ASSESSMENT OF

STAFF ATTITUDES TO PATIENT SAFETY

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Abstract

Safe, high-quality health care requires an open, transparent, and just culture where people are willing and have the opportunity to discuss errors and system problems and to do something about them. There is paucity of research in relation to safety issues in health care.

**Objective:** To identify the components of a safe culture and measure staff’s attitudes to those components in an area health service.

**Method:** A mixed mode method comprising qualitative and quantitative measures was used. A 60-item survey comprising a likert response scale and measuring safety attitudes and values was administrated to 3,200 staff in an Area Health Service (AHS) in Western Sydney. Focus groups were conducted with various professional groups to provide greater depth to salient issues identified in the survey.

**Results:** The response rate was 26%. Teamwork, communication, leadership, and performance shaping factors were identified as components of a safe working health service and that staff were committed to safety.

The results show that there is a positive safety and teamwork culture. However, the results about organisational culture were not positive. Results also showed that there is a high level of stress factors that influence safety in the organisation. There were a number of attitudes and patterns that warranted improvement and further investigation. However several areas of discontent among staff in terms of leadership and communication were acknowledged.

In regard to attitudes suggesting invulnerability to the effects of stress and fatigue, the majority of respondents acknowledged this belief. These findings are more favourable than those earlier studies using the Operating Room Management Attitudes
Questionnaire (ORMAQ), although these were conducted in other countries and the respondents were surgeons, anaesthetists, and Intensive Care Unit staff. A number of factors have emerged both from the questionnaire survey and the follow up focus groups that should be considered. The awareness of the need to encourage teamwork, communication, leadership prevailed.

**Conclusion:** Health care organisations can benefit from the valuable information and an understanding of staff’s attitudes to patient safety. It confirms the findings of other studies that attitudes to leadership, teamwork and performance shaping factors such as fatigue and stress have an impact on an organisation’s capacity to develop a culture of safety. Health care organisations need to acquire this kind of information, and build on it if they are considering developing and implementing patient safety programs.
Statement of Authentication

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

Date 18-12-2004
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<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>ACSQHC</td>
<td>Australian Council for Safety and Quality in Healthcare</td>
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<tr>
<td>AHS</td>
<td>Area Health Service</td>
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<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CPI</td>
<td>Clinical Practice Improvement</td>
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<td>CMAQ</td>
<td>Cockpit and Flight Management Attitudes Questionnaires</td>
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<td>CRM</td>
<td>Crew Resource Management</td>
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<tr>
<td>CSSP</td>
<td>Clinical Support Systems Program</td>
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<tr>
<td>DOH</td>
<td>Department of Health</td>
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<td>EBM</td>
<td>Evidence Based Medicine</td>
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<tr>
<td>ICE</td>
<td>The Institute of Clinical Excellence</td>
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<tr>
<td>ICU</td>
<td>Intensive Care Unit</td>
</tr>
<tr>
<td>IOM</td>
<td>Institute of Medicine</td>
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<tr>
<td>Department of Health</td>
<td>Australian Government Department of Health and Ageing</td>
</tr>
<tr>
<td>HFRP</td>
<td>Human Factors Research Project</td>
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<tr>
<td>MAHS</td>
<td>Metropolitan Area Health Service</td>
</tr>
<tr>
<td>ORMAQ</td>
<td>Operating Room Management Attitudes Questionnaire</td>
</tr>
<tr>
<td>NHS</td>
<td>National Health Service</td>
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<tr>
<td>NSW Health</td>
<td>New South Wales Health</td>
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<tr>
<td>NUM</td>
<td>Nurse Unit Manager</td>
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<tr>
<td>SAC</td>
<td>Severity Assessment Code</td>
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<td>TASC</td>
<td>Towards a Safer Culture</td>
</tr>
<tr>
<td>RACP</td>
<td>Royal Australasian College of Physicians</td>
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<tr>
<td>VIC DHS</td>
<td>Victorian Department of Human Services</td>
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<tr>
<td>VHA</td>
<td>Veterans Health Administration</td>
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<td>VMO</td>
<td>Visiting Medical Officer</td>
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CHAPTER 1

1.0 Introduction to the study.

Patients and their families want to feel safe and confident about the health care they receive. However, the increasing complexity of health care, an ageing population, advances in technology, increasing burden from chronic disease, and workforce issues have contributed greatly to the difficulties in ensuring and improving safety and quality in health care. Health care systems in the developed world deliver safe and effective care to millions of people each year (Australian Council for Safety and Quality in Health Care [ACSQHC], 2001b: 2001c, Kohn, Corrigan, & Donaldson, 1999; Wilson, Runciman, Gibbert et al., 1995). In spite of this, there is substantial evidence from Australia and overseas that there are potentially preventable problems associated with health care delivery which lead to patient deaths and disabilities. Errors and adverse events occur everyday in the health care system. (ACSQHC a, 2000; Beyea, 2002; Bogner, 2000).

1.1 Extent of the Problem

The Quality in Australian Health Care Study 1995 reported that adverse events would account for 3.3 million bed days. It was deduced by the authors that of those bed days 1.7 million bed days could be classified as highly preventable. Several weaknesses in the system that related to adverse events and medical error were also reported in the study. These included absence or failure to use policy, protocols or plans, drug related omissions, inappropriate drug use, inadequate monitoring of drug levels, errors of omission, inadequate reporting, inadequate training of staff, and inadequate functioning of services (Wilson et al., 1995).

In Australia, the cost of this unsafe care has been estimated at between $876 million to over $1 billion per year (ACSQHC a, 2000). The problem is international.
In the United States, it is estimated that 100,000 people are dying annually as a result of preventable errors in hospitals. The total cost of adverse events in American hospitals has been estimated at $37 billion, while the cost of preventable adverse events was estimated at $17 billion (Kohn et al., 1999). Similarly in the United Kingdom it is estimated that 850,000 people per year are reported to have experienced a serious adverse event with a cost of $2 billion a year in additional hospital stays to National Health Service (Department of Health [DOH], 2000). Of course the cost to patients, their families and staff in terms of mental and physical distress is unquantifiable.

1.2 Background

Health care is a high risk industry, yet the health care system lags behind other high risk industries in minimising the capacity for these risk factors to cause accidental injury and even patient deaths (Kohn et al., 1999). Improving the safety and quality of patient care is one of the most important challenges for health care today.

