

**CULTURAL MANAGEMENT SYSTEMS AND FRAMEWORKS ON
PATIENT SAFETY MANAGEMENT**

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ABIODUN, OLADUNNI ROSELYN: Cultural management systems and frameworks on
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ABSTRACT

The incidence of adverse events in healthcare is a global problem with negative consequences for all stakeholders including patients, their family members, health professionals and the government. Patient safety and patient safety culture lie at the heart of all adverse events within healthcare settings. The culture of an organization determines its approach to problem solving and determines how individuals within that setting work; this is also true for patient safety culture and the reduction of adverse events within healthcare organizations.

The aim of this study was to assess, identify and have a better understanding of the importance of patient safety culture within the healthcare organization and to create insights on the impact of cultural management systems regarding patient safety.

The research method of this thesis is an integrated literature of the patient safety culture and perspectives of healthcare workers, assessed using the Modified Stanford Instrument (MSI) and Manchester Patient Safety Framework (MaPSaF). Due to lack of research in healthcare, a study of MaPSaF in New Zealand was analyzed.

Analysis of the data revealed that health professionals working in the same organizations have differing opinions on the same topic; therefore, there is need for open communication and a systematic approach to establishing the right safety culture within healthcare organizations.

In conclusion, establishing the right culture and having systematic ways of measurement enable improvements and the ability of organizations to learn from their mistakes. There is paucity of data with respect to the use of these tools in the respective countries (Canada and United Kingdom) despite the fact that the tools are the national tools established through rigorous research.

There is need for further research and publication of such research to enable learning in the area of patient safety, which will reduce the incidence of adverse events and associated consequences in healthcare organizations.

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1 INTRODUCTION

1.1 Background

Apparently, many patients worldwide suffer from disabilities, injuries or even death due to medical errors. A report published by World Health Organization (WHO 2017), states that a patient is hurt every thirty-five seconds in the process of receiving care in the United Kingdom, while in the United States, medical errors constitute one third of the deaths that occur annually. The WHO stated the existence of an adverse event rate of about 10 percent; this means that one in every ten-hospitalized patient experiences some level of adverse event, fifty percent of which is preventable (WHO 2017). In 2002, Commonwealth Fund studies revealed that 25 percent of patients disclosed that in the past two years, they had experienced some level of medical error (Blendon, Schoen, DesRoches, Osborn & Zapert 2003). Any undesirable outcome in the provision of care to patients that arises because of the care received by the patient and not the patient's underlying disease is referred to as an adverse event (The Institute of Medicine 2000). Consequently, patient safety has been described in terms of adverse events and iatrogenic incidents in hospitals (Ilan & Donchin 2012). Iatrogenic events are unintended adverse events experienced by patients as a result of receiving care from healthcare professionals. Iatrogenic illness is very common in hospitals (Forster, Dervin, Martin & Papp 2012).

The term 'safety culture' is a term that premiered in the 1987 Organisation for Economic Co-operation and Development (OECD) Nuclear Agency report (INSAG 1988) regarding the April 1986 Chernobyl disaster. Ever since, the term has become a frequently used term with varying definitions (Gartshore, Waring & Timmons 2017). According to the Advisory Committee on the Safety of Nuclear Installations health and safety executive (ACSNI 1993), safety culture is regarded as 'the product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determines the commitment to, and the style and proficiency of an organization's health and safety management' (ACSNI 1993).

The concept of culture is usually discussed (Keesing 1981) and 'early anthropologists claimed that there is no culture without humans, but more importantly no humans without culture' (Geertz 1973). According to Hofstede, 'culture can be regarded as a collective memory of a group and by applying memory to culture, it certainly means that culture can actually be learnt.' (Hofstede 2001).

Patient safety culture, which is also called patient safety climate, is an overall behaviour of individuals and organizations, based on common beliefs and values (Nieva & Sorra 2003; Ronald 2005). Reduction of possible injury to the patient at the lowest level in the service procedure through hard efforts. Related research shows that positive patient safety culture could promote patient safety (Hellings, Schrooten, Klazinga & Vleugels 2007) and could aid the improvement of an organization with safety behaviour, including reporting little errors, self-reporting errors, safety behaviours, safety audit rating (Zohar 1980; Lee 1998; Clark 1999; Zohar 2000; Mearns, Flin, Gordon & Fleming 2001).

Until now, many countries have introduced patient safety culture research, especially in the developed countries (Ronald 2005; Smits, Christiaans-Dingelhoff, Wagner, Wal Gvd, Groenewegen 2008; Haugen, Søfteland, Eide, Nortvedt, Aase, & Harthug 2010; Sorra & Dyer 2010; Hammer, Ernstmann, Ommen, Wirtz, Manser, Pfeiffer & Pfaff 2011; Ito, Seto, Kigawa, Fujita & Hasegawa 2011). On a global basis, several international organizations have significantly contributed to the promotion of the culture of patient safety, such as the World Alliance for Patient Safety, the National Patient Safety Agency (NPSA) in the UK, and the Agency for Healthcare Research and Quality (AHRQ) in the USA to mention but a few (Nie, Li, Ning, Hou, Huang & Zhang 2011).

A number of adverse events occur within the settings of a healthcare organization, the key ones include “hospital-acquired infections, adverse drug events, surgical complications, system errors, diagnostic errors, treatment errors, obstetrical injuries, procedure complications and anaesthesia related injuries” (Brennan, Leape, Laird, Hebert, Localio, Lawthers, Newhouse, Weiler & Hiatt 1991; Wilson, Runciman, Gibberd, Harrison, Newby & Hamilton 1995; Thomas, Studdert, Burstin, Orav, Zeena, Williams, Howard, Weiler & Brennan 2000; Vincent, Neale & Woloshynowych 2001; Davis, Lay-Yee, Briant, Ali, Scott & Schug 2002; Baker, Norton, Flintoft, Blais, Brown, Cox, Etchells, Ghali, Hebert, Majumdar, O’Beirne, Palacios-Derflingher, Reid, Sheps & Tamblyn 2004; Forster, Asmis, Clark, Saied, Code, Caughey, Baker, Watters, Worthington & Valraven 2004; Forster et al. 2012). Many of these events are due to various forms of oversight from different departments or personnel which tends to have some type of ripple effect on the end users, which in this case are usually the patients.

The study of medical errors and adverse events has long featured an epidemic of issues relating to patient safety within a given health care system (Baker et al. 2004). Despite the

high level of technical and skills advancements taking place in health care, several patients are still being affected by various levels of injuries. Reports have shown high numbers of adverse events, for instance, 100,000 to 500,000 adverse events occur annually with 15,000 to 20,000 leading to deaths (Milne & Lalonde 2007); resulting in a loss of \$300 million to \$1.5 billion Canadian dollars (CAD) per year (Vincent 1998). An estimated 7.5% of patients who sought care in Canadian hospitals experienced an adverse event (Law 2011), 36.9% of which were preventable (Baker et al. 2004; Law 2011). According to the National Health Service (NHS) patients admitted to a hospital experiences an adverse event, with an accompanying cost of £2 billion annually. Also, 10% of hospital admissions result in an adverse event and half of these events are deemed preventable (Department of Health 2000). Thirteen (13) percent of admissions in hospitals leads to an adverse event, 2% of which leads to death or permanent disability (Robb & Seddon 2010). Also, studies unveiled a rate of 16.6% adverse events amongst hospital patients (Wilson et al. 1995). Likewise, studies administered in acute care hospitals found the adverse event rates to be 11.7%, 9.0%, 12.9% and 7.5% respectively (WHO 2004).

Adverse events may be a result of individual errors, health system design errors or risks inherent in the care being provided to the patient (Forster et al. 2012). While individuals can be the agents through which harm happens to others especially within a healthcare setting, Reason (1997) believes that weaknesses in systems are responsible for harm to individuals/patients within most healthcare settings. A lot of attention has been paid to the burden of errors caused by doctors to their patients.

However, while the incident of errors to patients by doctors has been reportedly high, Milne and Lalonde (2007) opine that the incident of adverse events to patients is not exclusively caused by doctors. Consequently, the Canadian Nurses Protective Society stated that in Gynaecology and Obstetrics, 21% of the legal cases involved perinatal nurses (Milne & Lalonde 2007).

Adverse events can also be caused by occupational factors like the prevalence of unsafe conditions that affect the ability of healthcare workers to work effectively, efficiently and affects their ability to provide consistently safe services to their patients. Fatigue in healthcare workers was implicated in negatively impacting on patient safety within healthcare settings (Yassi & Hancock 2005).

Reductions in errors during the process of care provision by healthcare organizations lead to improvements in patient safety (Zboril-Benson & Magee 2005). However, a system that is reactive to safety, responding only when incidents have occurred is not safe. Hospitals in Canada for example, focus on measuring and managing a predefined set of outcomes which enable the use of feedback to inform improvements and practice to manage patient safety through incident reporting (Waring 2009).

In recent years, the world has realized the impact of patient safety problems in health care organizations and has been responding with great endeavour to tackle the issue (Johnstone & Kanitsaki 2008). A landmark 1999 report issued by the Institute of Medicine, “To Err is Human:” Building a Safer Health System on patient safety, came to the centre of the world's attention (Kohn, Corrigan & Donaldson 2000). According to Brickell and McLean, an estimated 44,000 to 98,000 people die every year from medical errors that occur in U.S hospitals, more than those that die from motor vehicle accidents, breast cancer, and acquired immunodeficiency syndrome (AIDS) combined (Brickell & McLean 2011).

The objective of the study is to determine and draw a fundamental inference on how cultural management systems and frameworks on patient safety management occur in both Canada and United Kingdom with the use of Manchester patient safety framework (MaPSaF) and Modified Standard Instrument (MSI) assessing instruments respectively.

The development of patient safety culture is an integral aspect in the provision of essential services to patients. With this assessment, providers of healthcare can fully identify the fields that need improvement in patient safety culture assessment.

1.2 The aim of the study research

The overall objective of this study is to create insight and highlight inherent lessons where possible, of the impact of cultural management systems and frameworks on patient safety management, by assessing the cultural systems/frameworks that underlie the management of patient safety.

The vital aim of this study is to answer the question: What is the importance of safety culture, frameworks and management systems in patient safety within the healthcare system? In conducting this study, I hope to achieve the following aims:

- i. To assess a study that measures patient safety using the Modified Stanford Instrument (MSI)
- ii. To assess a study that measures patient safety using the Manchester Patient Safety Framework (MaPSaF)
- iii. Highlight the importance of management systems or frameworks in the management of patient safety

We have all been patients at some point in time in our lives and as any living organism ages, we will always need a certain level of healthcare-right from conception till the very end. The current global pandemic Coronavirus disease (COVID-19) is proof that systems and frameworks within patient safety management will always be an immense area in which health organisations cannot afford to take sparsely or be caught being lackadaisical.

Customer satisfaction is always the forefront of any business organisation since they (the customers) are the ones that keep the business afloat and without them, businesses cannot make a return on their investments which could eventually lead to bankruptcy or a complete business shutdown. Patients are the customers of healthcare organisations-in this case, the wellbeing and health of the individuals are paramount and highly crucial, without them it will be impossible for any health organisation to succeed.

Patient safety management has always aroused my interest most especially now that the world is fighting an invincible terror called Coronavirus disease (COVID-19). Extra precautionary measures are being put in place in order to protect human lives, most especially those that have some underlying medical conditions (asthma, cancer, heart or liver disease, pregnant women just to name a few). These individuals are already susceptible to the virus that causes COVID-19 and as such, their safety and that of those issuing the healthcare service must be well protected at all cost.

There is a coalition between this topic and health and business which I am currently majoring in, my academic goal is to deepen my knowledge within the topic area and find ways of improving both research and analysis skill set.

1.3 Key Concepts of the Study

The main key concepts for this master's thesis study include cultural management systems, patient safety management. These terms are defined below with regards to their meaning in the thesis study.

1.3.1 Cultural Management Systems

Cultural management systems is best described as “A pattern of basic assumptions – invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration – that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems”(Schein 1992).

