so that they can realise that they didn't follow a process or procedure, this is the consequence of it. (Manager I)*

#### CONSIDERING OTHER CONTEXTUAL FACTORS

*... need to take into account in the [department] ... that a lot of the patients were confused ... So all these impact on falls occurring, I guess. (Manager A)*

*... also the number of staff that were on duty for that shift, and what time a day that shift happened because that also impact on the number of people around (Manager A)*

*You can also look at the contributing factors like, "Hello, the bedside wasn't locked in, or the bell wasn't in place." (Manager B)*

*... we look at [the procedure], what was [produced], what it should have been, look at contributing factors to why that might have happened, like if it was a similar name or similar looking or whether it was a very busy period where people were [working], the number of interruption, whether a specific staff members... that are tend to be more likely to make mistakes, who they were working with at that particular time ... these sorts of factors that we'll look at. (Manager C)*

*... the discussion between the [clinical manager] and myself basically went along the lines of, 'how could this happen, how did it happen, why did you think, what was the context around it happening, were they short-staffed, does she have a knowledge deficit here, did this [staff] should know the 5 rights if nothing else about medicine management, how did she make this mistake?' (Manager J)*

#### EXECUTING APPROPRIATE INVESTIGATION

*As the unit manager I am involved in a later stage really, just reviewing the report rather than being part of it ... (Manager F)*

*If I'm not happy with it, I'll actually (1) send them back to them to say I'm not happy with this, this actually has not identified or addressed the issue. Or (2) ... actually I follow that up with, ...why you think that you actually answered to it in this way, but actually get the feedback if they had more insight into what they should have done, why they didn't, and how they address that in the future. (Manager H)*

*I have a requirement, which is based on the policy how ... an incident is investigated. If when that person completed that investigation, I don't believe it has achieved that, nor does it actually give the right picture to that person, or is not going to provide the learning experience for the person who is receiving it, then I'll send them back to be addressed. (Manager H)*

*I look through it and I've got some very good clinical managers that are quite thorough, so usually they have talked to the staff involved, they made recommendations, and most of them are probably at a level where I don't have to do a lot. (Manager I)*

*My role is not to investigate at that level, my role is to make sure the [clinical manager] has done it properly. ... So, yeah, the [clinical manager] does it and I basically verify that the [clinical manager] has done it. (Manager J)*

*... we're going to do it face to face, we're going to write it down and we're going to see where it's going. ... I was prepared to spend the time with them and to get them up to speed. ... It was, 'I am here, this is how I wanted done, this is the rationale as to why I wanted done, and we'll work through this. So, if it's not done, you'll get it back ...' And also because you can talk about it ... a teaching thing and a mentoring thing I guess from my perspective. (Manager J)*

## SUB-THEME 5-2: DEVELOPING RECOMMENDATIONS

### PERSONAL OPINIONS

*I mean sometimes of course it's got to be based on opinions of keeping people safe in certain circumstances... expertise about managing those things... (Manager B)*

*... so if it refers on to me and I would make recommendations based on my opinions. ... A lot of this is just really common sense. (Manager D)*

*Most of the time I probably don't make recommendations, I made a comment. In my experience most incident forms that submitted don't require any definitive action, they require a comment. (Manager D)*

### LESSONS LEARNED

*... with your recommendations you've got the knowledge of previous incidents, so that helps you come up with some of the recommendations. (Manager A)*

*I've often done Internet searches to look for what other people are doing as best practice, and talked to other colleagues about how they deal with situations like this. (Manager A)*

*...and I suppose what you then do is if you're reading or attending lectures or visiting other sites or going to conference, ... you'll constantly be on the look out for alternate ways to do similar tasks to make your department better. (Manager C)*

#### POLICIES

*Some of the recommendations will be based on policy as well. ... So it would be based on the requirement and standard of the organization, yeah, mostly, it will be. (Manager B)*

#### INVOLVING STAFF

*There's the, the educator. So I use the educator at times. (Manager A)*

*Quality and Risk occasionally come up with strategies that we hadn't thought of. And, ... if it is a specific thing that comes up as sort of a trend, sometimes you can talk to the specialist nurses in that particular area and they'll come up with a strategy ... or a change in practice that we hadn't thought of. (Manager A)*

*If I think they have merits, I'm very happy to incorporate that ... [I'm] not the only repository of good ideas. And, I like the philosophy that ... this is a shared responsibility and, if other people come up with initiatives that I think would address the problems well, I am very happy to use them. (Manager E)*

*And there's always that there is the multidisciplinary team as well ... So some of that come into using other members of the team, and improving everybody's knowledge ... (Manager A)*

#### BY PERSEVERING WHEN DEALING WITH RESOURCE ISSUES

*But, it doesn't stop you trying, and it doesn't stop you highlighting issues. ..., I still think there's an awful lot that you can just hammer away on your individual area that ... you can just keep working on the basics, and making it as safe as you can where you are. And I guess in some ways covering all your areas where you are ... well at least you've done your pieces, if you've done at least all these strategies, you minimise the risks as much as you can. You can keep that link at the other end. But, on the floor bases we're actually doing what we should be and, because you don't want to give up all the ideas just because you're not going to get a piece of equipment or something. (Manager A)*