In Australia the establishment of the ACSQHC in 2000 has led national efforts to promote systemic improvements in the quality and safety of health care, with particular focus on minimising the likelihood and effects of error. The aim of the Council was to build a health care system that supports a culture of safety, that is patient centred, supports multidisciplinary team approaches, has a culture of learning for quality, a willingness to share information, recognises the inevitability of errors and system failures, and actively works to minimise the impact and prevention of error (ACQSHC, 2001a).

Modern health care is increasingly complex and brings inevitable risks to patients. These risks need to be actively managed and a high degree of vigilance is required. Health care providers have identified many barriers in providing safe care to
patients. These include time, lack of feedback, and little support for team building, a culture of blame, poor equipment and variable management support (ACQSHC, 2001b). It must be recognised that developing a culture of safety requires an understanding of the complexity of the health care system. It is known that adverse events occur because of the complexities of our systems resulting from error prone situations (technical errors) rather than error prone people. The majority of errors actually arise from a series of events in the processes of care. Evidence from high risk industries identifies that errors can be averted through proper design of equipment, support systems and processes, as well as vigilance through monitoring of errors and near misses (Helmreich & Merritt, 1998; Leape et al., 1998; Reason, 2002).

To ensure safe, quality care, leaders and managers need to create an open and transparent culture where people are willing to discuss and respond to errors and system problems. This concept is supported by the (Institute of Medicine [IOM], 2001):

…the biggest challenge to a move towards a safer health system is changing the culture from one of blaming individuals for errors to one in which errors are treated not as personal failures but as opportunities to improve the system and prevent harm (p.6)

The culture of health care must change from one of blame and shame to one of learning for quality improvement and safety. Therefore a fundamental change in organisational priorities must occur to achieve a safe patient environment.

To achieve this, a health care organisation must make patient safety an organisation wide priority. Developing a culture of safety requires an understanding of the complexities of the health care system, an evaluation of an organisation’s culture and effective governance (ACSQHC, 2000a, b; 2001a; Gaba, 2000; Morris, 2002; Sexton, Thomas, & Helmreich, 2000). Examination of the patient safety literature reveals that health care has much in common with aviation and other safety
critical industries. These industries which require high levels of safety have made significant efforts to understand factors that contribute to the complexities of the industries which in turn leads to effective safety programs. Analyses of these industries have shown that safety problems are primarily attributed to human failure as well as technical failures. (Helmreich, 2000) advised that other factors of health care delivery such as professional and organisational cultural factors, staff attitudes to safety, interpersonal aspects of teamwork, and communication have been identified in other industries as factors that have an impact on an organisation’s safety culture. He also points out that these need to be studied.

The Australian Health Ministers demonstrated their commitment to the safety and quality agenda in 2000 by establishing the ACQSHC in 2000. The council’s role has led national efforts to promote systemic improvements in safety and quality in health care. At a local level, Area Health Services (AHS) were advised to make patient safety a priority. They were promised continual high level political and organisational commitment to the safety agenda as well as adequate resources at all levels to drive the system changes that are needed to embed a patient centred safety focused (Gaba, 2000).

1.3 Purpose of the Study

The purpose of the study was to:

a) measure staff attitudes towards a safety culture
b) assess the values, attitudes, behaviours, and norms of the staff
c) determine how attitudes vary among clinical groups
d) establish a base line for future benchmarking, and
e) identify opportunities for improvement and raise awareness about patient safety.

Leaders and managers need to create an open and transparent culture where people are willing to discuss and respond to errors and system problems to ensure
safe, quality care. To promote a culture of safety, health care organisations must move away from the current blame and shame culture to one of learning for quality improvement and safety (ACQSHC, 2002c; Leape, 1994; Merry & Smith, 2001; Nieva & Sorra, 2003). Therefore in order for an organisation to transform culture it is important first to understand and confront it.

1.4 Research Question

The research question posed for this study was:

What are staff’s attitudes towards human, organisational and system factors that can have an impact on patient safety?

1.5 Significance of the Study

Both nationally and internationally there is a heightened awareness of the need to look at both human, organisational and systems factors while striving to understand how to improve patient safety in hospitals and health care settings. The knowledge gained from this study gave the organisation information on its strengths and weaknesses with regard to patient safety.

1. The data can be used by decision makers in the organisation to identify areas of concern in relation to the risks identified in the study for proactive management.

2. The results will profile the importance of human factors influence on patient safety, which was a concept that prior to the study was not an area wide priority.

3. The results of this study provide data to enhance the contribution of the Metropolitan Area Health Service (MAHS) in the area of safety and appropriateness of care.
4. The data from this study will provide the organisation with a base line measure on the patient safety climate in the organisation.

5. Data will be used as part of data collection to enhance quality and safety measures for improvements in safety in the future.

6. The study will aid in the development of a program of interventions to address specific attitudes, change related behaviour and improved safety performance.

7. Finally the study also adds to the body of international knowledge on patient safety once the findings are published and presented.

1.6 Operational Definitions

**Adverse event:** An unintended injury or complication which results in disability, death or a prolonged hospital stay and is the cause of health care management rather than by the patient’s disease (New South Wales Health, 1999).

**Clinician:** Medical practitioner, nurse, or allied health professional (New South Wales Health, 1999).

**Consumer:** a person or group of persons who use or who have the potential to use health services (New South Wales Health, 1999).

**Clinical Practice Improvement (CPI):** A combination of tools, techniques, skills and attributes designed to enhance care inputs, structures, cultures, processes, outputs or outcomes (New South Wales Health, 1999).

**Crew Resource Management (CRM):** Training programs which include human limitations on sources of error, the nature of error and error management, expert decision making, conflict resolution, the use of specific behaviours as threat and error countermeasures, formal review of relevant accident and incidents, and practice of employing error countermeasures (for example in simulation) with reinforcement for threat and error recognition and management (Helmreich, 1998).

**Culture:** values, beliefs and behaviours that we share with other members of groups
to which we belong (Merritt & Helmreich, 1996).

**Health System:** A conceptual system that consists of the total entities (and their interrelationships) that intend to maintain or improve people’s health (New South Wales Health, 1999).

**Human Factors:** The sum of individual characteristics, personality, learning and behaviour (Helmreich, 1998).

**Incident reporting:** A system for identifying, processing, analysing and reporting incidents with a view to preventing their occurrence (New South Wales Health, 1999).

**Just Culture:** is one where the individual feels encouraged to seek, identify and report errors and system failures and opportunities for system improvements are acted upon (Spath, 2002).

**Organisational Culture:** the values, beliefs, rituals, symbols, and behaviours that we share with others that help define us as a group in relation to other groups (Merritt & Helmreich, 1996).