It is estimated that the world's population is currently at over seven billion according to the United States and World population clock index (<https://www.census.gov/popclock/>). The above definition reiterates the essence of culture in any given society and the high level of importance it has in an organisation such as the healthcare system which usually consist different nationalities within its workforce.

1.3.2 Patient Safety Management

According to Macchi, Pietikäinen, Reiman, Heikkilä and Ruuhilehto “Patient safety management is composed of various types of organisational procedures. The procedures are fashioned for diagnosis, classification and management of risk for an organisation's safety as well as protection against dangers. Moreover, they are regarded as a general part of the organisation's risk management” (2011).

Research has shown that team leaders or supervisors within the healthcare sector plays a critical role in patient safety maintenance in order for the unit they manage and ensuring that effective models of leadership are probably applicable (Flin & Yule 2004).

The area of managerial leadership and safety has not been studied as much within the healthcare sector compared to the industry sector but is just as important. It is only the senior officials that can adequately direct the efforts within their healthcare organisations in order to promote the growth of culture and commitment that is highly needed to address the hidden causes of medical errors and harm to patients (Botwinick, Bisognano & Haraden 2006).

In the past, patient safety management was basically concerned with recognizing and averting various forms of mistake. Since the 1990's, various research have been executed for

diagnosing factors which can have compelling effects in error creation and making problems in reporting the case (Chiang & Pepper 2006).

1.4 Thesis structure

The thesis comprises six chapters, as follows.

Chapter 1 (Introduction): It is about the general introduction of the topic. Where the concepts of safety culture and adverse events within the healthcare system of some countries was analyzed.

Chapter 2 (Theoretical background): Framework tools assessment of patient safety culture is fully discussed alongside MSI and MaPSaF instruments were also explained. Levels of patient safety culture was discussed and the stages of 3-layered model was also examined.

Chapter 3 (Methods and materials): This chapter examines the integrated literature review, data retrieval and search strategy that was used for the thesis work. Articles that were chosen for the assessment was also stated.

Chapter 4 (Results): This chapter describes the outcome of the comparison between MaPSaF and MSI. The dimensions of both assessment tools was described and the score points that the various medical staff gave each assessment instrument was described.

Chapter 5 (Discussion): The result from chapter 4 were discussed and analyzed in this chapter.

Chapter 6 (Conclusion): The conclusion with reference to patient safety culture was described. This chapter also states the need for more published works to be carried out as well as the importance of survey instruments in the healthcare.

2 THEORETICAL BACKGROUND

2.1 Organizational Culture

In earlier works, Deal and Kennedy (1982) defined culture as the principles and values that a group articulates, makes known to the public and tries to achieve. However, culture as a climate was defined by Schneider (1990) as the way people express their feelings within an organization and the type of interaction that goes on within members of an organization and its customers. A similar perspective to the definition of culture is the one adopted by Geertz (1973) who opined that culture as a shared meaning refers to the understanding that exists between members of an organization as a result of their interaction with each other. A more general definition of culture is the one proffered by Schein (1992) who defined culture “as the way of thinking (previously successful and proven to work) adopted by members of an organization while trying to solve problems.” This validated way of thinking becomes the norm and is taught to new members of the organization as the way things are done in that organization, becoming the shared system of belief and meaning. Schein (1992) proposed that culture can be depicted using a 3-layered model as shown in figure 1.

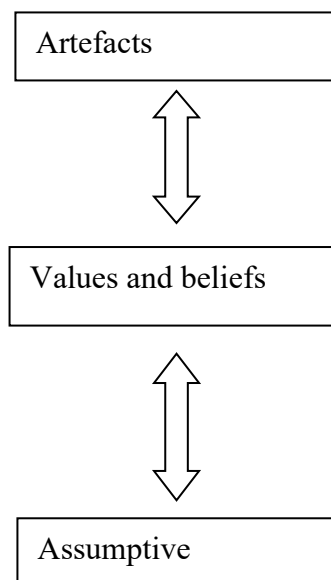


FIGURE 1: Depiction of culture using 3-layered model (Schein 1992)

Different from the 3-layered model proposed by Schein (1992), is the cultural web proposed by Johnson and Scholes (1993). The model by Johnson and Scholes (1993) has three additional components (stories, power structures and symbols) in addition to the components (artefacts, values and beliefs and behavioural routines) found in the layered model proposed by Schein (1992). The main difference between the two models is the fact that Johnson and Scholes (1993) opine that the components of culture are intertwined in a web. Another difference between the two models is that while Johnson and Scholes (1993) perceive leadership as the power structure of an organization, Schein (1992) sees leadership as the source of values and beliefs in an organization.

Cameron and Quinn (1992) categorize culture into four types: the clan, development, market and hierarchy culture respectively. Cameron and Quinn (1992) postulate that the culture of an organization must be established as the extent to which it supports the organization's ability to achieve its goals and objectives is instrumental in determining the direction, behaviours, values and beliefs the organization needs to attain if the organization is to be effective and manage its performance positively/productively.

More recently, Westrum (2004) describes culture as "the organization's pattern of response to problems and opportunities it encounters" and identifies three types of culture: "pathological, bureaucratic, and generative" as shown below in table 1.

Ron Westrum (2004) recommends that the most immature stage of any organisational culture is the pathological stage where the information is usually concealed, latest innovations are quashed and deficiencies are normally swept under the rug. While a more mature organisational culture tends to have a rather developed system that can manage the flow of information-the bureaucratic stage is usually where various information is collated but could be ignored, sharing and learning are usually accepted but not necessarily supported (2004).

The generative stage of the organisation exhibits a rather more advanced level of cultural maturity. The information is usually needed and welcomed, staff members are well trained, should there be a case of any failure, a full investigation is made instead of cover-up and blame (Westrum 2004).

TABLE 1. Types of culture (Westrum 2004)

	Pathological	Bureaucratic	Generative
Power structure	Power oriented	Risk oriented	Performance oriented
Leadership style	Pre-occupied with personal power, needs and glory	Pre-occupied with rules, position and department turf	Focus on the organization's mission not on position or individuals
Information flow	Information hoarded for political reasons	Information languishes due to bureaucratic barriers	Information flows well, elicits prompt and appropriate responses
Response to failure	Scapegoating	Justice	Inquiry
Approach to innovation	Innovations are crushed	Innovation leads to problems	Innovations are implemented
Attitude to risks/responsibilities	Responsibilities are shirked	Responsibilities are narrow	Risks are shared
Attitudes to messengers	Messengers are shot	Messengers are neglected	Messengers are trained
Cooperation levels	Low cooperation	Modest cooperation	High cooperation
Leaders attitude to organization's mission	Alignment with a person's or clique's interests over other loyalties	Alignment with personal/unit's mission takes priority over organization's mission. Focus is on department interest	Complete buy in and dedication to the achievement of the mission
Use of empowerment	Empowerment used for personal performance	Empowerment used for departmental performance	Need empowerment for maximum performance

The leaders within an organization or a unit of an organization, determine the culture of the setting within which they lead based on their priorities, which in turn influences the behaviour and responses of the work population in that organization. While the way that people in an organization think, their emotional responses and actions, form the culture of that organization and how they respond to events in that organization. Another factor that influences organizational culture is the way information flows within that organization; information flow determines response time and type (Westrum 2004). Table one (1) highlights the different responses within an organization dependent on the prevalent culture and leadership within that organization.

2.2 Safety Culture and Patient Safety Culture

The Advisory Committee on the Safety of Nuclear Installations (ACSNI) defined safety culture as a “product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine commitment to, and the style and proficiency of the organization’s health and safety management” (ACSNI 1993).

“Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventive measures.” (Vincent 2006; Vincent 2010).

Previously, the description of how and why adverse events and medical errors happens focused on the individual’s human error. The inclination to blame individuals perpetuated a culture of punishment and individual accountability among medical professionals (Weinberg 2002). However, because of the heightened attention toward improving patient safety over the past decade, health authorities have looked to the safety science literature to help explain safety culture and provide direction for creating safety management systems (Flin 2007).

In the safety science literature, there is a spotlight on the culture of safety as a starting point from which a safer system can be created. The WHO has defined patient safety “as the reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum” (WHO 2009). Some professionals opine that patient safety is a factor of the priorities of an organization’s leadership as well as the component units that make up that organization (Zohar 2000).

The safety culture of a health care organization is an encompassing concept that is drawn from high reliability organization theory. It has been most notably translated by Reason (1997) and Weick and Sutcliffe (2001) into guiding dimensions and constructs. This focus on the culture of safety is linked to Reason’s description of the “Swiss Cheese” model as shown in figure 2. The concept depicts the idea of multi-causation to describe how the interaction between numerous organizational and individual layers result in structural holes; the alignment of these holes at one time subsequently allow for an error to occur.

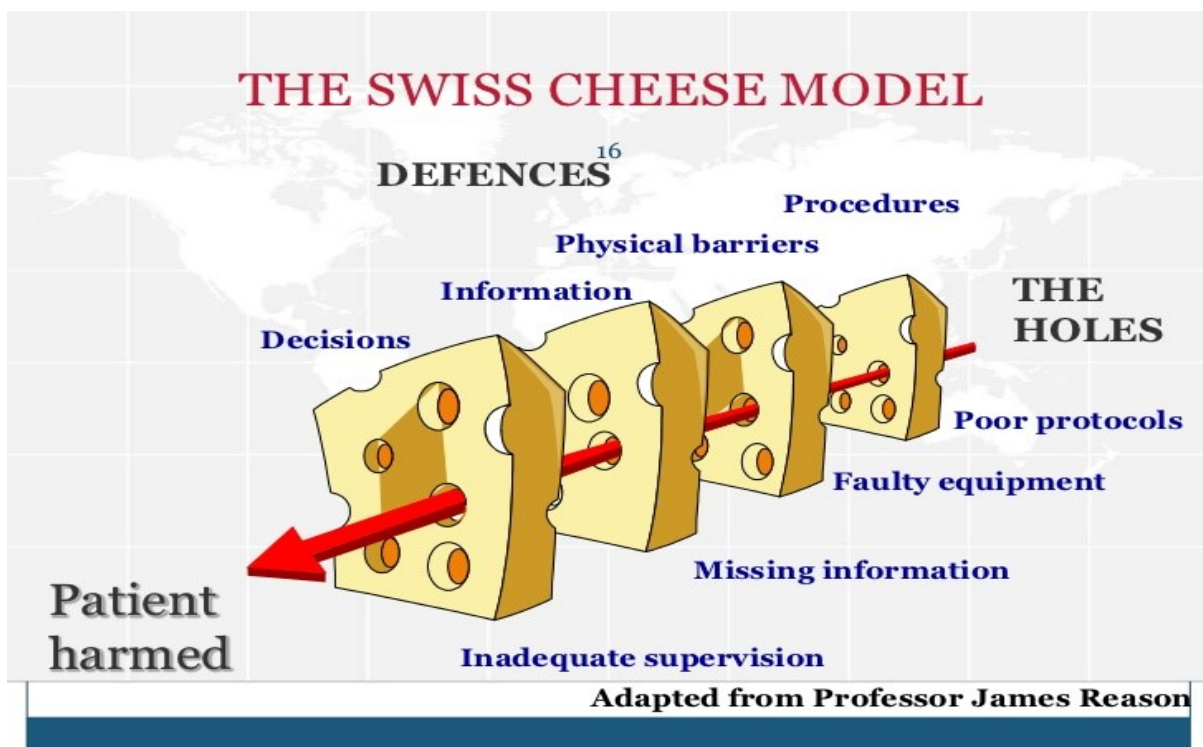


FIGURE 2: Reason's Accident Causation Model (Reason 1997)

A lot of these characteristics are not as evident in a health care environment because of the variable nature of the tasks and work. However, Vincent (2010) surmises that hierarchies in health care, because of its embedded varying professions, can lead to relationship problems which are complicated by status and power; leading to problems in applying some of the concepts from high reliability organization (HRO) such as deference to expertise (Weick & Sutcliffe 2001). A drawback to achieving high reliability in the health care sector hinges on the fact that failed processes are exclusively characterized as “non-catastrophic events,” which does not result in massive suffering or loss, given that most of the events only tend to

affect one individual. Hence, low events of reliability are generally accepted and remain unquestioned (Resar 2006).