*Sometimes it is very difficult when you get ... we need more staff or the [department] needs changing ... we need a new building. So those things are... kind of out of your control a little bit, so that can be quite, I suppose, disheartening to be able then to feed that back and say well we actually can't get more staff, but I'll try, and you know, frustrating to feed that information back. But then ... also gives you reasons to keep trying and keep putting ... alternative suggestions forward to senior management around how we can change them. (Manager C)*

#### ROLES OF UNIT MANAGERS

##### Negotiating around

*But we're not always thinking about the requirements that perhaps the manufacturer has about getting the right sign off for this, and so we had sat down together to look at where the issues are and how we can help each other really to make sure we all are getting our requirements met, and that the patient getting the appropriate drug at the appropriate time. (Manager F)*

*But I also can hear what's appropriate in compounding department to what they need, what pharmacy need. So I guess for me I am about trying to negotiate around, how we make sure how everyone's needs are met. ... And how we can all work together to meet that common goal. (Manager F)*

*There have been occasions where I had to suggest other path, and ...sometimes it's healthy debate. And that's fine, because everybody has a different perspective and it's good to get them all out at the table and then we come out with the result which is definitely, which is a better result, I think. (Manager G)*

*I'll work with the team to do that. ... and say, 'OK, this is what we believe should happen, clearly we know this is not going to happen. So ... what strategies could we put in place to actually allow a better outcome next time.' (Manager H)*

*... it has led to us meetings more frequently with the manufacturer that made the drug, as well as the pharmacy department, as well the organisation and myself and the [clinical managers]... try to minimise the issues and looking at the issues from everyone's perspectives that we have requirements within the [department] we need to get the drugs to the patient. (Manager F)*

## OFFERING EMOTIONAL SUPPORT

*I'm more the person going, 'Now, come on, you don't have to beat yourself up about this. These things are not that simple. There's a lot of other steps that can occur to make it happens. So don't think it's all your fault.' That's normally what I'm doing and that's what I have to do in this case too. (Manager G)*

*... my leadership style is more collaborative and coaching, and, I support them in their decision-making. (Manager G)*

*So, I guess, in that way what I try to do is to bring them to the point where they get rid of the personal stuff, ... so to get rid of that and to get them to look at it from an objective point of view, 'If this happen again tomorrow, what could I do to prevent the same incident occurring type of thing.' (Manager G)*

*...so that's about making goals realistic, .... But, you wouldn't, couldn't make a swiping statement ALL [emphasised by participant] patients will do. Yeah, so, I think that's my role in terms of recommendations. (Manager G)*

## APPRECIATING FRONTLINE STAFF

*... because the key person I think in this incident management is the clinical manager because... the staff report directly to them, and they have the key relationship with the [other health professional] ... and so, all the steps that she put in place for the incident she is able to improve. (Manager G)*

*I only provided the support for the people to do that. They actually came up with that plan themselves. (Manager H)*

*I think out there we've got a massive group of people who are very innovative, they weren't never be able to get through a day's work, they weren't, given the constraints they work through, work with the workload that they carry and what not, and I think when they do come up with a good plan like that and works, it was absolutely fantastic. (Manager H)*

## SUB-THEME 5-3: EVALUATING OUTCOMES

## QUANTITY OF INCIDENTS

*I guess, we look at the number of falls we have and that is monitored.... I guess, just from the number of incident forms that keep being generated and that sort of things, yeah. (Manager A)*

*I guess you have just to measure it on, a non-repeat of the incident 'cause there is no other way that really you can, that I think that you can measure it. (Manager B)*

*Well, we monitor our number of errors that we have internally and... you'll see them dropping off ... if your recommendations have made a difference. (Manager C)*

*Well, I guess if you don't get another incident report about the same person, well then you know it's been effective. (Manager D)*

*I would hope that I would see a reduction in the incident. It's happening. (Manager F)*

*... So, after we put in the [interventions], we have dramatic drops in the complaints and the pressure areas risk and falls risk.... just by the mere fact that we've gone from, they weren't huge numbers, they are not statistically fantastic, I mean, they are like, say six a month down to two a month or something like that, but ENOUGH [emphasised by participant] to say to me that has worked. (Manager G)*

*... because I can run reports to see what time [the department] finish and how many patients have been cancelled, because of what we call 'list over-run'. (Manager I)*

#### PROXY MEASURES

*So now we have set up a process that's quite clear: 'this, this need to happen'. We've talked to the doctors, we've talked to the staff, so we provided the education ... So hopefully as well that I'll expect to see a smoother running process. (Manager F)*

*... because we meet regularly, so now we have a regular meeting, I think it's every six weeks we're meeting together to just find out is it all going and what's working and what's not. So from that perspective, yes, because I'll hear from meeting. (Manager F)*

*For some things, perhaps, whether things like labelling errors ... on blood samples or request forms or things like that, we can audit it, and have a look and see if those practices have changed. ... So, that sort of things we can audit. (Manager E)*

#### DIFFICULT TO MEASURE

*That's more of a challenge because ... I mean it's trying to measure the absence of something, that's the issue. And so if an incident doesn't*