**Organisational Sub-Cultures:** The collective set of relationships in organizations that differentiate one group from another in terms of dress, attitudes, values, behaviours, beliefs, language and shared meaning (Merritt & Helmreich, 1996).

**Quality:** Can be conceptualised implicitly or explicitly. Implicit conceptualisations include: (1) the adequacy of the process, (2) the nature of the outcome, (3) the relationship between process and outcome and acceptability of overall activity. Explicit conceptualisations include (4) statistical ratings of outcome events (such as morbidity or death) or (5) panel scrutiny of proposed procedures for particular treatments. Most commentators suggest that the quality outcome reflects consistency with expectations and the perceptions of the consumer (ACQSHC, 2000a).

**Quality of Care:** A term, which includes efficiency, effectiveness, accessibility, patient satisfaction, appropriateness of care and patient safety (ACQSHC, 2000a).
**Safety:** is the extent to which potential risks are avoided and inadvertent harm is minimised in the care delivery process (New South Wales Health, 1999).

**Root Cause Analysis (RCA):** is a system that includes a prioritising methodology and a human factors approach to reviewing near misses and adverse events. It includes tools such as the Severity Assessment Code (SAC) Matrix, a flip tool containing a series of questions and reporting the findings back to the reporter and to the Chief Executive Officer for support and endorsement (Bagin & Perlin 2001).

**Severity Assessment Code (SAC):** is a scoring method which requires assessing the events actual or potential severity and the probability of occurrence. This permit consistent approach and a rational selection of cases to be reviewed (Bagin & Perlin 2001).
1.7 Overview of Chapters

The goal of patient safety is to actively seek to minimise harm to patients as they journey through the health care system. Achieving this is dependent on a set of shared values and beliefs that recognise that the potential for error to occur and the need to establish robust defences to ensure that errors do not result in adverse events (Gaba, 2000). This chapter includes the background to the study, purpose of the study, followed by the research question. The significance of the study and the operational definitions are explained at the end of the chapter.

Chapter two examines the literature on factors that affect patient safety. It will identify the problems in achieving a safe patient environment in health care and argue the need for a sustainable approach to improve patient safety in health care and highlights how staff attitudes, such as teamwork, communication, performance shaping factors and organisational culture are crucial to maintain their effectiveness and sustainability in relation to patient safety. A number of patient safety initiatives and programs that are currently being implemented in a number of health care settings to improve the health care system are discussed.

Chapter three outlines the research methodology used in the study, describes the questionnaire and focus group processes, communication strategy for the study and the data analyses used.

Chapter four reports focus group and questionnaire results. Implications of the study for education and training and finally conclusions and recommendations for future research are discussed in chapter five.
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive review of the literature related to patient safety. It also includes a review of the literature from other safety critical industries such as aviation and transport which some experts have compared to medicine around safety issues.

2.2 Patient Safety

Patient safety is the extent to which the probability of preventable, unintentional injury or complication that may result in disability, death or prolongation of hospital stay, caused by health care management rather than by the patient’s disease, is minimised (Gaba 2000; Linford, 2000; National Expert Advisory Group on Safety and Quality in Australian Health Care [NEAGSQAHC], 1999). It is a kind of knowledge management which enhances continual learning, and is educating and motivating (Lilford, 2002; NEAGSQAHC, 1999). Recent studies identified the need for a strong focus on the requirement to improve commitment to safety and quality and coordination of quality activities (Donaldson, 2001; Kohn, Corrigan, & Donaldson, 1999; Wilson et al., 1995).

Patient safety in health care is not a new concept. However, the science of patient safety is evolving rapidly under pressure from the public and the media to discover new and better ways to deliver health care in a safe, effective and efficient manner (Affonso & Doran, 2002). An analysis of the scale of avoidable adverse outcomes has shown that the problem is much greater than previously realised (IOM, 1999; Wilson et al., 1995). It is now recognised that the solution is to create and design safe systems, which will reduce the likelihood of medical error and its impact when it does occur, and then to learn from the errors that do happen. A number of different approaches have been developed as a result of reviews of health care.
systems. It is important that a systematic approach that ensures safety and quality are embedded in the way organisations and health care providers plan, deliver and evaluate their services (Campbell et al., 2002). These approaches to patient safety are outlined in Chapter two.

2.3 Review of the Literature on Patient Safety

The problem of patient safety has long been identified in medical literature. Since the mid 1950’s regular published information on patient deaths and injuries resulting from treatment has had little influence in changing clinical practice. It has taken an external stimulus namely the media to motivate the medical profession to systematically review safety and quality of health care. Millenson, (20020 states:

*The mirror held up to the profession by news media coverage that finally penetrated the self protective shell of rationalisations, subverted the old paradigm, and promoted the current effort to develop a system orientated patient safety approach.* (p. 3)

The majority of health care services are of a very high clinical standard. However, serious failures in care can occur and can have devastating consequences for individual patients and their families and cause much anguish for health care providers.

Adverse event reporting, medical error and patient safety are now major issues in health care systems across the world today. Recent studies into the quality of health care in Australia, United States of America and the United Kingdom have drawn attention to the chronic "unsafeness" of our health systems worldwide and the need for management and clinicians to look at the quality of care now being delivered (ACSQHC, 2001a, 2002;a Bhasale, 1998; Brennan & Leape, 1991; Kennedy, 2001;Wilson et al., 1995).
The Institute of Medicine report *To Error is Human: Building a Safer Health System*, highlighted the extent of the problem, estimating that medical errors were the eight leading causes of death in America. It prompted a number of regulatory and legislative initiatives that focused patient safety programs and medical error research programs that were federally funded (IMO, 1999). Likewise in the United Kingdom the publication of *An Organisation with a Memory* highlighted similar problems in the National Health Service (DOH, 2000). Here in Australia the infamous paper *The Quality in Australian Health Care Study* published by Wilson et al., (1995) led to the establishment of the Taskforce on Quality and the National Advisory Group on Safety and Quality in Australian Health Care.

As a result of the above studies, costs constraints, increased consumer demands and a greater focus on accountability, patient safety programs are being developed, implemented and evaluated to determine why safety is undermined (Powell, Davis, & Thomson, 2003). Agencies such as the ACQSHC, the English National Safety Authority, and the Commission for Health Care Improvement, focus specifically on patient safety are working with health care organisations to develop practical strategies to improve the safety of patient care. Some of these strategies include:

1. The development of national standards for open disclosure
2. Reducing preventable patient harm associated with medication use
3. Reducing patient harm as a result of health care associated infection
4. Coordinated national action to learn from serious adverse events (ACSQHC, 2002a).