Complementary to the research by Reason (1997), Weick and Sutcliffe (2001) outlines concepts of mindfulness that create a culture of safety. According to Weick and Sutcliffe (2001), mindfulness is seen in five core characteristics of high reliability organizations. These core characteristics are preoccupation with failure, reluctance to simplify, sensitivity to operations, commitment to resilience and deference to expertise. All of which need to be integrated within the everyday work of the organization in order to facilitate optimal safety management and propagate a culture of safety.

After viewing these foundational theories, researchers recommend that HRO theories should be practiced in health care given the resemblance in practices and procedures that have emerged with the “dynamic, the variable and the unexpected” (Vincent 2010). An immense level of HRO theory and practice is carried out in an environment that can be viewed as highly disciplined in nature and is centred on strict training and adherence to procedures, routine and protocols (Reason 1997; Vincent 2010). Therefore, prior to administering concepts and theories from HROs, it is vital to examine the differing nature of health care organizations in similarities to HROs (Vincent 2010).

A different approach to safety culture is the one adopted by Westrum (see table 1 on page 10). Westrum (2004) categorizes safety culture based on different types of organizational responses to opportunities or threats: “pathological” (not open to new ideas, rife with cover-ups and scapegoating), “bureaucratic” (adopts a laissez faire attitude to information, is lenient and believes that new ideas lead to issues) and “generative” (seeks out information, investigates and learns from past challenges, trains reporters to report opportunities or threats and are open to new ideas).

With advancements in the study of patient safety, the influence of staff perception on safety behaviour has become more apparent (Snijders, Kollen, van Lingen, Fetter & Molendijk 2009; Kagan & Barnoy 2013), in addition to its impact on patient outcomes (Hofmann & Mark 2006; Singer, Lin, Falwell, Gaba & Baker 2009; Mardon, Khanna, Sorra, Dyer & Famolaro 2010; Haynes, Weiser, Berry, Lipsitz, Breizat, Dellinger, Dziekan, Herbosa, Kibatala, Lapitan, Merry, Reznick, Taylor, Vats, Gawande, Safe Surgery Saves Lives Study Group 2011).

Organizational culture determines how things are done in an organization (Schein 1992) and provides the vehicle for socially controlling behaviour in that organization (Zboril-Benson & Magee 2005). It is established that in other high-risk sectors, a focus on safety culture led to improvements and resultant decreases in the prevalence of adverse events (Weick & Sutcliffe 2001; Hudson 2003).

Furthermore, a direct correlation has been found between health workers' perception of safety and satisfaction levels of patients' family members (Dodek, Wong, Heyland, Cook, Rocker, Kutsogiannis, Dale, Fowler, Robinson & Ayas 2012) and that of patients (Sorra, Khanna, Dyer, Mardon & Famolaro 2012). This influence however, is not always positive (Lempp & Seale 2004).

In healthcare, every initiative to improve patient safety by organizations in different countries for example the National Patient Safety Agency in the UK and the Canadian Council on Health Service Accreditation in Canada, features safety culture as a recurring factor in the achievement of desired outcomes (Fleming 2005). Safety culture has been shown to have a positive impact on patient safety in healthcare because it enables healthcare professionals make choices that enable patient safety (Nieva & Sorra 2003).

Additionally, safety culture is rather crucial, as it determines ease of communication, incident reporting and the ability to question colleagues or authority (Zboril-Benson & Magee 2005; Helmreich & Merritt 2017), all of which enable the reduction of adverse events and the propagation of a positive culture. As researchers continue to explore culture as a way of improving patient safety, its importance cannot be over emphasized.

Law (2011) also opines that “to improve safety in a system, there is a need to examine the prevalent culture within that system as opposed to focusing on individuals within the system.” Consequently, improving patient safety in healthcare requires cultural change within the healthcare sector (IOM 2000; CPSI 2004; NPSA 2004; Fleming 2005).

Lee, Wung, Liao, Lo, Chang, Wang, Fan, Chen, Yang & Hou (2010) states that “patient safety culture is typically defined as the shared attitudes, beliefs, values and assumptions that underlie how people perceive and act upon safety issues within their organization.”

Another critical and pivotal part in the provision of quality care is patient safety (Doyle, VanDenKerkhof, Edge, Ginsburg & Goldstein 2015). However, the prevalence of errors and

the attitude to them has made the healthcare industry across many countries reactive and conducive of errors with a high but unacceptable margin for errors. This was also accentuated by the isolated approach to analysis of past incidents, where a clear picture of the overall impact of each individual incident on patients and the sector at large was lacking (Law 2011).

The paper by Kohn, Corrigan and Donaldson (2000) brought to limelight the prevalence of high morbidity and mortality rates as a result of adverse events in healthcare; making the healthcare sector a high-risk sector with the need for safe practices and triggered the beginning of research in this area. However, prior to this, the WHO in 2005 published three documents which elucidated the need for involvement in patient safety culture research (WHO 2005; 2006; 2009).

Several approaches or concepts have been used to define safety culture in health care (Colla, Bracken, Kinney & Weeks 2005; Fleming 2005; Flin, Burns, Mearns, Yule & Robertson 2006; Sexton, Helmreich, Neilands, Rowan, Vella, Boyden, Roberts & Thomas 2006). Safety culture is perceived by some healthcare providers as the way problems are responded to (Westrum 2004).

Provision of safe and quality care is very important within the healthcare system. The prevalence of these adverse events to patients, has led to the need for improved measures towards patient safety (Yassi & Hancock 2005). To be able to achieve improvements in safety in healthcare, the context within which care is provided should be examined. This includes the values, attitudes and beliefs (culture) that influence behaviour in the settings of healthcare organizations (Robb & Seddon 2010).

Carrying out surveys for example survey of culture, enables an assessment of performance, identification of gaps in service provision, evaluate interventions, record changes in the organization and compare its performance to that of other similar organizations (Robb & Seddon 2010). Additionally, the need for involvement and commitment across board from leaders, through physicians to the staff of healthcare organizations cannot be over emphasized, if desirable goals are to be achieved (Zboril-Benson & Magee 2005).

Concentrating on safety science research has contributed some level of direction to health care leaders and researchers regarding the fundamental aspects to consider for improving safety culture. Nevertheless, a void remains in our understanding of the most appropriate methods of studying, appraising and finally making some culture adjustments. There is a

crucial need to tackle this void, given that applied efforts are ongoing to accomplish safety culture change. Although some researchers have only suggested a couple of intuition as to how to oversee and estimate the changes of this nature (Nielson 2014; Kohn, Corrigan & Donaldson 2000).

Over time, the importance of a way of improving patient safety in healthcare has been articulated by different professionals (Kohn et al. 2000; Battles & Lilford 2003). Safety culture is important because the culture of an organization influences the behaviour of members of the organization and determines the “stories, rituals and languages” of that organization (Zboril-Benson & Magee 2005).

Reason (1997) opines that a combination of inactive but already existing conditions and active failure is the main cause of accidents; his reports has been impactful in the development of patient safety culture in the acute hospital sector.

In developed countries information technologies are increasingly being used in healthcare to improve patient safety. Studies have shown that Computerized Physician Order Entry (CPOE), especially when combined with Decision Support System, tends to improve patient safety (Ball & Douglas 2002). Sadly, several resource constrained countries have a shortage of these technologies; hence these countries are left with no choice but to set up a patient safety culture within the health care organizations so that some level of patient safety and quality of patient care can be attained.

Patient safety culture when broken down to its component parts, is made up of how learning occurs, how incidents are reported and finger pointing orientation of members of an organization (Reason 1997; Cooper 2000; Hofmann & Mark 2006). In addition to these, other factors like job satisfaction (Sexton et al. 2006) and human resource issues like staffing levels (Nieva & Sorra 2003) also impact the safety culture of an organization.

2.3 Assessment of Patient Safety Culture

The results of the research work by Zboril-Benson and Magee (2005) showed that evidence of cultural change is seen in changes in values, attitudes and beliefs of healthcare workers. However, the need for assessment cannot be over emphasized.

Identifying the importance of patient safety culture and acknowledging that growth or improvements in this area can only be captured through robust assessments. Manchester

Patient Safety Framework (MaPSaF) was developed for the healthcare sector in the United Kingdom. This framework serves to guide healthcare professionals whose goal is to improve safety and enable them capture more accurately, improvements and gaps where they exist while tracking maturity levels within the organization (Parker 2009; Lawati, Dennis, Short & Abdulhadi 2018).

Likewise, in Canada, the Modified Stanford Instrument (MSI) is used to measure how healthcare workers perceive safety culture within their work environment (Ginsburg, Norton & Tregunno 2012), with an implementation guide that enables the acquisition of accurate data that captures all aspects of culture within the unit or organization being measured. The MSI has been designed for use on the whole population within any organization for which it is intended as sampling. Capturing the information of an arbitrarily or systematically selected cross section of the population under investigation is not prescribed or advisable when using the survey instrument (Ginsburg, Norton & Tregunno 2010).

Manchester Patient Safety Framework is a tool used to assess patient safety culture, identify gaps, analyse the information, learn from it and assess corrective measures needed. Cooke, Cross, Flanagan, Jarvis, Spurgeon and Warwick Medical School (2016) aimed to create a safe system for clinical practice and developed a framework comprising of different tools and stages, for the improvement and proactive response to safety within healthcare settings.

TABLE 2. The dimensions of MaPSaF (Cooke et al. 2016)

	Dimension	Explanation
1	Overall commitment to quality	How much is invested in developing the quality agenda? What is seen as the main purpose of policies and procedures? What attempts are made to look beyond the practice for collaboration and innovation?
2	Priority given to patient safety	How seriously is the issue of patient safety taken within the practice? Where does responsibility lie for patient safety issues?
3	Perceptions of the causes of patient safety incidents and their identification	What sort of reporting systems are there? How are reports of incidents received? How are incidents viewed, as an opportunity to blame or improve?
4	Investigating patient safety incidents	Who investigates incidents and how are they investigated? What is the aim? Does the practice learn from the event?
5	Team learning following a patient safety incident	What happens after an incident? What mechanisms are in place to learn from the incident? How are changes introduced and evaluated?
6	Communication about safety issues	What communication systems are in place? What are their features? What is the quality of record keeping communicating about safety like?
7	Staff management and safety issues	How are safety issues managed in the practice? How are staff problems managed?
8	Staff education and training about safety issues	How, why and when are education and training programmes about patient safety developed? What do staff think of them?
9	Team working around safety issues	How and why are teams developed? How are teams managed? How much team working is there around patient safety issues?
10	System errors and individual responsibility	How are the reports of incidents received? What sort of reporting systems are there?

The MaPSaF framework dimensions could be regarded as a form of matrix which basically sums up the various levels of patient safety culture in a hospital setting. The different

dimension levels were composed by the research team of the University of Manchester which consist of researchers in the fields of health, psychologists and other health professionals (Astika 2017).

Different attitudes to safety described in this framework range from “pathological,” through “reactive,” “bureaucratic,” “proactive” to “generative” responses (Rozmovits, Mior & Boon 2016), as depicted in table 3.

TABLE 3. Levels of patient safety culture (Rozmovits et al. 2016)

Levels	Descriptions
A – Pathological	Why do we need to waste our time on patient safety issues?
B – Reactive	We take patient safety seriously and do something when we have an incident.
C – Bureaucratic	We have systems in place to manage patient safety.
D – Proactive	We are always on the alert/thinking about patient safety issues that might emerge.
E – Generative	Managing patient safety is an integral part of everything we do.

The MaPSaF has been expanded on and adapted for use across different units and departments in the health sector. An adaptation of the framework for use in the acute care sector is found in Appendix I on page 54. The framework enables professionals pin point what level of maturity their unit or organization is at and triggers a conversation on the subject; the end result of the exercise is an identification of strengths, weakness and areas of improvement while serving as a constant source of assessment of growth or improvement MaPSaF team (2006).