*occur but it occurs infrequently anyway. Does that mean say our recommendations have been effective or it's just an infrequent incident? (Manager E)*

*But there's some things, which we were trying to avoid something happening that we just have to wait as time goes by and see if it does. (Manager E)*

*But there's some things, which we were trying to avoid something happening that we just have to wait as time goes by and see if it does. (Manager E)*

*This is going to make me sound very bad but, because I don't have reports generated and because I am not tracking it as I would like to, I can't actually put my hand on my heart and say there's been a decrease in this or an increase in that. (Manager J)*

## THEME 6: INDIVIDUAL LEARNING CAPABILITY

### SUB-THEME 6-1: REFLECTIONS IN INCIDENT INVESTIGATIONS

#### ROLES OF REFLECTION

##### Professional practice

*I think we, as health professionals none of us like it ... when something bad happened to our patients, whether it's through an error or omission or ... whether something happened despite the best care, appropriate care and management. So I think ... we inevitably end up... ruminating on what happened and could it be done differently and could it be prevented. We probably spend more time thinking about those aspects than we do about the investigation process. (Manager E)*

##### Frustrations

*I guess the reflection comes in that frequently you're doing something you've done before, so you're aware that this is yet another incident where something similar has happened. So the reflection comes in almost a repetition of what you're doing (Manager A)*

*Or the fact that you come to your desk on Monday morning and there is another five falls or overnight, in that one patient can fall several times during a night and you think what are we doing or why are we doing it. (Manager A)*

*I guess as a manager sometimes is frustrating because you do get the repetitive sorts of things ... it's like how to get this other people to think about the safety stuff... I think I get quite frustrated sometimes when I'm dealing with them because ... just that little repetitive thing underlying is to why it happened and how did you get staff to do that. (Manager B)*

#### Severity of incidents

*Well, I would think about it, but it depends on how serious the incident it was, how much time I've been spent thinking about it. Yeah, some minor incidents I don't trouble my brain by extensive reflection.... So the time I spent dealing with the incident and reflecting on them will depend on how important I thought it was. (Manager D)*

*No. Most of the time I'm just happy to get another piece of paper off my desk, to be honest if it's at a lower level. ... So I guess my trigger is the person involvement rather than the process. ... I'm less concerned if it's an efficiency or effectiveness, unless it is all repetitive one. (Manager I)*

*Depends on the severity of the incident and certainly for the 'bread and butter' stuff and I don't ... (Manager J)*

#### OUTCOMES OF REFLECTION

##### Develop recommendations

*Yes, there is some reflection, but frequently it's just a case of trying to put things into place and just carry on improving. (Manager A)*

*Absolutely, every single one you do. I guess, the first question is kind of like how did this happen and you reflect on it right through the whole process because you need to make sure that the recommendations on the outcome are conducive to fixing it or trying to fix it or minimise it. (Manager B)*

*Do I think about or reflect? Yes, all the time, constantly thinking about how we can do things better, what staffing mix we've got, how we can manage the staff more effectively, and what improvement we can make within our own department, and what improvement needs to be made within this organization to prevent errors, constantly. (Manager C)*

##### Evaluate past actions

*I guess because you see the trends, and because you see that when things that you thought you implemented weren't being done we still*



*have the same results. So you go back and think or what did we fail to get across last time. Or we thought we explained that this is why things happened, this is the way to manage them. Then may be we need to re-look at whatever strategy we put in place or what suggestions we made because that might not be working. So we re-work it. See, there is a lot of coming back to it and doing it again and thinking about it again. And, yeah, thinking about it how we did it and why we did it, I guess. (Manager A)*

*Well I think, it's identifying areas in which I may have made an error, or it highlighted an area ... that I was not aware of, or learning or reflecting and getting to understand the factors that contributed to that. (Manager E)*

*So someone may just simply be the workload too much too many people to see in too short a space of time, ... and processes weren't in place to kind of prevent people slipping through the cracks or, whatever. So it's understanding where I could have done better in understanding the systemic problems that ... compromised patient safety in this incident. (Manager E)*

Keep track of incidents

*I suppose it's about keeping in mind your goals ... those errors occurred, but it's up to you to help manage them. So you're constantly thinking about how you could do things better. (Manager C)*

*... I probably tend to look more, my reaction to it rather than the actual thing. So I look at it and say, 'Can I handle this differently to get a better outcome?' And so, that's the kind of my reflection I guess it's more about that rather than the incident. (Manager J)*

*... what the other thing I have as well is because I get so many in, you kind of lose track of, if there is any themes .... So, what I have developed ... just an Excel picture, very basic. And so each time I get an incident form, I track this in and put in the month, the incident form number, the area it was and then I have lots of different boxes to pick ... And so I just collate the information per month so that at the end of each month I can make a little graph that show where incidents are. (Manager F)*

*Always reflecting on ... the incident form, the way that it was investigated and the outcome of the incident. And always remembering ... that's one of the good thing or key things I think as our roles as [unit manager] is that we see everybody, so we have an idea of what is common to all. (Manager G)*