Professor Bruce Barraclough, Chairman of the ACSQHC stated:

*The Council cannot improve the safety and quality of health care on its own. Complex, adaptive systems such as the health care system are not amendable to simple fixes. Improving patient safety*
requires leadership by governments and professional bodies; allocation of time and resources by health care managers; support and practical tools for health care professionals; and active involvement of consumers. (ACSQHC c, 2003, p. 2)

Currently it is hard to assess the scale and nature of such failures in health care due to inadequate reporting and information systems. These failures can have serious financial cost for health care organisations (Wilson et al., 1995). In many cases these failures have strong similarities and have occurred more than once. Often these failures could have been avoided if lessons had been learned from the original failure. Wilson et al., (1995) noted that:

… as in other complex systems such as aviation, adverse events in health care seldom arise from a single human error or the failure of one item of equipment, but are usually associated with complex interactions between management, organisational, technical and equipment problems, which not only set the stage for the adverse event but may be the prime cause. (p. 470)

Improving the quality and safety of patient care is one of the most important challenges facing the health care system. Health care has become more complex and increasingly risky and the capacity of these risk factors to cause accidental injury and death to patients must be minimised. Before any action can be taken to strengthen or alter an organisational culture around patient safety, there first must be clear knowledge of the existing culture. To do this, the underlying values and beliefs that guide work behaviour relating to patient safety need to be identified.

The aim of this literature review was to identify factors that are associated with patient safety and the effectiveness of safety programs. A comprehensive review of literature from health care was undertaken with literature from other safety industries also reviewed. Many variables were identified under the term of patient safety but the following six major domains areas relating to patient safety were identified:

1. Organisational culture
2. Leadership
3. Error management
4. Performance shaping factors
5. Communication
6. Teamwork

Many of the variables were inter-related, however the variable that was the primary focus of the papers reviewed was used to determine the domain area.

2.3.1 Organisational Culture

It is organisational culture which ultimately shapes the perception of safety, the relative importance placed on safety, and members' activities regarding safety. Merritt & Helmreich, (1996) defined culture as:

…the values, beliefs, rituals, symbols, and behaviours that we share with others that help define us as a group in relation to other groups. (p. 8)

They describe two components to culture. The first is the outer layer of culture which consists of recognisable behaviours and physical signs such as uniform, logo, signs and documents while the second inner layer consists of values, beliefs and assumptions that provide the logic which guides members behaviours.

Organisational culture provides a framework for bringing together a range of beliefs, values and goals that provide an understanding of how organisations work (Bloor, 1999; Brown, 1998; Schein, 1985; Smircich, 1983). Organisational cultures are complex and include all aspects of an organisation’s experiences including behaviour, value, beliefs, norms, and assumptions, which contribute to shared meanings, understandings and expectations, that underpin the way things are done and passed on to new members. Most work around organisational culture has taken place in commercial organisations but recently such research has been undertaken in the
health care industry in relation to patient safety, systems review and magnet hospitals (Brown, 1998).

Health care organisations have many subcultures and may indeed have various professional subcultures (for example medical emergency teams), which coexist in their own way and work together. Some members may belong to many different subcultures and they may have to choose between organisational or subcultural guidelines to assist in defining their work practices. The existence of subcultural groups will not harm organisations as long as the cultures are united by common beliefs and values that are representative of the organisational culture. Merritt and Helmreich (1996) report:

...a safe culture is more than a group of individuals enacting a set of safety guidelines - it is a group of individuals guided in their behaviour by their joint belief in the importance of safety and their shared understanding that every member willingly upholds the group’s safety norms and will support other members to that common end (p. 9).

It has been speculated if an organisation wants to ensure patient safety it must focus research on human and systems performance aimed at learning how complex systems fail and how people contribute to safety (Carroll & Edmondson, 2002). There is research evidence that safe cultures exist where open reporting and a systematic approach to recording and analyses of adverse events and near misses are encouraged and have positive effects on patient safety. However, Berwick (2002), Chief Executive Officer (CEO) of the Institute for Health Care Improvement in Boston believes that there is no effective safe system to reduce errors. He defined what is needed in a safety system as a set of managed inter-dependable, organisational activities that reliably make potential errors visible, reduce risks and mitigate the effects of errors. Such a system should contain:

1. Specific and regular Board activities
2. Ongoing and frequent monitoring of levels of safety, hazards and conformance to safe practices

3. Detailed accident investigation and reporting

4. Ongoing processes for learning from safety and human factors research

5. Processes for maintaining and encouraging a participative culture free from blame

6. Internal incentive and recognition systems with safety improvement

7. Knowledge of effective and efficient prevention methods and safe designs (Berwick, 2002).

Emphasis on organisational learning in health care is a means of improving health care systems and making hospitals safer places for patients. This concept is now widely used in health care settings to enhance positive organisational cultures in reducing risk for patients and in promoting a reporting culture where staff will feel comfortable to report errors and near misses in non-punitive environment (Bloor, 1999). Experts from the English National Health Service (NHS) argued that the key to long-term improvements in the quality of health care and patient safety is to enable organisations to engage in active learning to ensure that lessons are embedded in practice:

> Organisational culture is central to every stage of the learning process – from ensuring that incidents are identified and reported to through to embedding the necessary changes deeply in practice. (NHS, 2000, p. 6)

It is important to be proactive with regard to safety; the organisation needs to have an integrated approach with periodic safety audits which can identify weaknesses in the system. A system-wide investigation and remediation program aimed at upholding a shared value, i.e., system-wide safety is necessary. To that end, the organisation needs to encourage and reward vigilance and inquiry from all of its members, seeking to
improve system weaknesses and strengthen the culture of safety (Brown, 1998; Carroll & Edmondson, 2002; Merritt & Helmreich, 1996).

2.3.2. Leadership

Effective leadership is essential for safe quality health care (Donaldson, 2001; DOH, 2000; Flin et al., 2003; Firth-Cozens & Mowbray, 2001; Merritt & Helmreich 1996; Moss & Garside 2001).