The MSI measures three main dimensions of patient safety: “senior leadership support for safety, supervisory leadership support for safety and patient safety learning culture (Ginsburg, Norton & Tregunno 2012). However, upon revision, another dimension was incorporated into the survey to capture the need to discuss errors within the system.

The MSI is a survey that goes through a range of questions that starts with establishing context and gathering basic information about the responder (understanding the work environment, position or function of the responder), through asking questions that enable the responders to share their thoughts on safety, competence, perceptions, influences etc. Through getting the responder to self-assess their unit and organization with respect to how well they feel patient safety is being managed within that unit/organization. Finally, some demographic information about the responder is elicited to enable analysis of the information gleaned from their answers, (see appendix II, page 64). To enable a systematic and homogenous approach to administering the survey and production of generalizable results, an implementation handbook was also developed to help professionals whose goal is to improve culture within healthcare settings.

2.4 Synopsis of chapter 2

This chapter is the major part of domain of interest. This chapter examines the structure of organisational culture within the healthcare system. Types of culture was explained. Safety culture and patient safety culture was also explained and the accident causation model is fully depicted.

3 METHODS AND MATERIALS

3.1 Integrated literature review

An integrated literature review aims to synthesize and critically analyze a subject in a way that enables the conceptualization of new opinions on the topic under review (Torraco 2005). Similar to this, Whittemore and Knalf (2005) opine that integrated literature reviews enable the summarization of existing data or knowledge to provide a robust understanding of the topic under study. This kind of research entails the use of a search strategy that is detailed, employing a systematic approach to answer the research question by finding studies closely related to the question and analyzing the inherent data (Crawford & Rondinelli 2013).

This system of research could be used to answer a varying range of questions from already established research areas to new and evolving areas while maintaining the tenets of rigorous, methodical research found in primary research (Crawford & Rondinelli 2013). The most important aspect of an integrated literature review is the breakdown of the evidence inherent in the information or data. This research method was chosen because it enables the synthesis of any subject under study irrespective of its age (Torraco 2005).

For the literature review, the relevance of the articles was determined based on their connection to the research question. The determination of the extent to which the research was evidence based depended on whether the study was published in a journal.

3.2 Data retrieval and search strategy

A general electronic search was performed across several databases including PubMed/MEDLINE (NLM), Oxford journals, Elsevier (ScienceDirect Journals) and Health Reference Center Academic (GALE). Queries centered on organizational culture, patient safety, patient safety culture, adverse events in healthcare, MSI, MaPSaF and safety culture in healthcare. The queries were then narrowed down to ‘patient safety culture AND Canada or United Kingdom.’ Articles were selected based on if the abstract addressed the subject of this research and year of publication. Also, some articles that could not be accessed were left out. All published articles, abstracts, books or their previews, letters, and reviews relevant to the subject were selected and then included or excluded based on pre-established criteria: patient safety culture, English language, from year 2005 to 2018, healthcare, MaPSaF, MSI.

For the data analysis, a Boolean search was conducted to get more specific results related to the subject matter. For each searched term, the title as well as the abstract for the articles retrieved were reviewed to examine its relevance to the subject, presence of the keywords and determine inclusion or exclusion. All articles selected for review were in English language and from 2005 to 2018 respectively.

When writing an evidence-based medicine (EBM) paper, it is usually suggested that the writer formulates some type of scientific questions in terms of population/patient, intervention, comparison and outcome which makes up a (PICO) frame when put together (Haung, Lin & Demner-Fushman 2006). Medicine is a field that has a long history of researching new and modern techniques of solving anatomical problems as well as finding measures of keeping the human populace free from harmful diseases and bacterial elements.

Under the PICO process, study questions are usually categorised into groups that is highly effective for categorising some key context in order to answer health related questions (Taylor, Dy, Foy, Hempel, McDonald, Ovretveit, Pronovost, Rubenstein, Wachter & Shekelle 2011).

As illustrated below in table 4, population/patient question was ‘who are the patient’? They are healthcare professionals which can also be regarded as care givers, health professional, healthcare workers. The intervention question is, ‘what is planned for the patient/population that is what needs to be tackled’? Patient safety, patient care, adverse events, errors and safe patients are the target group. Under the comparison frame, ‘what alternatives are being considered’? Cultural assessment within the healthcare, healthcare organization, Manchester patient safety framework and modified standard instrument are frameworks used in both the Canadian and United Kingdom health services respectively. Finally, the outcome question is ‘what I wish to achieve’? For this, it is the safety culture, safety perspectives, safety values, safe culture, safety beliefs and perception.

TABLE 4. Search query

P= Healthcare professional	I= Patient Safety	C= Cultural assessment	O= Safety culture
Care giver Health worker Health Professional Healthcare Worker <div style="text-align: right; margin-right: 10px;">} OR</div>	Safe patient Adverse events Errors Patient care Safe care Patient safety <div style="text-align: right; margin-right: 10px;">} OR</div>	Healthcare Healthcare Organization MSI MaPSaF Canada United Kingdom <div style="text-align: right; margin-right: 10px;">} OR</div>	Safety perspectives Safety values Safety beliefs Perception Safe culture <div style="text-align: right; margin-right: 10px;">} OR</div>
AND		AND	
AND		AND	

The search query below was formulated and used based on the above search query:

(caregiver OR health worker OR health professional OR healthcare worker)

AND

(safe patient OR adverse events OR errors OR patient care OR safe care OR patient safety)

AND

(healthcare OR organization OR cultural assessment OR MaPSaF OR MSI)

AND

(safety perspectives OR safety values OR safety beliefs OR perception OR safe culture)

As stated earlier, a number of database such as PubMed, Elsevier were searched to identify articles of most relevance to the topic. Search terms included patient safety, patient safety culture, healthcare, MaPSaf, MSI. In order to be eligible, the articles were included if it mentioned patient safety, safety culture and/or healthcare assessment.

The final searches yielded a total of 3,914 articles as shown in the flow chart (figure 3) below. After 820 duplicates were excluded, a total 3,094 were screened based on their abstracts and titles from these, 2120 were rejected as they did not meet inclusion criteria (both abstract and title information).

This resulted in 974 full text articles eligible for assessment, out of these a total of 971 did not make the final inclusion criteria due to absolute use of MSI and MaPSaF assessment tools.

Although the number of articles retrieved from different databases searched was over 3,000 (figure 3), only three (3) articles were finally included for the analysis due to the strict inclusion conditions and criteria for articles selection.

For the assessment, the studies were narrowed down to three studies as shown below in table 5 on page 26-two for Canada and one for New Zealand. Table 5 is a synthesis of the three studies chosen for the overall assessment.

Also, an additional manual search was carried out on the sites of various international and national agencies that specializes in safety care, which includes the likes of the WHO, the National Patient Safety Agency (NPSA) and the Agency for Healthcare Research and Quality (AHRQ). Included studies targeted mostly on patient safety culture. The articles relating to patient safety culture were included for analysis.

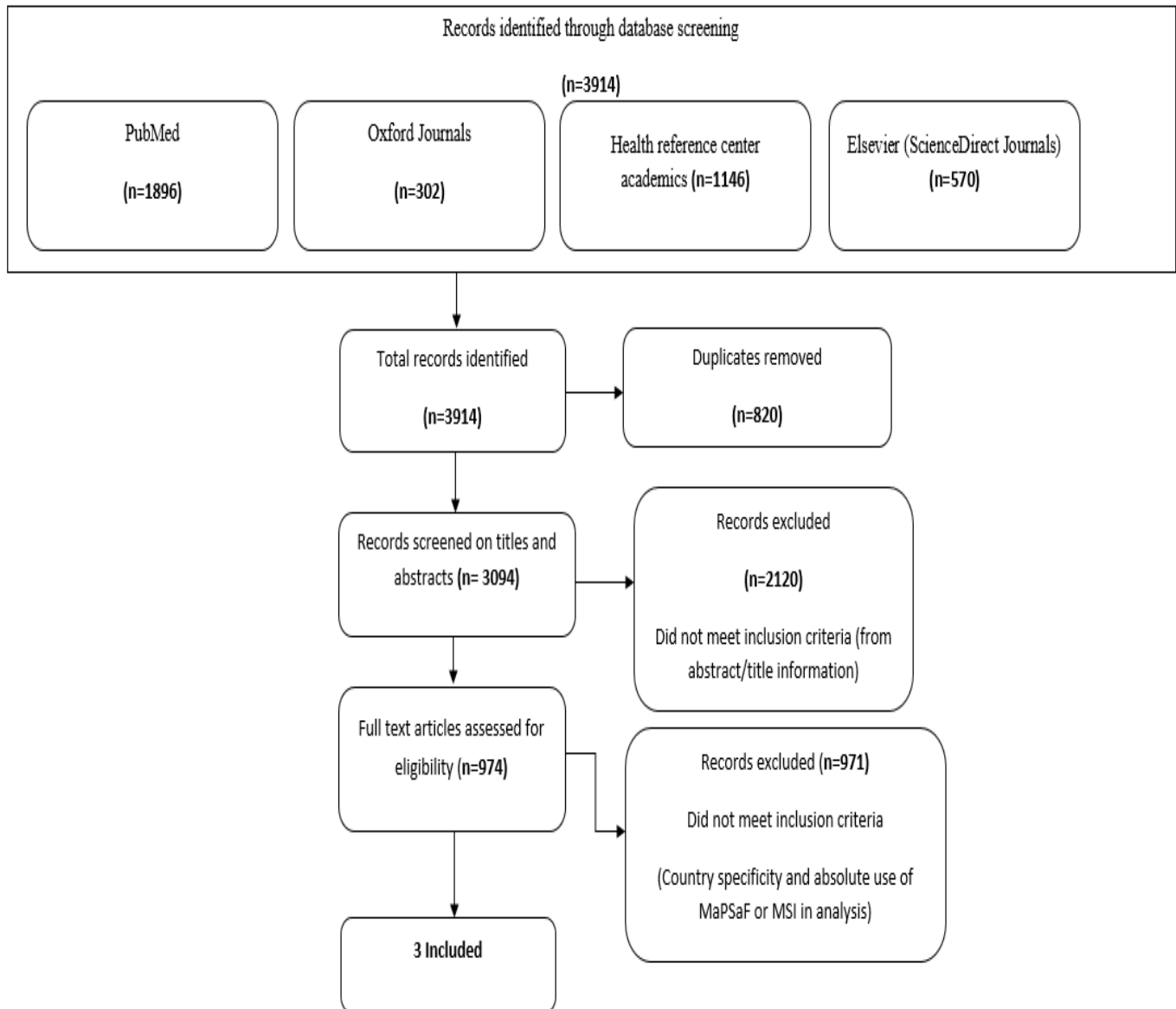


FIGURE 3: Flow chart of the included studies.

TABLE 5. Chosen articles for assessment

Title of Article	Document type	Source authors and Citation	Keywords	Country	MaPSaF Instrument
Perceptions of Patient Safety Culture in Four Health Regions	Research paper	Ginsburg LR (2006). Perceptions of patient safety culture in four health regions. School of Health Policy & Management York University, 1-29.	Safety culture, patient safety, safety perception, healthcare organization	Canada	
Perceptions of Patient Safety Culture in Six Canadian Healthcare Organizations	Research paper	Ginsburg, LR, Tregunno D, Flemming M, Flemons W, Gilin D and Fleming M (2007). Perceptions of patient safety culture in six Canadian healthcare organizations. Canadian Patient Safety Institute, 2007. Available at http://www.yorku.ca/patientsafety/psculture/reports_docs/PSC_2007_MainReport.pdf (Assessed July 20, 2019).	Safety culture, patient safety, safety perception, healthcare organization	Canada	
Assessing Patient Safety Culture in New Zealand Primary Care: a pilot study using a modified Manchester Patient Safety Framework in Dunedin general practices	Research paper	Wallis K and Dovey S (2011). Assessing patient safety culture in New Zealand primary care: a pilot study using modifies Manchester Patient Safety Framework in Dunedin general practices. Journal of Primary Health Care, 2011, 3(1):35-40.	Family practice; patient safety; primary care; safety culture	New Zealand	Priority given to safety; focuses on the broader notion of safety culture; learning and effecting change and team working.