## SUB-THEME 6-2: SENSEMAKING AFTER PATIENT INCIDENTS

## PREPAREDNESS

*... it's trying to stay on top of it before it becomes a problem, trying to think of things that could be obstacle before they are one. And just thinking all the time that if it's a big area of concern and that's something that we need to keep looking at. But, we shouldn't take for granted, and that different situation is going to make it different again. (Manager A)*

*... this particular incident that occurred really highlighted to me that despite the fact that that was the first time I've seen that particular thing happened in eight years, what it reflected was the underlying problem that could actually have implications to many other patients in terms of the way staff workload is managed and allocated on the ward... (Manager E)*

*That you know the [treatment] is the biggest one for us, and just seeing our practices were just slipping a bit and ... it would show because we were having suddenly an increase in incidents we had, there were probably issues around certification at that time as well. So, the biggest thing has really been the issue is not just usually about our department, it is across the organisation that these little things are happening all the way around that we need to sort out, but also just with the recruitment of staff making sure that our training are appropriate. (Manager F)*

*... I think is that you absolutely have to think of every possible scenario that can occur and then make a decision that will minimise the risk of any of them. (Manager G)*

## PERCEPTION

*I guess that you can't be complacent about what you think somebody's ability is, and that it is essential ... that you do a fall assessment on everybody, that you can't assume that somebody is necessarily mobile is necessarily safe every time they get up out of bed (Manager A)*

*I guess, really the realisation that just because things have worked well up to now, we can't assume that therefore the processes are all safe and effective. (Manager E)*

*And my assumption that [workload] was being well managed up to that point, perhaps it wasn't as well founded as I thought. I think generally it's well managed, but often there's particular issue that*

*needed to be addressed to, just bring... the practice standard right up to as high as we expect. (Manager E)*

*I guess it's about you never ever take anything at face value. There's always much more than one side to a story ... it's often things are about perception or expectation. And so, if you take it face value you tend to get it wrong. ... So, we look at it as in how it happened, so we look at the situation, what the workload is like, what we perceive this girl's insight to be into her own practice, what the outcome of that could have been on the patient? And we look at some learning stuff to go round that's for her. And I guess as a fallout that potentially other people pick up stuff as well. (Manager J)*

#### PERSISTENCE

*... the big focus is probably the [staff] on the floor has to have a knowledge, but management has to make sure that they've got the avenues that they're reminded that is what they need to know, that there is a programme in place that will teach them all these things on a regular basis, that there is some sort of check up to make sure that all those things are happening. So it's an on-going thing, not something that you can teach once, and assume that it will happen forever and ever. You have to come back and you have to remind people when you have to. It's almost house-keeping, you almost have to say on a regular basis ... what are we doing for our patients, what are the routines that we're getting into that will make it easier, and looking at all those other factors as well. ... (Manager A)*

*... so it's how we build that into the orientations and training for people on the ward about these processes and polices so that people understand them and follow them. (Manager E)*

*I think it is always a working progress. There is always things that we can improve on, work on, and we're just constantly re-evaluating, ... and seeing what's working, what do we need to keep working on ... . (Manager F)*

#### SUB-THEME 6-3: TURNING LESSONS INTO ACTIONS

##### SAFE FORUM FOR DISCUSSION

*And I think being able to discuss it and highlight the issues to enable common learning around the incident, is very important. So it needs to be a forum that looks those like mortality/morbidity meetings or whatever it is, so that people can talk about this and ... feel safe in the process. But that what they bring up is taken seriously and get into consideration about how to best manage the process in future to*

*minimise those risks. So, things are changing slowly but that sort of culture change takes a long time. (Manager E)*

*I am actually thinking ... 'cause we have a ... meeting everyday with my team, and I actually like to start thinking that we could introduce like may be a 5 to 7-minute showcase, something that they've done well this week... and get learning that way. So whether we've chosen incident reports, we can health and safety the next, or something, but get people to start sharing it in an open forum would be great. (Manager J)*

#### PEER REVIEWS

*I've also done regular audits on the management of particular problems. I do an audit ... every 3 months for each group of [staff] ... I think that's the way of changing practice than someone filling in an incident form to say that someone's [work] wasn't very good. ... Well, I don't think you should ever audit anyone else. True clinical audit should involve the person whose management is being looked at. So I get the [staff] to look at each other's [work] and I'm there to discuss and guide. ... We involve [other department] and everyone learns. (Manager D)*

#### REGULAR AND MEANINGFUL INCIDENT FEEDBACK

*I think there is a whole lot of potential if we had an incident reporting process that reach a stage where the analysis and trending and feedback that we've got actually not only told us this is what we're doing, but actually said, you did this, with this happened, we did this and now we're actually seeing an improvement here. I don't actually see that, or we're not seeing an improvement here, we made this investment, what are we going to do to actually re-address this, because what we are actually doing is not working. So yeah, we need that feedback. (Manager H)*