Donaldson (2001) states that:

*Leaders in health care need to be able to deliver safe, effective, and high quality care within organizations, with the right culture, the best systems and the most highly skilled and motivated workforces.* (p. ii8)

Staff in a well led organisation will know its vision, mission, and values and have an understanding of these characteristics. This will be evident at every level of the organisation. The organisation will benefit from being clear about how this leadership is followed through at all levels of management in an organisation. Such communication gives staff a common and consistent purpose and clear expectations. Leaders in such an organisation need to have clear plans to develop and maintain the quality of their clinical services. These plans need to be based on the requirements of the community, regulatory requirements, staff capabilities, training needs, performance measures and an appreciation of exposures to clinical risk (Berwick, 1996). Leaders need to ensure that these plans are owned by staff at the level of individual units, across the organisation and up to Board level. Good leadership empowers teamwork, encourages an open and reporting culture that ensures that the daily practice of clinical care reflects the ethos and vision of patient safety (Carroll & Edmondson, 2002; Firth-Cozens, 1998; Halligan & Donaldson, 2001).
There is vast evidence of variation of quality of care, and medical error in health care systems. Health care organisations are accountable for safeguarding high standards of care, continually improving the quality of the services they deliver by creating an environment of clinical excellence and one that is accountable for the care delivered. This accountability has been driven by several factors including the expectations of consumers that standards should be explicit and transparent, a series of high profile publications of health service failures, the media attention on medical error and a series of medical publications outlining the need to review patient safety (DOH, 2000; IOM, 2001; Wilson et al., 1995). Given this, leadership in health care carries enormous responsibility. Leaders have always been responsible for implementing policy and meeting both performance and financial targets. However, since 1999 with the introduction of clinical governance many health care leaders have had to take on the responsibility of clinical care (Sausman, 2001).

Clinical governance is the term used to describe the links between clinical and organisational responsibility for the quality of care. Chief Executives Officers (CEO) of health care organisations are no longer only responsible for financial performance but they now have specific responsibility for the quality and outcomes of clinical services (Heard, Schiller, Aitken, Fergie, & McCready Hall, 2001).

The aim of adopting clinical governance in an organisation was to establish a culture in which patient safety and quality improvement are central to the work of all (Heard et al., 2001). This governance also places an imperative on clinicians to see quality improvement as an organisational issue as well as a clinical and professional issue. This change has challenged traditional, professional and managerial attitudes and approaches to leadership and clinical management. It is important that health professionals are provided with appropriate skills to examine the health care system
and how it works, to identify the changes needed to be able to guarantee better quality, safer care for patients.

An understanding of the complexity of leadership is important. The implications and impact of leadership needs to be understood by all who work in health care. In the complex system of health care leaders exist at all levels. Individuals may be required to lead in some situations but may also be required to take on another team role. There are clinical leadership roles as well as managerial leadership roles that health care professionals may be expected to undertake. There are vast amounts of literature written on leadership covering the personality and behaviour of a leader, the contexts where leadership takes place and the people who are led. In health care there is a distinction between executive officer leadership and the team or clinical leadership of professional groups, such as nurses and doctors at the point of clinical care (Firth-Cozens & Mowbray, 2001).

In the context of measuring and managing patient safety and quality in the health care system the research describes a number of leadership styles for example, transactional, transformational, and opinion leaders (Moss & Garside, 2001).

Transactional leadership relies on the power of organisational position where leaders have power and authority over followers and use this power to achieve goals and objectives. Transactional leaders focus on problems and mistakes and principal components of this style is to reward or punish performance. Transformational leadership on the other hand is collaborative, consensus seeking and consultative. Transformational leaders look for a way to motivate staff by involving them in the processes of work. They involve and respond to individuals needs and interests and are able to initiate and cope with change (Clegg, 2000; Donaldson, 2001; Flin, 2003; Markham, 1998). Research conducted in 2000 by Alimo and Metcalf, and by Albam and Metcalfe (as cited in Firth-Cozen & Mowbray, 2001) found that health care
leaders needed a combination of both styles to have the ability to lead change and hold stability in an organisation. The study on health service leadership concluded that staff wanted a leader who would do the best for them, who would engage them as partners, and provide staff with discretion and control, where possible (Firth- Cozens & Mowbray 2001).

Another type of leader described in health care literature is the opinion leader. These leaders are described as being influential in bringing about change in terms of evidence based health care. They come across as competent, articulate and provide strong role models to those being led. These leadership skills are very valuable in the health care setting. However, Firth-Cozen and Mowbray (2001) state that research has failed to conclude that any one style of leadership is best for health care and advise that leaders should recognise their leadership strengths and style and partner themselves with colleagues who play the role they find difficult rather than presume that they must engage in a combination of leadership styles themselves.

2.3.3 Error Management

Research on learning from failures in the health care system is scarce. However, there is vast evidence from other industries such as manufacturing and aviation, that valuable knowledge and learning can be obtained from identification and management of human error that can be very relevant to health care. When accidents happen, whether in health care or other environments, the usual response is an attempt to identify an individual or individuals to carry blame. Human error may sometimes be the factor that immediately precedes a major error or failure, but there is usually system factors at work which if addressed may have avoided the error or acted to mitigate the error (Leape, 1994; Reason, 2002; Spath, 2002). Analysis of the incidents tends to be on the events immediately surrounding the error and in particular on
human factors preceding the event. In a great many cases the cause stretches far beyond the actions of the individual immediately involved. Usually a great number of factors are at work at any one time, which influences the likelihood of failure.

Reason, (2000) uses the Swiss cheese model of systems accidents to explain this.

Successive layers of defences, barriers and safeguards

*Figure 2.1. Swiss cheese model of accident causation (Reason, 2000).*

Reason, (2000) explains that defences, barriers and safeguards occupy a key position in a system approach to safety. Systems need many defence layers such as alarms; automatic shut downs, physical barriers, protocols, policies guidelines and checklists. Appropriately trained staff, nurses, pilots, surgeons will also function as defence barriers. The function of these defence barriers is to protect potential victims and assets from local hazards. He goes on to explain that in the ideal world these work effectively and each defence layer would be intact. However, in the real world they are more like slices of swiss cheese, having many holes. In health care these holes are continually moving and shifting.
When an accident opportunity happens it’s the result of the holes in many layers momentarily lining up to permit a trajectory of accident opportunity - bringing hazards into damaging contact with the victim. (Reason, 2002 p 769).