The methodical assessment of the chosen papers was conducted using an evaluation tool developed by Long, Godfrey, Randall, Brettle and Grant 2002.

From the study selection process, the three studies in table 5 (page 26) were chosen. However, during the quality assessment, the two studies (Wallis & Dovey 2011 and Ginsburg, Tregunno, Fleming, Flemons, Gilin & Norton 2007) were chosen for data analysis of this research paper. The studies were chosen because of their relevance to the research questions.

The New Zealand article was a study that employed the MaPSaf framework conducted in New Zealand and as such, it was analysed in this work.

4 RESULTS

4.1 Main Findings

There is some degree of bias inherent in an integrated literature review because it depends on the researcher's subjective interpretation of the evidence and results in the studies being reviewed. However, bias is controlled in this study by ensuring that emerging theories and concepts can be found in existing research.

This paper sets out to compare perspectives using MaPSaF and MSI respectively. However, due to paucity of data and unavailability of research papers where the instruments discussed were used to assess patient safety perspectives of health professionals, a study conducted in New Zealand that employed the use of MaPSaF is used in the data analysis. While the MaPSaF and MSI are survey instruments used in the UK and Canada respectively, these instruments can be used in different settings as the concepts are universal.

Table 6 below highlights the result characteristics of the two studies being analyzed relative to the patient safety assessment tool adopted in the respective countries. A total of six hospitals from various parts of Canada took part in the research which was funded by the Canadian Patient Safety Institute (CPSI) in order to assess patient safety culture in healthcare organizations. Direct care providers, direct and non-direct care support staff and non-direct care managers were all sent a survey of patient safety culture in healthcare organizations. Staff members in the administrative departments were omitted for the survey. While the latter views the MaPSaF assessment on safety culture in the United Kingdom primary care trust. The authors aimed to test its applicability within the New Zealand primary care system.

Table 6. A comparison characteristics result of both papers (MSI and MaPSaF) (Ginsburg et al. 2007)

Characteristic	New Zealand paper using MaPSaF	Canadian paper using MSI
No. of practices	12 general practices	6 Canadian healthcare Organization
Data collection period	Data was collected at Baseline and 3 months later	Data was collected in one attempt
Ethics	No anonymity, however, an external consultant was used to facilitate data collection	Anonymity of respondents was maintained
Data grouping/comparison	Acceptability Applicability Utility (for education) Utility (for team communication	By organization, staff group and sector By individual questions, facility and unit Most important survey questions Performance vs. Importance
Analysis	Qualitative analysis	Quantitative analysis
Survey instrument characteristics	9 dimensions of patient safety concerns across five levels of maturity	5 dimensions of patients safety

The above table is a comparison of the perspectives adopted in the tools with respect to the dimensions of safety that they aim to assess (MaPSaF team 2006 and Ginsburg et al. 2007).

Table 7 below lists the various themes within the nine dimensions of safety in MaPSaF and MSI respectively. A concept that was developed to help organizations within the healthcare terrain to have a better understanding of the level of development with respect to the value that they place on patient safety (MaPSaF team 2006).

Table 7. Dimensions of Safety in MaPSaF and MSI (Ginsburg et al. 2007)

MaPSaF	MSI
Overall commitment to quality	Organizational leadership for safety
Priority given to patient safety	Unit leadership for safety
Perceptions of the causes of patient safety incidents and their identification	Perceived state of safety
Investigating patient safety incidents	Shame and repercussions of reporting
Team learning following a patient safety incident	Safety learning behaviors
Communication about safety issues	Communication quality
Staff management and safety issues	Recruitment and safety issues
Staff education and training about safety risk issues	Risk management development
Team working around safety issues	Team development and management

To ensure that the MaPSaF was fit for purpose within the health sector in New Zealand, without altering the concepts in the instrument, some of the terminologies were exchanged for indigenous terminologies to aid better understanding of the questions and the descriptions were shortened (see examples in tables 9 and 10 respectively).

For each dimension the MaPSaF provides descriptions of organizations at five levels of safety culture maturity. The NZ-MaPSaF was used during practice meetings, at baseline and at three months (see table 8). Participants were then given time to read the five descriptions

for each of the nine dimensions (A, B, C, D and E) and to choose the description that they believed best reflected their practice for each dimension (Wallis & Dovey 2011).

Table 8. Dimension three described at five levels of safety culture maturity (Wallis & Dovey 2011)

NZ-MaPSaF Dimension 3: Perceptions of the causes of patient safety incidents and their identification	
Level	Description
A	Incidents are seen as ‘bad luck’, occurring as a result of staff errors or patient behavior. Ad hoc reporting systems are in place but the practice is largely in ‘blissful ignorance’ unless serious incidents occur or letters of complaint are received. There is a strong blame culture.
B	The practice sees itself as a victim of circumstances. Individuals are seen as the cause and the solution is ‘retraining’ and punishment. There is an embryonic reporting system. Minimum data on the incidents is collected but not analyzed. There is a blame culture, so staff are reluctant to report incidents.
C	There is a recognition that ‘systems’ contribute to incidents and not just individuals. A reporting system is in place. Attempts are made to encourage staff to report incidents (including those that did not lead to harm), though staff do not feel safe reporting the latter.
D	It is accepted that incidents are a combination of individual and system faults. Reporting of patient safety incidents is encouraged and they are seen as learning opportunities although learning is not always disseminated. Accessible, ‘staff friendly’ electronic reporting methods are used. The practice has an open, fair and collaborative culture.
E	‘System’ failures are noted, although staff are also aware of their own professional accountability in relation to errors. It is second nature for staff to report patient safety incidents as they have confidence in the investigation process and understand the value of reporting. The practice has a high level of openness and trust.

Some of the participants selected from small practices considered the systems advocated in the NZ-MaPSaF to be rather unnecessary and could lead to an unfair scoring level (see table 9 below). Other study practices had processes to involve patients in various safety initiatives, as advocated in the NZ-MaPSaF, and several participants were hesitant of the value of patient involvement and feedback (Wallis & Dovey 2011).

Table 9. Comparison of MaPSaF and NZ-MaPSaF (Wallis & Dovey 2011)

Dimension 4: Investigating patient safety incidents	
MaPSaF: description (D)	NZ-MaPSaF: description (D)
Investigations occur in order to gain an independent perspective. The staff involved in incidents are involved in their investigation, which uses robust methods like root cause analysis and significant event audit to identify the contributory factors and system problems that led to the incident. The aim of investigations is to learn from incidents and disseminate the findings widely. Data from investigations are used to analyze trends, identify 'hot spots' and examine training implications. It is a forward-looking, open organization. Patients are involved in the investigation process and their perceptions, experience and recommendations are sought.	Investigations occur in order to gain an independent perspective. The staff involved in incidents are involved in their investigation and help to identify the contributory factors and system problems that led to the incident. The aim of investigations is to learn from incidents and disseminate the findings widely.

Furthermore, while the studies especially the study using the MSI covers a wide range of subjects including organizational perspectives on patient safety, for the purposes of this study, individual responses that show perspectives of healthcare professionals were isolated, analyzed and discussed.

The synthesis of information presented in the tables and discussion, were performed using the two articles chosen for this study. A summary of the perspectives on patient safety on the organizational level will be provided from the MSI study. This is because it is the only study that captures that information. The focus of this paper however, is on the perspectives of healthcare professionals, therefore for both studies; the highlighted observations will focus on individual responses.

Table 10 below shows the amounts of each of the safety culture dimensions by the staff groups. There are some distinct differences between the different groups within the dimension frame.

In the supervisory leadership, the clinical care managers tend to give a more positive score compared to nurses and physicians.

Within the fear and repercussions dimension, clinical care managers score positively in comparison to the other groups and Emergency Medical Services (EMS) staff scored lower in comparison to health care aides and nurses.

On the state of safety dimension clinical care managers score lower than health care aides, allied and technicians and support staff. The healthcare aides and support staff feel more positively about the state of safety than most of the clinicians (nurses, physicians and clinical care managers).

Finally, in the valuing and safety dimension, physicians and nurses scored lower compared to clinical care managers, healthcare aides and support staff (Ginsburg LR 2006).

Table 10. Individual perspectives of patient safety culture using the MSI

Dimension	Perspective
Organizational leadership for safety	On the average most professionals agree that patient safety is a priority, decisions are made by rightly skilled professionals and there is communication up the leadership rank of the organizations. Worthy of note: Nurses think the commitment of leadership to safety is inadequate (at 3.30 mean score, below the overall average of all professionals)
Unit leadership for safety	There is no reward or positive reinforcement for identifying mistakes quickly. Nurses and non-clinical support staff scored the lowest on this dimension, however, overall scores were low across staff groups
State of safety	Some staff groups believe the state of safety to be good enough however; some questions registered really low scores. Physicians are the most worried about the state of safety.
Shame and repercussion of reporting	Reporting safety issues does not lead to negative consequences for the professional who reports. All professionals agree on this however, based on individual scores, EMS staff and non-clinical staff scored the lowest in this dimension
Safety learning behavior	While professionals think that incidents are reported and captured as necessary, they do not think that patients are carried along in the investigative and solution finding process. There is also no formal structured system of disclosure of adverse events that enables provision of support to all stakeholders involved. However, nurses and EMS staff think the lowest of learning behaviors within their organization in general.

The study in New Zealand using the MaPSaF was administered at baseline and after three months. Therefore, the perspectives shared in table 9 (page 32) were collected after three

months. This allowed the professionals to think about the subject and its ramifications and express their opinions with respect to their specific work environment.

Table 11. Staff perspectives of patient safety from MaPSaF (Wallis & Dovey 2011)

Domain	Staff perspectives
Communication	Discussing patient safety enabled more open communication between teams and helped them share their concerns
Response to error	People tend to be defensive about errors and concerns were raised about how to overcome this
Quality	It started conversations on how patient safety should be incorporated into daily practice in order to improve patient safety culture.
Learning	It enabled participants draw a distinction between patient safety and occupational health and safety
Patient involvement	Some professionals thought patient involvement in patient safety improvement was unnecessary and unproductive.
Utility of the instrument	Professionals in smaller practices felt the tool was a bit excessive and could lead to unfair scores
Utility: regular usage	Time constraints might hinder the ability of professionals to run the NZ-MaPSaF process

Table 11 is the New Zealand staff perspectives of MaPSaF study with regards to patient safety. It shows the various responses of the staff members within each domain frame.

Opportunities identified for improvement in order of importance from highest to lowest are:

- Most care professionals did not think that healthcare errors posed a significant risk to patients.
- Most professionals did not think that errors were unreported.
- The lack of a system of reward or positive reinforcement for professionals who report safety issues and take quick action.
- The involvement of patients and their family members in the investigation and solution seeking effort following an adverse event.

- The belief that loss of experienced staff does not have a negative effect on their ability to perform their duties. The lack of a formal process for disclosing adverse events that involves patients and their families.
- The lack of balance between patient safety and the need for productivity.
- Senior management lack a clear picture of risks associated with patient care.
- Senior management does not take patient safety into consideration when discussing program change.

5 DISCUSSION

5.1 Validity and reliability of the study

Even though the tools were designed and made for a specific region healthcare system, its usability and relevance at some other location could be a welcomed development, although test to this effect are yet to be carried out. It is possible that more comparative published test results in scientific papers and journals-with focus on patient safety may have been omitted.

The MaPSaF tool is broadly used in the United Kingdom with some North American usage as well, its usage and results are not well published thereby giving it very minimal recognition. Moreover, some tools that are validated in the United States tend to have negative effects when applied in the United Kingdom. Sharing and making such results known to other healthcare organizations in other parts of the globe will aid in promoting a more healthy patient safety concept. It would be good to have such results published in good scientific papers and journals.

Also, there is room for improvement in the findings within the patient safety culture context where underreporting of patient safety incidents by nurses or top medical staff poses a significant threat to the general system, such information too should be made readily available in evidence based scientific journals.