#### SUB-THEME 6-4: INNOVATION FOR CHANGE

##### ADDRESS TASK FACTORS DUE TO WORKLOAD ISSUE

*I suspect one of the challenges is going to be ... how to manage the workload for all the ... staff on the ward. Because I know that, at the time the incident occurred we were quite short staffed, particularly of ... certified [staff] so ... the pressure on those remaining who were fully certified was considerably increased. So the main response, fundamentally is going to be to ensure that there are adequate number of ... trained [staff], or to change practice so that you limit the number of people actually having treatment on the ward at one time*

*and try to manage that workload better so that, ... the number of patients having treatment does not exceed the capacity that the [staff] to manage that safely. So may be that we just put limits on, say sorry we can't take another patient this day and have to be deferred. (Manager E)*

Solution: Staff capacity compatible with patient acuity

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#### ADDRESS TASK FACTORS DUE TO STAFFING ISSUE

*... may be if you look at, say for example, may be there are more falls between 9 o'clock and 11 o'clock at night in across [the department] than at any other time of the day. (Manager J)*

Solution: Alternative approach to rostering

*Then you have to ask why is that. And then you say, 'Well, if we have ... a 9 o'clock starting on the night shift, or a 10 o'clock starting at the night shift, then may be, which that would take care of that, ... and so we could look at staffing things differently or rostering differently or thinking just a bit outside the square probably. (Manager J)*

#### ADDRESS SYSTEMS FACTORS DUE TO INVOLVEMENT OF MULTIPLE DEPARTMENTS

*... the issue is bigger than just the clinical area. It's more a wider approach because that it affects not only [our departments], it affects [other department], it affects the manufacturer. (Manager F)*

Solution: Incorporate multiple perspectives

*It is always better face-to-face and usually when there are issues that are bigger than just one person, and that as soon as you sit down to get them to realise that everyone got their own problems then and it's just easier in person to sort it all out. And then a group like that, get*

*the key people involved and find out where the issues are, and then you could work through together and sort out because everyone can hear everyone else's problems, they are a lot more aware and more willing to help each other resolve it. (Manager F)*

#### ADDRESS SYSTEMS FACTORS RELATED TO ACTIONS OF OTHER DEPARTMENTS

*In the evenings when people are rushed, ... the supply process should have calmed down by about 4 o'clock, but we get lots of admissions to hospital in the evening, and then the doctors might not have got around to charting until later, and then all a sudden they want the [treatment] and they want them now. So that's sort of rushed atmosphere certainly helps. Our physical layout ... is certainly not conducive to good ... practice. It's cramped ... it's just not enough room for people to work well, the bench space is really minimal. The scans that come down from [other departments], the ... staff often scan them incorrectly and so they are crooked that you can't read them. They haven't got the patient label on them, or ... you can't see the patient label, all those contributing factors help to make an error. (Manager C)*

#### Solution 1: Involve stakeholders

[The procedure] improvement project has been taken up to the clinical board. We're trying to work with IS to develop ... an electronic discharge, improve ways of communicating with community providers around [the procedure]. We are also undertaking, well in the future we'll be undertaking some projects around quality improvement for discharge education and ... checks, so putting [technician] in the wards and to check every discharge. We're using a [staff] in a couple of wards to enhance information gathering around [the procedure] and to help discharge education for patients and that process picks up a whole lot of errors on discharge. (Manager C)

#### Solution 2: Reduce distraction

*... if it's a like sounding [object], we do things like highlight the [object] name or put the specific [object] in a slightly different place to the other one so that people aren't grabbing similar [object] off the shelf ... About highlighting to individual staff that are more likely to make errors of their need to follow thorough [the procedure] and checking process. ... So yeah, it depends on what causes it, that's the type of things we do. And constantly looking at reducing noise and clutter ... (Manager C)*

## THEME 7: ORGANISATIONAL LEARNING CAPABILITY

### SUB-THEME 7-1: RECEPTIVENESS OF STAFF

#### RECEPTIVE TO CHANGES

*If staff can see value in something, then they're usually pretty receptive to changing something. (Manager A)*

*But mostly the staff are keen to reduce falls because falls add to our workload. ... you've got to do full check on the patient, you've got to get the on-call house surgeon to review them. You've got to do all the documentation, you've got to ring relatives and tell them what happened. It takes a great deal of time out of your day. So and ... you've got to be investigated this why it happened. (Manager A)*

*If there is an accident or like a fall, then you talk to [the staff], and then you talk to her about the safety, and ... seems quite easy for them to understand and accept. (Manager B)*

*But certainly on the more personal basis they certainly accept what has been done and told. (Manager B)*

*... the staff are very supportive about making changes to improve because as far as a [production] error goes it's from a [professional] perspective certainly, ... if you have a [production] error ... people are mortified that they made that error. (Manager C)*

*It varies. If there are clearly safety implications from something that we request to change to address that, then usually people are very willing to do it. (Manager E)*

*... in general I would say people are very responsive to those sorts of issues because it clearly is a matter of patient safety. ... that's very high priority and there's no good reason why we should be resistant to addressing those issues. (Manager E)*

*I think it is always a working progress. There is always things that we can improve on, work on, and we're just constantly re-evaluating, and having a look. (Manager F)*

*I think at the end of the day in our hospital we're all wanting to have the best for the patients. It's quite a nice place to work because you know that as long as you got the patient's best interest ... in front of you, then everyone will, usually will agree with you. (Manager F)*