Human decisions and actions play a leading role in most accidents. Reason has identified active and latent error as the two categories that contribute to the ultimate breakdown of safe technologies in a system. Active errors are unsafe acts or omissions that have immediate adverse consequences, for example picking up the wrong syringe, cognitive failures such as forgetfulness or misreading a situation or failure to follow procedures or standing operating procedures. Latent errors are failures that can lie dormant in the system for long periods of time and only become apparent when there is a breakdown in the system defences, for example, technical faults, and poor designs. They can be weakness in the systems defence against accidents and incidents e.g. inadequate equipment, unworkable procedures, poor design or they can be error provoking, locally e.g. poor staffing, time pressures and inexperience (Carroll & Edmondson, 2002; Lawton & Parker, 2002; Reason, 2000; Vincent, Taylor-Adams & Stanhope, 1998).

The Reason model of accident causation has been widely adopted throughout safety critical industries as a method to examine the way accidents and errors occur. His theory is that human error has two approaches. The first approach, called the person approach which focuses on errors of individuals, blaming them for forgetfulness, inattention or moral weaknesses. The second approach is the system approach which believes that humans are in fact fallible and realise that staff will always make mistakes and build in system defences to compensate, create barriers and safeguards to trap mistakes. Reason, 2002 states:

> When adverse events occur an investigation concentrates on important issues around how that the systems failed and not on the person who made the mistake (p.768).
In health care, unfortunately, the first approach dominates. Investigation of errors focuses on people at the sharp end doctors, nurses, pharmacists, etc. Recommendations from such investigations are aimed at reducing variability in human behaviour. Methods include writing a new procedure or reviewing an existing one, disciplinary measures such as, naming, blaming, shaming and retraining the person who made the error.

The system approach concentrates on the conditions in which people work and try to build defences to mitigate errors. Reason (2000) asserts that the person approach remains the dominant tradition in medicine. He states that blaming individuals is emotionally more satisfying than targeting institutions. People are capable of choosing between safe and unsafe modes of behaviour and are therefore responsible for their actions. Managers often try to untangle a person’s responsibility from the organisation’s responsibility. He argues that the person approach has serious shortcomings and is not suitable for health care because unless an organisation can learn from their mistakes by working out the active and latent causes, the safety agenda will be thwarted. In the systems approach, trust is a key element. A reporting culture has to be established where detailed analysis of errors, mishaps, and near misses are reported and analysed so that lessons can be learned from them (Reason, 2000; Vincent et al., 1998). Research into error management emphasises the need to move from the presumption that humans are the lone source of error, to considering the system factors that were also involved in the error (DOH, 2000; IOM, 1999).

Health care systems with their particular complexities and characteristics can still find value from reviewing research from other safety critical industries, such as aviation. Health care organisations need to take error management into consideration. Firstly, error management limits the incident of errors and secondly creates a system
that can tolerate errors and contain their effects. The systems approach focuses on a management program that aims at the team, the person, the task, the workplace, and the institution as a whole.

*Highly reliable organisations recognise that humans can compensate and adapt to changing situations and are often one of the most important safeguards.* (Reason, 2000, p.700)

In emergency situations, control shifts to the expert on the spot who manages the emergency. Safety organisations have a preoccupation with the possibility of failure, they expect errors to happen and train their staff to recover from such failures. In medicine, familiar scenarios of failure are rehearsed for example, cardiopulmonary resuscitation. Staff anticipate the worst scenarios and study ways to bring situations under control. Staff then train to be able to manage these events if they should happen. Such techniques should abound in health, but unfortunately they are sparse and uncoordinated at an organisational level.

In conclusion, the pursuit of safety is not so much about preventing isolated failure as about making a system as robust as possible in the face of human and operational hazards. Health care organisations have to learn from the mistakes and look at system issues around these mistakes; this in turn enhances the resilience of the system. By increasing the search for why medical errors occur to the context in which systems affect the care, and beyond the care provided, error provoking factors will be identified, changes initiated that effectively reduce error and enhance patient safety (DOH, 2000; Reason, 2000).

### 2.3.4 Performance Shaping Factors

The majority of the literature on the effects of performance shaping factors comes from the aviation and transport industries. In health these issues are also reviewed in relation to safe staffing which in turn is related to patient safety. Various factors are
discussed under this heading including fatigue, family responsibilities, stress factors, work loads, and culture. All of these factors affect human behaviour and performance and have a bearing on complex team interactions which characterise the provision of health care (Cox, & Flin, 1998).

Fatigue has many definitions but there is a general acknowledgement in the literature that fatigue management is not an exact science (Civil Air, 2001). Often writers use the terms fatigue, sleepiness / tiredness interchangeably. In this context the definition of tiredness as the ability to initiate sleep, and fatigue as the inability to maintain sufficient job alertness will be used (ACSQHC, 2003c). In studies on the effect of fatigue on performance it has been found that after 17-18 hours of wakefulness performance impairment is consistent with a greater than 0.05% blood alcohol concentration (Dawson & Reid, 1997; Williamson & Feyer, 2002).

Friedman, Bigger, and Kornfield, (1971) found that a group of interns made twice as many errors interpreting electrocardiographs and had a three fold increase in difficulty in concentrating when fatigued. Merry & Smith, (2001) found that 86% of anaesthetists have reported fatigue related errors at some stage in their careers. Crosby, (2002) warns that fatigue is a significant threat to performance. The major danger is the fact that it is insidious; individuals are often unaware how fatigued they are and therefore are unaware of the consequences fatigue can have on them as they work. Firth-Cozens, (2001b) cite a study by Wall et al., (1997), which found that health professionals, nurses, and managers and particularly doctors were considerably more stressed than other British workers. In the aviation and transport industries fatigue and stress are well acknowledged as factors that have an adverse influence on safety (ACTU, 2001; Civil Air, 2001).

Stress related to family responsibilities and commitments has been recognised as having the ability to affect performance at work (Crosby, 2002; Cox & Flin, 1998;
Fiedler et al., 2000; Matthews & Davis 2002). Stress from outside influences such as finances, carer responsibilities and ill health has also been recorded as having an effect on performance. Long hours and shift work can be a burden. Symptoms such as mood disorders, attempted suicide, depression, and increased alcohol intake have been associated with long work hours (ACSQHC, 2003c).

Road transport and aviation industries have recognised the relationship between human resources, work load, and safety for many years now and have a systematic approach to managing safe staffing issues. However, in the health care industry there is little evidence of systemic management of safe staffing. The ACSQHC set up a Safe Staffing Task Force to lead the work on safe staffing in Australia. The Task Force commissioned a major literature review to identify staffing factors that are associated with patient safety or quality in both health and non health industries. The report acknowledges that evidence on safe staffing is limited and recommends that research and well designed studies are needed. However, it also reported that there was sufficient evidence to identify and detail many issues related to safety and some potential solutions are identified. The findings include issues such as rostering, skill mix, support, and supervision of junior staff, nurse patient ratio, doctor patient ratio, shortages in specialty skilled staff, work environment (rural and remote areas) all have a potential risk to safe patient care. The report advises that managers and clinicians need to be aware of these issues and the structure of work practices need to be reviewed against current demands to ensure that staffing numbers and skill mix are appropriate and do not adversely affect patient safety.