The use of the patient safety culture survey instruments triggered a conversation on the subject. These conversations as admitted by the healthcare professionals in both studies, call the issue to mind and raise the bar with respect to how much attention is paid to the subject (Agency for healthcare research and quality: hospital survey on patient safety culture 2016).

Improved communication between teams will enable better information sharing. This will positively impact on the ability of the organization to always have a clear picture of concerns and situations and work to improve them. Open communication between team also means that subcultures which may be negative or divergent from the organization's goals are not formed within the organization. This is important because different groups of employees were shown to have different opinions of the same topic for example; nurses have a low perception of safety leadership both in the organization as a whole and in the unit, while non-clinical managers thought the most of leadership as shown in the Canadian study (Ginsburg LR 2006; Ginsburg et al. 2007).

Defensiveness in the face of an adverse event could serve to hinder a thorough investigation that enables lessons to be learnt for continuous improvement. Small practices tend to have informal conversations around a tea table for example and so found the tool excessive. However, with use and consistent reinforcement, they can learn the need for a system of measurement that enables them measure growth and pinpoint areas of improvement (Heavner & Siner 2015).

In seeking a solution to the challenges and inherent risks in the provision of care to patients, holistic approaches that cover the life span of care provision is necessary for proper management of associated risks and patient safety (Milne & Lalonde 2017). The release of the World Alliance for Patient Safety: Forward Program 2006-2007 (WHO 2006), described exact action areas in patient safety; and these actions include:

- i. To stir a global patient safety challenge.
- ii. Making certain that patients/consumers are fully involved, and their voices are being heard.
- iii. Paying attention to reporting and learning.
- iv. Promoting a taxonomy for patient safety.
- v. Promoting research in patient safety.
- vi. Translating knowledge into practical safety solutions.
- vii. Spreading best practices for change in improving patient safety.
- viii. Concentrating on the opportunities for technology to improve patient safety.
- ix. Paying attention on the care of acutely ill patients and
- x. Sharing knowledge amongst member states and foreign allies.

In high risks industries, a focus on safety culture helped curb and control the prevalence of adverse events; this approach has been identified as important and necessary if improvements are to be seen in healthcare (Robb & Seddon 2010).

5.2 Discussion of study finding

It is opined that the culture of an organization shapes the performance of that organization; safety is not exempted from this theory. While it is easier to scientifically show the impact of human factors in the performance of an organization, it is difficult to adopt a scientific approach in establishing the link between culture and performance (Westrum 2004).

However, the administration of these tools to measure culture enables to be assessed in a way that improves performance with respect to patient safety. Some practices in New Zealand were shown to have made changes that enabled them to get a clearer picture of patient safety within practice and started efforts towards improvements (Wallis & Dovey 2011).

Some misconceptions can only be corrected through practice and open conversations on the subject. Some professionals who thought it unproductive and unnecessary to carry patients along in-patient safety conversations especially as it concerns incidents involving them, can learn its importance from practice and more interactions with professionals in the field (Reid-Searl, Moxham & Happell 2010).

The survey instruments differed in their approach and dimensions discussed however, exploration of data from both studies analyzed in this paper shows that patient safety culture is an integral part of service provision, with similar challenges across board. The surveys shed light on areas of ignorance for example in the New Zealand study professionals learnt a clear distinction between patient safety and occupational health and safety while the Canadian study revealed the ignorance of the professionals with respect to reporting and the risk to patients associated with adverse events (Ginsburg LR 2006, Ginsburg et al. 2007 and Wallis & Dovey 2011).

The use of the national instruments for cultural assessment in the health sector of Canada and the United Kingdom is growing. However, there is paucity in the availability of studies that have assessed culture using these instruments. Creating insight in the use of these instruments could serve to increase awareness and adoption of these tools in tackling the challenge of increase awareness of safety in patient care (Ginsburg LR 2006, Ginsburg et al. 2007 and Wallis & Dovey 2011).

Assessment of safety in the provision of care within the primary care environment focuses on communication systems, professional networks and administrative structures while dealing mostly with undiagnosed cases (Rozmovits, Mior & Boon 2016). However, in the acute care sector, provision of care focuses on medication and inherent risks, falls and infections contracted in the hospital while risks to patient safety are usually associated with communication, administrative and issues with managing long-term medication respectively (Canadian Patient Safety Institute 2010).

WHO in their Patient Safety Report (2009) continues to encourage research for continuous improvement in patient safety in healthcare and the need to eradicate a blame in incident reporting as this has the ability to hinder learning and growth.

6 CONCLUSIONS

This chapter focuses on the concluding part of the thesis writing as well as the general summary of the thesis work. It briefly summarises the entire write-up which then goes on to the key findings of the thesis which eventually continues on to a study evaluation and finally concludes with suggestion for further research.

Adverse events are a problem caused by individual or systemic, organizational factors, or occupational factors (relating to occupational health and safety). A blend of both active and inactive failures tends to act together which eventually lead to adverse events. However, interaction between cultural factors e.g. approach to learning and incidents and inactive organizational factors could act as a defence to adverse events. Adverse events lead to high morbidity, mortality, pain, suffering, loss and accompanying economic consequences. Reducing the risk of harm in the provision of care is the basic tenet of patient safety. However, approach to incidents, embedded in the culture of that organizational setting determines the rate of improvement.

It has been established that a culture of punishment and blaming/individual accountability serves to create a disabling environment for improvements in safety culture. The use of the survey instruments in healthcare settings is valuable for the quality and facilitation of change within healthcare setting. Safety assessment of care within the healthcare environment targets on professional networks, administrative structures and communication systems whilst dealing with various undiagnosed cases.

6.1 Summary of the study

The incidence of adverse events in healthcare is a global problem with negative consequences for all stakeholders including patients, their family members, health professionals and the government. Patient safety and patient safety culture lies at the forefront of all adverse events within healthcare settings. The culture of any organization determines its approach to problem solving and determines how individuals within that setting work; this is also true for patient safety culture and the reduction of adverse events within healthcare organizations. The main aim of this thesis is to view cultural management systems and frameworks of MaPSaF and MSI within the healthcare industry as well as the fundamental roles which medical personnel play within the healthcare sector.

Various strategies are included in the promotion of patient safety and it all boils down to the exact type of framework tools or type of shared cultural management style that each health department adopts within its organization.

6.2 Key findings

Management systems or frameworks in patient safety management is an essential aspect of the healthcare industry where a predefined set of outcomes gives room for feedback between the management and clinicians which aids in carrying out their tasks more diligently and efficiently.

In the past, patient safety management was more about recognising and averting various forms of mistake. In the 1990's for instance, more research have gone into diagnosing factors with compelling effects in error creation (Chiang & Pepper 2006).

With the development and adaptation of various assessment tools being used in different countries' healthcare system, it is suitable to say that the culture of an organisation and staff attitudes can have a tangible impact on safety processes and ultimately patient outcomes (Murphy 2006).

Zohar, Livne, Tenne-Gazit, Admi and Donchin (2007) claims that patient safety climate is a related term-often inadvertently used interchangeably with culture-that refers specifically to shared perceptions or attitudes about the norms, policies and procedures related to patient safety among members of a group (for example, care team, unit, service, department, or organization).

6.3 Evaluation of the study and future study research

Making a study evaluation regarding the term 'cultural management' in the thesis context had its challenges in the sense that various groups and schools of thought gave a wide range of definitions. Also, safety within the healthcare system tend to differ from safety within the manufacturing, aviation or other sectors.

The thesis main focus was assessing and understanding the importance of patient safety culture as well as the impact level that culture management plays on the safety of patients in healthcare. The research was conducted via a literature review-where a number of articles existed on different matters concerning patient safety. Several tools have been developed over the years by a series of researchers with regards to how best to promote patient safety in different health climates.

Two measurement frameworks was compared-MSI and MaPSaF respectively. These two frameworks are predominantly used in Canada and the United Kingdom healthcare systems, even though both are members of the commonwealth states, both tools differ in carrying out the assessment of patient safety. Measurement and feedback are totally necessary and need to be encouraged amongst all the participants within the health sector.

The opinions and characteristics of healthcare personnel vary greatly within each individual framework dimensions and this tends to give a number of contrasting outcomes in the overall managerial setting within the organization. There should be room for both patients and family members to step out of the passive role and have a say about their treatment patterns.

Managerial leadership is a research area that is not so studied in healthcare compared to other industry like aviation or industry sector for example. A need for more published studies cannot be over emphasized.

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APPENDICES

APPENDIX I: Manchester Patient Safety Framework (Parker 2009)

INCREASED MATURITY

A	B	C	D	E	F
<p>1. Commitment to overall continuous improvement</p>	<p>No resources are invested in the identification of problems or areas of good practice.</p> <p>If any auditing occurs it lacks structure and there is no response to what is discovered. Whatever protocols or policies exist are there to meet the organization's statutory requirements and are not used, reviewed or updated.</p> <p>Poor quality care is tolerated or ignored. This attitude is evident at Board level and throughout the organization in the healthcare teams.</p>	<p>A continuous improvement framework is developed in response to specific directives or an imminent inspection visit. Auditing only occurs in response to specific incidents and national directives and does not reflect local needs. Little attempt is made to respond to any audit findings.</p> <p>The bare minimum of protocols and policies exist and these tend to be out-of-date and unused unless an incident occurs that triggers their review.</p> <p>Development of new protocols and policies occurs in response to incidents and complaints.</p>	<p>Frontline staff are not engaged in the improvement process and they see it as a management activity that is externally driven.</p> <p>Lots of auditing occurs but lacks an overall strategy linking with organizational or local needs. Staff are overloaded with protocols and policies (which are regularly reviewed and updated) that are rarely implemented.</p> <p>Patients and the public may be involved in quality issues but this is lip service rather than real engagement.</p>	<p>There is a genuine desire and enthusiasm throughout the organization for continuous improvement. It is recognized that continuous improvement is everyone's responsibility and that the whole organization, including patients and the public, need to be involved.</p> <p>Such organizations aim to be centres of excellence and compare their performance against that of others. Clinicians are involved in, and have ownership of, the auditing process which leads to continuous improvement. Protocols and policies are developed and reviewed by staff</p>	<p>A culture of continuous improvement is embedded within the organization and is integral to decision making at all levels. The organization is a centre of excellence, continually assessing and comparing its performance against others both within and outside the health service. Teams design and conduct their own outcome focused audit program, in collaboration with patients and the public.</p> <p>Staff are alert to potential safety risks. This means that over time the need for protocols and policies is reduced as evidence-based practice is second nature</p>

				<p>and are used as the basis for care and service provision. Patients and the public are formally involved in internal decisions – making it a patient centered service.</p>	<p>and patient safety is constantly on everyone’s mind. Patients and the public are involved in a routine, meaningful way with ongoing contribution and feedback.</p>
<p>2. Priority given to safety</p>	<p>A low priority is given to safety.</p> <p>There are some risk management systems in place, such as strategies and committees, but nothing is actually delivered.</p> <p>This is an organization unaware of their risks, believing that if a patient safety incident occurs, insurance schemes can be used to bail them out.</p>	<p>Safety becomes a priority once an incident occurs, but the rest of the time only lip service is paid to the issue apart from meeting legal requirements.</p> <p>There is little evidence of any implementation of a risk management strategy. Safety is only discussed by the</p> <p>Board in relation to specific incidents. Any measures that are taken are aimed at self-protection and not patient protection.</p> <p>In order to meet financial constraints or government set targets, risks are taken.</p>	<p>Safety has a fairly high priority and there are numerous systems (including those integrating the patient perspective) in place to protect it. However, these systems are not widely disseminated to staff or reviewed. They also tend to lack the flexibility to respond to unforeseen events and fail to capture the complexity of the issues involved.</p> <p>Responsibility for risk management is invested in a single individual who does not integrate it within the wider organization. It is an imposed culture.</p>	<p>Safety is promoted throughout the organization and staff are actively involved in all safety issues and processes. Patients, the public and other organizations are also involved in risk management systems and their review. Measures taken are aimed at patient protection and not self-protection.</p> <p>Risks are proactively identified, using prospective risk assessments, and action is taken to manage them. There are clear accountability lines and while one individual takes the lead for patient safety in the organization, it is a key part of all managers’ roles.</p>	<p>Safety is the top priority in the organization, and responsibility for safety is seen as being part of everyone’s role including patients and the public.</p> <p>Staff constantly assess risks and look for potential improvements.</p> <p>Patient safety is a high-profile issue throughout the organization and is embedded in the activities of all staff, from the Board/senior managers through to healthcare teams who have day-to-day contact with patients, including support staff.</p> <p>Patient involvement in, and review of, patient safety issues is well established.</p>