*In that particular incident ... was fantastic, everyone was absolutely thrilled now. (Manager H)*

#### RECEPTIVE BUT DISILLUSIONED

*... the staff are very supportive about making changes to improve because ... if you have ... [an] error, ... people are mortified that they made that error. And ... then they go through the whole sort of almost grief cycle where they're upset, and then they are angry that it occurred and angry that they're working in an environment that contribute to them making an error. So ... certainly supportive of change but at the same time hacked off that they are not working in a sort of more ideal environment. (Manager C)*

#### REJECTIVE TO CHANGES

*... people have the ability to actually discount the results of the investigation that you do. So they actually decided that's not the answers that I wanted, then they can just totally discount it, because [they] don't actually have that global overview of what's happening, then that can continue to happen. (Manager H)*

#### SUB-THEME 7-2: LIMITED SHARING OF LEARNING

*But, I don't think there is a lot of discussion outside the area really..., unless it's something that you are particularly concerned about that you go and chase up everybody else and see what they did. It tends to be something that we tend to be localised and probably don't talk about a lot outside. (Manager A)*

*No, I think that would be no. I think that we do not, unless I guess, it was a serious event and there were a number of services involved. (Manager B)*

*If we get an incident report from another service, they will send it to us. ... I then have to investigate that and send it back to her, but then I don't hear it more .... So, that would be the only time that I would have any cross service. But as far as learning or sharing goes ... I've never been involved in any of that. (Manager B)*

*Well that's the difficulty that I've just identified, I don't think that actually happens. ... I don't believe that in terms of the common everyday incident forms that come through, I don't think that that learning actually happens in... many services. (Manager H)*



## INERTIA IN LEARNING ACROSS ORGANISATION

*I expect the organization to take NOTE [emphasised by participant] of what is happening. Now I doubt that occurs, OK. I doubt that occurs, because there is never any feedback to me... I've got this little pile here for [my manager] today, I will send those away and there will be little word said. ... (Manager B)*

*But I don't have great faith in that system as far as recognising the number of errors and making changes. There's certainly the organization collects the information and does look at it on occasion. But, I don't sort of feel that we're actively looking at the incidents the errors and trying to prevent them. It's more about looking at the serious ones and how to prevent those rather the ones that are occurring on a regular basis. (Manager C)*

*I'm not sure that the hospital learns very much because at the moment what's recorded and fed back is the number of incident reports rather than the consequences of the incident reporting. So when the manager ... does the occasional presentation, ... talks about the volumes of incidents rather than the learning. I think with the more serious incidents when it goes to serious adverse event process there is more in way of organisational learning. (Manager D)*

*The hospital in general, I don't have a great deal of faith that the hospital learns anything. ... Quality and Risk basically get a copy of every incident form, but they don't necessarily get a copy of the outcomes of that incident form, and that's the piece that's missing. Because a whole lot of us are working a way probably trying to fix the same problem in a single area whereas we actually were able to work together in a bigger group would probably have a much more global and more successful outcome. But it isn't, we're ... working hard to fix up something that probably is only symptomatic of a greater problem. (Manager H)*

*I don't really have any faith in the hospital trending them or learning anything under our current system. I know we're in the process of developing new incident management, but I don't think we're there yet. We don't get any monthly report on the trend.... We don't get any feedback, so I don't know. What I'm seeing in my little patch of the wood is duplicated in every other patch of the wood, so we've actually got a forest of problems. So, I think that's a GAP [emphasised by participant], so I don't know that the organization has got the ability to figure that out just yet. (Manager I)*

*I guess, the performance ... the patient incident is where it's broken down, performance management comes after that. Does it help me learn? I guess you're learning all the time, somebody might do it differently somewhere else. So I think it's a good idea and I'll start do it as well, so, I have the ability to learn. I'm not sure the system set it up so that I do learn. (Manager J)*

*I don't know the hospital learns anything from the incident because we keep making them still. What does the organization learn? It's a very good question I have no answer, sorry. (Manager J)*

#### EXPECT ORGANISATION TO ACT

*Well, I guess the forms go off to Quality and Risk usually and get collated, and they tend to come up with patterns and trends. I guess from that I expect that they will notice particular trends like... these things happened more at night, these things happened more with staff numbers are down, that may be we need to look at staffing, that may be we need to look at equipment, that may be we need to look at staff: patient ratios, that sort of thing. (Manager A)*

*... my expectations of them is that they will notice those trends ... I should notice local impact, but they should pick up on those wider reaching things. And ... that they would then come up and say, or be able to go through the higher level of intervention, I guess, and put through suggestions at a higher level that hopefully would carry a bit more weight than just me on the ward saying I need more staff, or I need better equipment, or that sort of thing. (Manager A)*

*I suppose we're meant to fill out an incident report, so I hope it's recorded somewhere so that when it's constantly happening and you're constantly bringing up similar reasons for the error or whatever you're investigating that is recorded so that when you then put forward a case, you've got some sorts of evidence of this is actually happening, it's not just something that I'm making up. (Manager C)*