In medicine the pursuit of excellence and experience has traditionally meant that doctors work long hours and find it necessary to do so to become and remain competent (AQSCHC, 2003c). However, these traditions do not necessarily achieve the desired outcomes. It is known that fatigue does not enhance good learning
outcomes and stressful situations can impact judgment and decision making. The Sexton et al., (2000) study on staff attitudes found that doctor’s perceptions of fatigue and performance were considerably different to pilots. Pilots were more likely to acknowledge the effects of fatigue on their performances than doctors and that doctors were less likely to discuss or admit to errors made. In the transport and aviation industry as far back as the fifties duty times were regulated and fatigue management systems continue to be developed. In the health care industry however, such thinking is just starting to emerge. In its recommendations to the Australian Council for Safety and Quality in Health Care, the Safe Staffing Task Force has made recommendations on the reduction and management of fatigue and stress inducing factors as priorities for action (ACSQHC, 2003c).

Research also indicated that the hierarchical traditional structures in health care are to promote a culture that prohibits staff from admitting that they are not functioning optimally. A culture of blame and bullying abounds in health. In fact bullying is often a contributing factor to the reasons that health care workers consider leaving their jobs and has been cited as a contributing factor in difficulties with retention of staff in the health care industry (Braithwaite & Mallock, 2004; Donovan, 2002; Matthews & Davis, 2002; Quine, 1999).

Studies into factors that influence the reporting of error have found that blame of individuals for mistakes, fear of reprisal, unwillingness to acknowledge vulnerability to stress and fatigue, a loss of clinical confidence, loss of reputation, and peer disapproval all have a negative impact on the likelihood of errors being reported. Yet it is known that organisations need to have an awareness of the types of injuries and errors occurring, and to have an awareness of the causes of such injuries in order to develop an effective method of prevention. Therefore, a cultural change is needed to ensure that errors and near misses are reported.
2.3.5 Communication

Communication is the transfer of meaning from one person to another. Ideal communication is a specific, directed, acknowledged two-way process, where both the transmission and the reception are acknowledged through feedback. Effective communication is an essential part of achieving safe health care (ACSQHCa, 2001). It has been extensively reported that there are poor communication practices and infrastructures in health care (Brennan et al., 1991; Kahn, 1995; Vincent 1997; Wilson et al., 1995). The Australian Health Care Study (1995) reported that communication problems were the most common cause of preventable disability and death. Evidence in this study also showed that communication problems were more common than lack of medical skill (Wilson et al., 1995). Another study on communication behaviours in the hospital setting reported that communication behaviour resulted in an interruptive workplace which seemed to contribute to inefficient work practices (Coiera & Tombs, 1998).

Young (1998) stated that, health systems that have well developed policy and procedures, clinical pathways and guidelines and a high level of feedback to staff are perceived to be providing the best care. Patient complaints are seldom about clinical care alone but include dissatisfaction with communication and lack of information. Those medical practitioners who have experienced litigation often believe that inadequate communication between staff and the patient is the major cause of accidents (Walton, 2001). Health professionals are ethically responsible for maintaining an honest communication with their patients and their families.

Effective communication should happen at all levels specifically:

1. Between the health teams. Team members need to understand and communicate aspects of the patient’s care planning and progress. The health
teams also need an understanding of any factors that may affect the patient and their treatment. This ensures that the patient and carers have an understanding of the treatment being given and what they need to do about it. Effective communication and collaboration between members of the health care team ensure that all team members are adequately informed and have access to the information and test results they need to care for the patient and work as an effective team.

2. Between staff in different parts of the organisation. To ensure that the expertise and relevant services and information are available for the provision of efficient safe care.

3. Between the health care teams and the patients and their families. It is known that the majority of patients trust health professionals and rely on them to give information that is understandable and reliable. Ensuring that communication is open and honest and is immediate is important to patient safety. This is especially important when things go wrong. There is a lot of work now being undertaken in health care around open disclosure. Open disclosure is the open discussion of incidents that result in harm to a patient receiving health care. The elements include an expression of regret, a factual explanation of what happened, the potential consequences and the steps being taken to manage the event and prevent recurrence. It is reported in the literature that patients are less likely to commence legal proceedings if they are given a clear account of what happened and are informed of the adverse incident in a timely manner (ACSQHC, 2003d).

Communication between health professionals and patients can be particularly challenging and difficult where patients and their families come from linguistically or culturally different backgrounds. The need for interpreter services should be identified
and arranged as soon as possible. These challenges are also true for patients who may be mentally ill or demented patients. Health care professionals have a responsibility to ensure that communication to disadvantaged groups is effective and coordinated.

Communication and collaboration are central to patient safety. It is a process of joint communication and decision making with a goal of satisfying the patients needs which may involve accommodation and cooperation between the health professionals and the patients. The aim of safety in health care is to focus care around the patient. Patients need to feel comfortable as partners in their own health care. Health care teams are encouraged to work together effectively for the care of each patient by supporting each other, and communicating and sharing information. It is now recognised internationally that significant changes must be made in organisations and systems to ensure patient safety. There are many solutions proposed including simplifying and standardising procedures, redesigning work flow, redesigning equipment, learning from errors, improved communication, to name a few. However, central to all of these suggestions is the need for effective communication, which is required on all levels to inform patients and health professionals of the advances being made and of the need for both to be actively involved in these improvement strategies (ACSQHC, 2003d; Marino1998).

2.3.6 Teamwork

Health care today is complex, fast paced and ever changing. Therefore, health care organisations need to shift the overall structures to be adaptive and highly responsive to be able to cope. Teams and team working have been put forward by many as one strategy to achieve this goal (ACSQHC, 2001c; Carroll & Edmondson, 2002; IOM, 2000; Marino, 1998; Powell et al., 2003).
Adair (1983), listed the characteristics of a team being most of, not all of the following:

1. Definable membership of three or more people
2. There is group consensus or identity and members think of themselves as a group
3. There is a sense of shared purpose and members share some common goals or tasks
4. The members of the group are interdependent
5. The members interact, communicate, and influence one another and react to one another
6. From time to time, the members of the team review the team’s overall effectiveness.