<p>3.</p> <p>System errors and individual responsibility</p>	<p>Incidents are seen as ‘bad luck’ and outside the organization’s control, occurring as a result of staff errors or patient behavior.</p> <p>There is a strong blame culture with individuals subjected to victimization and disciplinary action.</p>	<p>The organization sees itself as a victim of circumstances. Individuals are seen as the cause and</p> <p>the solution is retraining and punitive action.</p> <p>When incidents occur, there is no attempt to support those involved, including the patients and their relatives.</p>	<p>There is a recognition that systems contribute to incidents and not just individuals. The organization says that it has an open</p> <p>and fair culture but it is not perceived in that way by staff.</p> <p>Being open/open disclosure protocols have been written to</p> <p>ensure that staff and patients/carers receive support following</p> <p>an incident do exist, but they are not widely known about or used.</p>	<p>It is accepted that incidents are a combination of individual and system faults. The organization has an open, fair and collaborative culture.</p> <p>Following a patient safety incident, a systems analysis is carried out and</p> <p>used to make decisions about the relative contribution of systems factors and the individual, e.g. the Incident Decision Tree. This process informs decisions about staff suspensions and so there is a consistent and fair approach to dealing with staff issues following incidents. The</p> <p>organization is also open and honest with patients and/or their carers</p> <p>when a patient safety incident occurs that led to severe harm or death, but does not discuss all types of incidents.</p>	<p>Organizational and system failures are noted and staff are also fully</p> <p>aware of their own personal accountability in relation to errors and of their empowerment to report them. Integrated systems enable patient safety incidents, complaints and litigation cases to be analyzed together.</p> <p>Staff, patients and relatives are actively involved and supported from the time of the incident. The organization has a high level of openness and trust. The organization is also open and honest with patients and/or their carers about all types of patient safety incidents, irrespective of the level of harm caused.</p>
<p>4.</p> <p>Recording incidents</p>	<p>Ad hoc incident reporting systems are in place but</p>	<p>There is an embryonic incident reporting system, although staff are not encouraged to report incidents.</p>	<p>A centralized anonymous reporting system is in place with a</p>	<p>Reporting of patient safety incidents at both a local and national level</p>	<p>It is second nature for staff to report patient safety incidents (including</p>

<p>and best practice</p>	<p>the organization is largely in ‘blissful ignorance’ unless serious incidents occur or solicitors’ letters are received.</p> <p>There is a high blame culture, with individuals subjected to victimization and disciplinary action. No learning can occur.</p>	<p>Minimal data on the incidents is collected but not analyzed.</p> <p>There is a blame culture, so staff are reluctant to report incidents. When incidents occur, there is no attempt to support any of those involved.</p>	<p>lot of emphasis on form completion. Attempts are made to encourage staff and patients to report incidents (including those that were prevented or led to no harm) though staff do not feel safe and patients do not feel comfortable reporting them.</p> <p>The organization considers other sources of safety information alongside incident reports (e.g. complaints and audits).</p>	<p>(e.g. the National Reporting and Learning System) is encouraged and they are seen as learning opportunities. Accessible, ‘staff and patient friendly’ reporting methods are used, allowing trends to be readily examined.</p> <p>Staff feel safe reporting all types of patient safety incidents, including those that were prevented. Staff, patients and/or their carers are supported from the moment of reporting.</p>	<p>those that led to no harm or were prevented) as they have confidence in the investigation process and understand the value of reporting to both local systems and nationally (e.g. the National Reporting and Learning System).</p> <p>Patients are actively encouraged to report incidents. It is a learning organization and robust systems exist in order to record best practice and compliments.</p>
<p>5. Evaluating incidents and best practice</p>	<p>Incidents and complaints are ‘swept under the carpet’ if possible. Incidents are superficially investigated by a junior manager with the aim of ‘closing the book’ and ‘hiding any skeletons in the cupboard’.</p>	<p>Investigations are instigated with the aim of damage limitation for the organization and apportioning individual blame. Investigations are cursory and focus on a specific event and the actions of an individual.</p> <p>Quick-fix solutions are proposed that deal with the specific incident but may not be instigated once the ‘heat is off’.</p>	<p>Senior managers are involved in the investigation, which is narrow and focuses on the individuals and systems surrounding the incident. There is a detailed procedure for the investigation process, which involves the completion of</p>	<p>The organization is open to inquiry and welcomes external involvement in investigations in order to gain an independent perspective. The staff involved in incidents are involved in their investigation to identify root causes and interface issues. The aim of investigations is to learn from</p>	<p>The organization conducts both internal and external independent incident investigations that include the staff and patients involved.</p> <p>Incident investigations are seen as learning opportunities and focus</p>

	<p>Information gathered from the investigation is stored</p> <p>but little action is taken apart from disciplinary action</p> <p>(‘public executions’) and attempts to manage the media. In this organization there is little recognition of good safe practice.</p>	<p>Some investigations are not completed.</p>	<p>multiple forms – the investigation is conducted for its own sake and to placate patients/carers rather than examine root causes and support those involved.</p> <p>Staff are motivated to review procedures or how the procedures are implemented, but learning is variable.</p>	<p>incidents and disseminate the findings widely.</p> <p>Data from incident reports are used to analyze trends, identify ‘hot spots’ and examine training implications. It is a forward-looking, open organization.</p> <p>Patients are involved in the investigation process and their perceptions, experience and recommendations sought.</p>	<p>upon improvement and include patient recommendations. The incident analysis process is systematically and regularly reviewed following consultation with all staff.</p> <p>Learning from best practice is shared across the organization and nationally. It is a learning organization as evidenced by a commitment</p> <p>to learn from incidents throughout all levels – from the Board/senior managers through to healthcare teams and support staff.</p>
<p>6. Learning and effecting change</p>	<p>No attempts are made to learn from incidents unless imposed by external bodies such as public enquiries.</p> <p>The aim after an incident is to ‘paper over the cracks’</p> <p>and protect itself – the organization considers</p>	<p>Little, if any, organizational learning occurs and what does take place relates to the amount of disruption that senior staff have experienced. All learning is specific to the particular incident.</p> <p>Any changes instigated in the aftermath of an incident are not</p>	<p>Some systems are in place to facilitate organizational learning and this may include consideration of the patient perspective.</p> <p>The lessons learned are not disseminated throughout the organization. Some enforced local changes</p>	<p>The organization has a learning culture and processes exist to share learning, such as reflection and sharing patient perceptions. There is</p> <p>Board/senior management support for in-depth incident investigations, and changes instigated address underlying causes (e.g. systems factors).</p>	<p>It is a learning organization. The organization learns from internal and</p> <p>external information and experience and is committed to sharing this learning both within and outside the organization.</p>

	<p>that is has been successful when the media do not become aware of incidents. No changes are instigated after an incident apart from those directed at the individuals concerned.</p>	<p>sustainable as they are knee-jerk reactions to perceived individual errors and are devised and imposed by senior managers. Consequently, similar incidents tend to recur.</p>	<p>relating directly to the specific incident are made. Committees and managers decide on any changes to be introduced, but lack of staff involvement leads to them not being integrated into working patterns. Patients are only involved so the organization can prove to regulators that they have some commitment to patient and public involvement.</p>	<p>Staff are actively involved in the process and there is a real commitment to sustainable change throughout the organization. The organization ‘scans the horizon’ for learning opportunities and is keen to learn from others’ experiences. Organizational learning following incidents is used in forward planning. It is an open, self-confident organization.</p>	<p>Patient safety incidents (including those that led to no harm or were prevented) are discussed in open forums where all staff are empowered to contribute. Both individual and organizational learning is evaluated. Improvements in practice occur without the trigger of an incident as the culture is one of continuous improvement. Patients play a key role in learning and contribute to subsequent change processes.</p>
<p>7. Communication about safety issues</p>	<p>Communication in general is poor; it comes from the top down and staff are not able to speak to their managers about risk. Events are kept in-house and not talked about. The organization is essentially closed. What communication there is, is negative, with a focus on blame. Patients are only</p>	<p>Communication in general is directive with managers issuing instructions. Staff are only able to speak to their managers after something has gone wrong. Communication is ad hoc and restricted to those involved in a specific incident. The patient is given the information the organization feels is appropriate in a one-way communication.</p>	<p>There is a communication strategy. Policies and procedures are in place, and lots of records are kept. There is a lot of information collected from staff, patients and other organizations but it is not effectively utilized. This leads to an information overload meaning that little is actually done with the</p>	<p>The communications system and record keeping are fully audited. There is communication across organizations facilitating meaningful benchmarking. All levels of staff are involved, and there are robust mechanisms for them to feedback to the organization. Information is shared, there are regular briefing sessions where staff are encouraged to set the</p>	<p>Everybody communicates safety issues and learns from the experiences of others (good and bad). It is a transparent organization and includes patient participation in risk management policy development. Innovative ideas are encouraged and staff are empowered to implement them.</p>

	<p>given information which must be legally provided and only after exerting a lot of pressure on the organization to give them access.</p>		<p>information received by staff.</p> <p>A risk communication system is in place, but no-one checks whether it is working.</p>	<p>agenda. Effective communication regarding safety issues is made with patient and public involvement groups.</p>	<p>This is an organization that communicates good practice both externally and internally.</p>
<p>8. Personnel management and safety issues</p>	<p>Staff are seen just as bodies to fill posts. Recruitment and selection processes are rudimentary. The language used is negative and poor health and attendance records are seen as disciplinary matters.</p> <p>Staff feel unsupported and see Personnel as ‘them’ and not ‘us’. There is a rudimentary staff policy, no structured HR development program and no links with occupational health.</p>	<p>Job descriptions and staffing levels change only in response to problems, so there are good selection and retention policies in areas where the organization has been vulnerable in the past.</p> <p>The atmosphere is of blame and punishment. Staff support is available, but is minimal and tokenistic.</p> <p>There is a very basic HR policy, but it is inflexible and developed in response to problems that have already been experienced.</p>	<p>Recruitment and retention procedures are in place and credentials are always checked. The language used to manage staff is generally formal and neutral and guided by policies and procedures.</p> <p>Mechanisms for staff support are governed by a lot of paperwork and policies. The procedures on appraisal, staff development and occupational health are there but are inflexibly applied, and so do not always achieve what they were designed for. These procedures are seen as a tool for management to control staff.</p>	<p>There is some commitment to matching individuals to posts. There are attempts to understand why poor performance occurs, and visible, flexible support systems exist tailored to the needs of the individual.</p> <p>Personnel management processes are reviewed and changes are made when necessary. There is genuine concern about staff health, and good systems of appraisal, monitoring and review. Patient/carer input on safety and staffing issues is actively sought.</p> <p>There is demonstrable evidence of proactive measures taken in some areas (for example by using the NPSA’s Incident Decision Tree following an incident).</p>	<p>Job specifications are designed to identify competencies using a Knowledge and Skills Framework. Reflection and review (both positive and negative) occur continuously and automatically.</p> <p>The organization is committed to its staff, and everyone has confidence in the personnel management procedures that include mentorship and supervision.</p> <p>Patients and the public have meaningful involvement in the development and implementation of any policies related to safety and staffing issues.</p>