*I think probably about the challenges of managing workload and allocation of patients to staff and what are the relative priorities and being realistic about, ... how much time individual [staff] need with patients depending on what's actually happening with them. Are they having [treatment], are they having other things happening to them where they actually require regular input from [staff] that cannot be... changed and ignored or delayed or .... (Manager E)*

*So I would expect that with the incident management process that looking at investigation that the recommendations would go back to*

*the Director ... identifying the incident that occur, the reasons underlying it and, the changes and practice or management of [staff] wide across the institution that are recommended to avoid comparable problems occurring in other areas. ... and that the [staff] workload needs to be managed so that those tasks can be undertaken ... reliably and efficiently. (Manager E)*

*I don't think we do it well. I think we all rely on someone to do that. I know that, I'm thinking ... when we developed the ... poster for [a specific type of patient incidents]... And certainly Quality and Risk saw that and they facilitate and share that across the organisation so other people could use that. So I think for most part we rely on someone else to do that. (Manager F)*

#### SUB-THEME 7-3: WEAK MODES TO INTRA- AND EXTRA-DEPARTMENTAL LEARNING

##### INTRADEPARTMENTAL APPROACH

##### Departmental meetings

*It's frequently done with study days. It comes up at those sorts of thing, it comes up with ward meetings all the time. And we have interdisciplinary team meetings too ... and ... things are coming up regularly for discussion, and so yes, it's talk, talk, talk. (Manager A)*

*... what I used to do was every month I used to do the incident report collation, and so at a ward meeting we would talk about the number of falls, the number of skin tears, the medication errors and whatever ... (Manager B)*

*And we have [two groups of health professionals and separate meetings] and those types of errors will be discussed there to help prevent them, or how to support each other to make things better. (Manager C)*

*... once the issue is identified, then we talk with the [senior staff], and with the [staff] in general about balancing the priorities of different patients... (Manager E)*

*One is the management meeting which have all team leaders so anything like that I would bring up, inform them, ensure that they have got that information available. (Manager F)*

*And the other one would be the [department] senior nurse group within the department and, often I bring up things with them because*

*nursing is such a big workforce and it's good to get as much people informed as possible. (Manager F)*

*So every now and then you've got periodically going up and say to the [staff]..., sometimes you have to go out and do reminders to people. ... I go to their meetings and it's just generally communicated, sort of thing. I am not big on memos going out because a lot of people ignore them. (Manager I)*

*If it's for [this group of health professional], then it's at the unit meetings. So it might be that I get to the meeting each week and I'll say, 'This is happening, this was what I've done, you've got any suggestions that we could make this better, so it doesn't happen again.' And so it's more of a cooperative discussion to improve things. Run out of that we might say, so this is what we're going to do. (Manager I)*

#### Incident meetings

*And so each time I get an incident form, I track this in and ... I just collate the information per month so that at the end of each month I can make a little graph that show where incidents are. So each month at the [department] quality meeting we go through that and have a look at where incidents are, if there is any trend we are seeing, and that the graph information is put into our quality folder so we've got that each month. (Manager F)*

*In [our departments] we have a monthly incident reporting meeting, so once the incidents have been reviewed, the ones that, that they're grouped. So you've got your clinical incidents, you've got your infection control incidents, the health and safety and what not. And the ones that are identified as the ones that need further discussion within the group were actually discussed in a, in an incident form meetings and those are incidents which will actually start drive part of our quality plan for the unit. (Manager H)*

*Any significant incidents that may not necessarily be a serious event ..., may well then also be escalated to the business meeting which is our management group meeting, so they are discussed there, and so we actually then get a senior manager, nursing and medical view on things that we actually look at what we need to do further. ... (Manager H)*

*For the clinical managers..., we have a fortnightly meeting with them and we would bring up some of the incidents of those ones, say this happened in the [that department] and this is what they have done,*

*this might be useful for you in [your department] because if something that could get happen everywhere it's really effective be able to put this process in place. (Manager I)*

Cluster meetings for managers

*It tends to be something you discuss with other [clinical managers] at the cluster meetings... (Manager A)*

*We have regular unit manager meetings for [our service] and, plus we have the patient bed management meeting for a whole lot of other services come in. (Manager G)*

*... once a week [our service] have a meeting with [three other] unit managers ... because we have that sharing of going through [the same department] and coming back out again get our patients. So a lot of our things were about processes there. ... we'll talk about incidents. ... (Manager I)*

*I have a very good relationship with my colleagues in [other services] and [other unit managers] and so I have no problem talking to people about how I do this or ways we can do it better. (Manager J)*

*And so we have a regular meeting..., I meet with my colleagues regularly, and certainly, on a monthly basis all of their [clinical managers] and my [clinical managers] meet and so we go over things and discuss things. (Manager J)*

One-on-one conversion

*... sometimes it's done at hand-over. Sometimes, it's just done at one-to-one basis with the people involved in the incident. (Manager A)*

*Generally what I'll do with the incident reports is I talk directly with the nurse...and the people involved. (Manager B)*

*... at individual level, just to get back to people to say, 'How's it going since I spoke to you, have you had any more issues?' And they might say no or yes, so it's sort of like making sure that there's a feedback loop to say well, we changed this, hasn't it actually worked, so just try to close that loop in it. (Manager I)*