<p>9. Staff education and training</p>	<p>Training has a low priority. The only training offered is that required by government.</p> <p>Staff education is seen by management as irritating, time consuming and costly. There are consequently no</p>	<p>Training occurs where there have been specific problems and relates almost entirely to high risk areas where obvious gaps are filled. It is the responsibility of the individual to read, act upon and fund their own educational needs.</p>	<p>The training program reflects organizational needs so training is supported only if it benefits the organization.</p> <p>No thought is given to actively involving patients in training.</p> <p>Basic Personal Development Plans are in</p>	<p>There is an attempt to identify the training needs of the organization, and of individuals, and to match them up. Educational opportunities are well planned and resourced and are available from and for all relevant agencies.</p> <p>Training and education are seen as integral to the career development of individuals and</p>	<p>Personnel management is not a separate entity but an integral part of the organization.</p> <p>Following a patient safety incident, a systems analysis is used (for example by using the NPSA's Incident Decision Tree) to make decisions about the relative contribution of systems factors and the individual healthcare professional. This process informs decisions about staff suspensions and as such there is a consistent and fair approach to dealing with staff issues following incidents.</p> <p>Individuals are empowered and motivated to undertake their own training needs analysis and negotiate their own training program.</p> <p>Learning is a daily occurrence and does not happen solely in a classroom environment.</p>
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	<p>checks made on the quality or relevance of any education or training given with regards to career development of staff. Staff are seen as already trained to do their job, so why would they need more training?</p>	<p>Education and training focus on maximizing income and covering the organization's back rather than the career development of the staff. There is no dedicated training budget and staff appraisals occur on an ad hoc basis.</p>	<p>place so everyone has their own file. However these are not very effective as they are not properly resourced or given priority.</p> <p>There are a large number of courses on offer, however not all</p> <p>of these are relevant to the career development of the staff expected to make use of them. Training is seen as the way to prevent mistakes and appraisals are focused around this.</p>	<p>are linked directly to other organizational systems, such as incident reporting. Appraisals are staff centered and are built around the needs of the individual. Preliminary attempts to involve patients and the public in staff training are underway and the organization is starting to learn lessons from their experiences.</p>	<p>Education is seen as being integral to the organizational culture.</p> <p>The approach to training and education is flexible and seen as a way of supporting staff in fulfilling their potential. Appraisals are initiated and managed by the staff themselves.</p> <p>Patients are involved in staff training to aid understanding of patient perceptions of risk and safety.</p>
<p>10. Team working</p>	<p>Individuals mainly work in isolation but where there are teams they are uni-disciplinary and dysfunctional.</p> <p>There are tensions between the team members and a rigid hierarchical structure. They are more like a collection of people brought together under the direction of a nominal leader.</p>	<p>People only work as a team following a negative event and to respond to external demands. Individuals are not actually committed to the team.</p> <p>There is a clear hierarchy in every team, corresponding to the hierarchy of the organization as a whole. There are multidisciplinary teams, but they have been told to</p>	<p>Multidisciplinary teams are put together to respond to government policies, but there is no way of measuring how effective they are.</p> <p>Teamwork is seen by lower grades of staff as paying lip service to the idea of empowerment. Teams are given lots of written information about how they should function. There are official mechanisms for the sharing of ideas or</p>	<p>Teams are multidisciplinary and time and resources are devoted to team development processes.</p> <p>Team structure is fluid, with people taking up the role most appropriate for them at the time. There is evaluation of how effective the team is and changes are made when necessary. Teams are collaborative and adaptable.</p>	<p>Regular and evaluated team resource management training is offered to fully integrated multidisciplinary teams. Team membership is flexible with a horizontal structure. Different people make equally valued contributions when appropriate.</p> <p>Teams are about shared understanding and vision rather than geographical proximity. Team working is the accepted way in the</p>

	<p>Information is not shared between team members. The team operates secretively.</p>	<p>work together, and only pay lip service to the ideals of team working.</p> <p>Information is cascaded to team members following an incident. The team operates defensively and newcomers are not welcomed.</p>	<p>information within and across teams but these are not used effectively.</p> <p>Teams operate behind the scenes and generally within a single organization.</p>	<p>Teams are open and may involve members external to the organization.</p>	<p>organization. Teams are totally open, involving members from diverse organizations, locally, nationally and even internationally.</p>
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APPENDIX II: The Modified Stanford Instrument (Ginsburg 2006)



Instructions:

▶ The survey is seeking your **perceptions and opinions** of these patient safety issues. Indicate the extent to which you agree or disagree with each of the following statements. If you are unsure whether you agree or disagree, mark "neutral". If the question does not apply to your role or your work setting, please mark "not applicable".

What do we mean by:

- ▶ **Unit:** Think of **unit** as the area where you spend *most* of your work or provide *most* of your clinical services —whether that is a patient care unit / ward, clinic, department., the community, EMS, etc.
- ▶ **Supervisor manager:** Think of the person to whom you directly report.
- ▶ **Patient Safety:** Activities to avoid, prevent, or correct adverse outcomes which may result from the delivery of health care.
- ▶ **Serious Errors:** During healthcare delivery many small mistakes occur. The majority of these have minimal consequences for staff and patients. However, there are also more serious errors which cause harm, disability and /or longer hospital stays. **Serious errors** are those that harm the patient or have the potential to cause harm.

A. In your staff position, do you typically have direct interaction or contact with patients?

- YES, I typically have direct interaction or contact with patients.
- NO, I typically do NOT have direct interaction or contact with patients → *THANK YOU, please return the survey without completing any additional questions.*

B. In what setting do you spend most of your work time:

- Acute in-patient
- Long term/continuing care
- Ambulatory clinic
- Community
- Many different settings/no specific setting

C. What is your primary work area? Select ONE answer.

- Many different hospital units/no specific unit
- Medicine (non-surgical)
- Surgery
- Obstetrics
- Pediatrics
- Emergency department
- Intensive care unit (any type)
- Psychiatry/mental health
- Rehabilitation
- Chronic care
- Pharmacy
- Laboratory
- Radiology
- Anesthesiology
- Other

D. Indicate the extent to which you agree or disagree with each of the following statements

	<i>strongly disagree</i>	<i>disagree</i>	<i>neutral</i>	<i>agree</i>	<i>strongly agree</i>	<i>not applicable</i>
1. Patient safety decisions are made at the proper level by the most qualified people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Good communication flow exists up the chain of command regarding patient safety issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. If I make a serious error I worry that I will face disciplinary action from the college	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Senior management has a clear picture of the risk associated with patient care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Senior management provides a climate that promotes patient safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. When an incident is reported, it seems like the person is being written up, not the problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would feel ashamed if I made a serious error and my co-workers heard about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. There is no point in talking about a patient safety problem because nothing usually gets done about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Senior management considers patient safety when program changes are discussed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. My co-workers will think I am incompetent if they know I've made a serious error	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. If I make a serious error my manager will think I am incompetent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. On my unit, staff who report a co-worker's error are labelled as 'not being a team player'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I am rewarded for taking quick action to identify a serious error	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. My co-workers would support me if they learned of a serious error I made	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. On this unit it is difficult to speak up if you feel there is a problem related to patient safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. My co-workers will lose respect for me if they know I've made a serious error	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. If I report a patient safety incident, someone usually follows up to get more information from me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

not applicable

Making a serious error may cause a staff member to lose his/her job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. On this unit it is difficult to question the decisions or actions of those with more authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. If I point out a potentially serious patient safety incident, management will look into it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Others make you feel like a bit of a failure when you make an error	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. My organization effectively balances the need for patient safety and the need for productivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I work in an environment where patient safety is a high priority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Staff are usually given feedback about changes put into place based on incident reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. If I make a serious error I worry that I will face disciplinary action from management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Making a serious error would limit my career opportunities around here	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. If I made a serious error my manager would be supportive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Individuals involved in patient safety incidents have a quick and easy way to report what happened	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. My supervisor/manager seriously considers staff suggestions for improving patient safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. My supervisor/manager overlooks patient safety problems that happen over and over	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. On this unit, when a serious error occurs, we think about it carefully	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. On this unit, when people make a serious error, they ask others about how they could have prevented it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. On this unit, after a serious error has occurred, we think about how it came about and how to prevent the same mistake in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. On this unit, when a serious error occurs, we analyze it thoroughly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. On this unit, it is difficult to discuss errors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. On this unit, after a serious error has occurred, we think long and hard about how to correct it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

These questions are about your perceptions of overall patient safety

A - Excellent
 B - Very Good
 C - Acceptable
 D - Poor
 F - Failing

39. Please give your unit an overall grade on patient safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Please give the organization an overall grade on patient safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Finally, please help us to analyze these survey data by providing the following information:

Select ONE answer that best describes your role:

- RN
- RPN / LPN
- Clinical educator
- Clinical care manager
- Pharmacist
- Dietician
- PT, OT, or Speech Therapist
- Respiratory Therapist
- Technician (e.g., EKG, Lab, Radiology)
- Unit Assistant/Clerk/Secretary
- Health care aide
- Administration/Manager
- Attending/Staff Physician
- Resident Physician/Physician in Training
- EMS staff
- Other: _____

Time in your current profession:

- < 1 yr
- 1-5 yrs
- 6-10 yrs
- 11-20yrs
- > 20 yrs

Time in this organization:

- < 1 yr
- 1-5 yrs
- 6-10 yrs
- 11-20yrs
- > 20 yrs

Age:

- ≤ 30
- 31-40
- 41-50
- 51-60
- > 60

Gender:

- Female
- Male

Mother tongue (1st language learned):

- English
- Not English



Thank you for taking the time to complete this



APPENDIX III: Survey items in MSI (Ginsburg 2006)

Organizational leadership for safety	Safety learning behaviors
<p>Senior management provides a climate that promotes patient safety</p> <p>Patient safety decisions are made at the proper level by the most qualified people</p> <p>Good communication flow exists up the chain of command regarding patient safety issues</p> <p>Senior management has a clear picture of the risk associated with patient care</p> <p>My organization effectively balances the need for patient safety and the need for productivity</p> <p>Senior management considers patient safety when program changes are discussed</p> <p>I work in an environment where patient safety is a high priority</p>	<p>Individuals involved in major events have quick and easy way to capture/report what happened</p> <p>Individuals involved in major events contribute to the understanding and analysis of the event and the generation of possible solutions</p> <p>A formal process for disclosure of major events to patients/families is followed and this process includes support mechanisms for patients, family, and care/service providers</p> <p>The patient and family are invited to be <i>directly</i> involved in the entire process of understanding: what happened following a major event and generating solutions for reducing re-occurrence of similar events</p> <p>Things that are learned from major events are communicated to staff on our unit using <i>more than</i> one method (e.g. communication books, in-services, unit rounds, emails) and/or at <i>several</i> times so all staff hear about it</p>
Shame and repercussions of reporting	Perceived state of safety
<p>Reporting a patient safety problem will result in negative repercussions for the person reporting it</p> <p>Asking for help is a sign of incompetence</p> <p>If I make a mistake that has significant consequences and nobody notices, I do not tell anyone about it</p> <p>I will suffer negative consequences if I report a patient safety problem</p>	<p>Loss of experienced personnel has negatively affected my ability to provide high quality patient care (%disagree)</p> <p>I have enough time to complete patient care tasks safely</p> <p>In the last year, I have witnessed a co-worker do something that appeared to me to be unsafe for the patient in order to save time</p> <p>I am provided with adequate resources (personnel, budget, and equipment) to provide safe patient care</p>
Unit leadership for safety	<p>I have made significant errors in my work that I attribute to my own fatigue</p> <p>I believe that health care error constitutes a real and significant risk to the patients that we treat</p> <p>I believe that health care errors often go unreported</p> <p>I am less effective at work when I am fatigued</p> <p>Personal problems can adversely affect my performance</p>
<p>My unit takes the time to identify and assess risks to patients</p> <p>My supervisor says a good word when he/she sees a job according to established patient safety procedures</p> <p>My supervisor seriously considers staff suggestions for improving patient safety</p> <p>Whenever pressure builds up, my supervisor wants us to work faster, even if it means taking shortcuts (% disagree)</p> <p>My supervisor overlooks patient safety problems that happen over and over (%disagree)</p> <p>My unit does a good job managing risks to ensure patient safety</p> <p>I am rewarded for taking quick action to identify a serious mistake</p>	