Education sessions

*... getting people to come in and talk about what were the issues and what wasn't the issue. (Manager A)*

*If that look like it was a bigger issue, I would talk to the educator and we would set up some kind of education if that was what was required. (Manager B)*

Written communications

*... putting things in the communication book, , and documenting around the ward. We have a big focus board that, sort of, ... this month's highlighted area... (Manager A)*

*Or sometimes a staff member will indicate that this is an area that they feel quite passionately about, so one of them will take it on and they will come up with a focus board on, you know, "why do you think you fell". (Manager A)*

Extra-departmental approach

*...if you are using a specialist from some other area... then they tend to come to the meeting as well and do their own discussions. (Manager A)*

*We provided in-service education to [departments] around ... typical errors. We've got for example at the moment ... improvement project. We've done similar projects in the past. We present in grand round on ... annual basis on errors ... and interventions that we picked up. And we also presented on several occasions to the clinical board, [committees]. So we're trying to get the message out, sort of all over the place. (Manager C)*

*And we also do things like audits, we'll present the results internally and present the results to conference, you know like at a conference level about how, what we did to change certain behaviour or certain ways of doing things. (Manager C)*

*... what I've done is I made my audit tools available to other people. ... I used to provide some advice on how to do audits, how to change practice. (Manager D)*

*So if it was something around respiratory equipment or something like that, then we would hopefully, ... through the repair workshop and things like that where we might start to identify that we've got a common problem in a piece of equipment. (Manager H)*

*... a lot of the times we will try off something in an area, and then we will expand it out to other areas, and at the moment, they're trying that handover project, then they'll instigate that across all the areas. So, yeah, it's probably, depends on the incident (Manager G)*

*But involving Quality and Risk, having meetings with all the key stakeholders and, just raising their awareness of the issue, because often they are common to all. (Manager G)*

#### SUB-THEME 7-4: LOSS OF KNOWLEDGE

##### Loss of knowledge

*There is the hassle too of the turnover of staff, I guess too, in that as you get something up and running, you change staff, you change teams ... So there's that constant changing of personnel as well, we're a fairly mobile workforce. So, those all sort of implicate a big time of how you work it all out. (Manager A)*

*One of the problems though is how we maintain that awareness because there's a relatively high turnover of junior [health professionals] on the ward ... (Manager E)*

##### Retention of staff

*... decision need to be made at senior management level so ... that with strategy in place to increase the [health professional] workforce need to be addressed. Like ... bonding newly graduated ... and paying off their student loans ... or something like this to actually improve retention and recruitment ... And, while that might seem a bit of a stretch to say, well, there is an incident here, why did you need to go all the way back here. The reality is sometimes that is the fundamental response that is needed, say we need to address workforce, training, recruitment and retention issues because otherwise this and many, many, many other incidents occur which fundamentally you can't prevent without an adequate number of people on board. (Manager E)*

## APPENDIX 10: SUMMARIES OF INCIDENTS

### INCIDENT OF CLINICAL OBSERVATION

#### Manager's comments

- No senior leadership available
- Coordinator taking workload as well as coordinating
- No care plan in relation to observation requirement
- Standard practise was applied if no specific plan is provided
- No clinical guidelines for outliers

#### Key issues identified by managers

- Patient was an outlier
- Insufficient staff to meet the staffing matrix
- No communication on actions if deterioration of patient

#### Recommendations

1. For outlier in another ward
  - Develop guideline
  - Educate staff on new guidelines
2. Insufficient staff
  - New process of care in place
  - Review out of hour leadership role
3. No plan if an outlier deteriorated
  - Discuss with medical team
  - Discuss with staff on reporting of patient's condition

### INCIDENT OF DELAY IN SEEING PATIENTS

#### Manager's comments

- Spoke to staff involved
- Examined the patients' notes

#### Actions

- Feedback to incident reporter by a letter.
- Suggested to communicate concerns to the staff's manager immediately.
- Report was signed off.

### INCIDENT OF PATIENT FALL

#### Manager's comments

- Repeated falls
- Special watch (when available) was present
- Patient was confused



- Occurred during handover or when less staff were available

#### Actions

1. Followed restraints and falls policy
2. Documentation
3. Special watch when resources available
4. Discussed with staff

### INCIDENT OF DISCREPANCY OF ID LABEL

#### Manager's comments

- Checked medication was correct for the right patient
- Consulted the medical staff before administration

#### Causes

- Prescription was faxed to supplier
- The alphabet on the ID label was not prominent.
- Due to computer glitch.

#### Actions

- Discussed issue with another department.

### INCIDENT OF INCORRECT MEDICATION PROCEDURE (2 REPORTS)

#### Manager's comments

- Two staff discover the error
- New staff forgot steps of procedure

#### Actions

- Checked prescription and medication register
- Provided written information to staff
- Remind staff about correct procedure
- Discussed with the staff

### INCIDENT OF UNAVAILABILITY OF HOSPITAL BEDS

#### Causes

- Communication issues

#### Actions

- Review information
- Provide documentation to the department involved

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