Katzenbach & Smith (1993) propose the following definition:

... a team is a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable ... (p. 45)

In contrast, Larson and LaFasto (1989) suggest that:

A team has two or more people; it has a specific or recognizable goal to be attained; and coordination of activity among the members of the team is required for the attainment of the team goal or objective (p. 19).

These definitions concur with Adair’s notion of teams and help to introduce the notion of team work as a key attribute, as teams necessarily require coordinated, cooperative and collaborative action. In all areas of health, teams and teamwork are considered as the cornerstone of effective care. The main features described include good communication and coordination between team members, early assessment and involvement of clinicians and involvement with patients, carers and relatives (Gibbon et al., 2002). The benefits claimed for teamwork are: (a) higher quality of care, (b)
reduced staff turnover and absenteeism, (c) improved financial outcomes, (d) increased staff motivation, (e) reduced conflict and (f) better patient outcomes. Multidisciplinary teamwork has been touted as beneficial to patient care because it allows a holistic approach that enhances patient outcomes. Multidisciplinary teamwork allows problems faced to be reviewed by a broader variety of staff with specific knowledge and skills to inform and influence the situation. There is a sharing of responsibilities and a synergy in the group that might energise and motivate each other (Eva, 2002; Firth-Cozens, 2001; Gibbon, Watkins et al., 2002).

The benefit of teamwork in improving patient safety and quality of health care has been recognised in a number of studies (Carter & West, 1989; Firth-Cozens, 1998; Mariano, 1989; Reith, 1998). In these studies four major themes emerged that related to safety: (a) thoroughness and attention to detail, (b) effective communication, (c) listening to all members of the clinical team, carers, and relatives, and (d) significantly improved detection, treatment and follow up. Firth-Cozens (2001) claims that although it is important that individual and organisational learning take place for health care to increase patient safety it is advisable to do it within the context of well functioning teams. These teams need to be linked to management so that there is clear accountability for the teams and what they are trying to achieve.

Patient care is an interdependent process carried out by teams of health care individuals who have advance technical and medical training and who have varying roles and decision making responsibilities. It is understood that while technical training assures proficiency at specific tasks, it does not address the potential for errors created by decision making and communication in dynamic environments. In aviation a strategy called Crew Resource Management (CRM) has been developed to address the non technical safety factors such as specific attitudes, change related behaviour and improving performance among flight crew. The emerging patient
safety research points to the fact that there are many similarities between the aviation industry and health. In both, environments are complex and ever-changing. Both are faced with daily congruencies with production and safety goals. In each domain, small teams work at the sharp end, supported by vast numbers of multidisciplinary staff working in other areas that are interdependent for the safe functioning of services (Merritt & Helmreich, 1998).

CRM is a safety training methodology which focuses on effective team management. It is agreed that much of the improvements in commercial aviation have been attributed to this type of safety training (Shojania, Duncan, McDonald, & Wachter, 2001). Lessons from aviation’s approach to team training have been applied to patient safety. The CRM training programs include educating crews (and now medical teams) about limitations in human performance. They require participants to develop an understanding of error and how stressors, such as fatigue, overload and emergencies contribute to error. They require participants to assess personal and peer behaviours and to embrace the operational concepts of inquiry, seeking and clarification of information, advocacy, and communication of proposed actions, conflict resolutions and decision making (Chidester, Helmreich, & Gregorich, 1991). This methodology has evolved from collecting and analysing a substantial amount of safety related data. The findings have been the catalyst in the development of tailored prevention strategies to be developed as part of the CRM program.

To build safety conscious teams in health care, organisation’s need to be aware of staff’s attitudes to error, stress and teamwork. Research from safety critical industries tells us that, to achieve this in health care we must understand the system in which health care is delivered (Sexton, 2000). Furthermore, there is a need to study and understand error and error management. Sexton, (2000) advises:
Other components of health care delivery systems, such as professional and organisational cultural factors (for example, denial to vulnerability to stress) interpersonal aspects to performance (for example, lack of teamwork within and between disciplines) therefore also need to be studied to increase the understanding and prevent of error (p. 745).

The Human Factors Research Group HFRG at the University of Texas has been investigating teams at work in the safety critical environments such as aviation, nuclear industries, space, and medicine. HFTG used surveys to collect data on attitudes about error, stress, hierarchy, and teamwork which are relevant to understanding error, predictive of performance, and sensitive to training interventions. Sexton and his team at the University of Texas believe that attitudes regarding the recognition of stressor effects indicate the degree to which individuals will place themselves in error inducing conditions, and items regarding hierarchy and teamwork indicate the abilities of team members to manage both threats and errors in team environment (Sexton, 2000). Re-emphasising and redefining the concept of human error is the template needed to build a safety conscious organisation (Helmreich, 1996). Health care teams need to become accustomed to the CRM theory by adapting their model of team performance as inputs that are critical to essential team functioning that in turn lead to desired outcomes.

In health care, designing and implementing new systems and processes that diminish the chance of error and elimination of unsafe situations are necessary. The system approach recommended is that organisations recognise the inevitability of human error. The goals are:

1. Reducing the likelihood of error
2. Trapping errors
3. Trapping errors before they have an operational effect
In order to maximise the impact of patient safety measures there needs to be an understanding of the shared attitudes, beliefs, values, and assumptions that underlie how people perceive and act upon safety issues in the organisation. If an organisation wants to get a true understanding of the safety culture they need to draw on a wide range of methods including participant observation, in-depth and semi-structured interviews and focus groups together with attitudinal and culture measuring survey tools (Marshall et al., 2003). To this end the aim of this research was not only to understand and assess the concept of a safety culture but also to examine ways of improving and integrating it into the culture of the organisation.

2.4 Lessons Learned from Aviation

The practice of medicine can be compared with the aviation industry as both industries are high risk complicated domains where staff function at a high level of proficiency (Leape, 1994) The HFRG at the University of Texas have examined and investigated the similarities and the differences between the medical and aviation domains. Aviation and medicine have very similar human factor problems. Both work in highly complex environments, costs are continually escalating which in turn can influence the commitment of resources for safety efforts. Risk can vary from high to low and are constantly changing. Both industries are highly reliable with remarkably few incidence given the tasks demands and environmental demands (Edkins & Pfister, 2003; Helmreich, 2000). Doctors and pilots share similar work environments, working in specialised teams that face dynamic, changing demands.

Studies show that both industries share similar work ethic and professionalism as well as well as some unrealistic attitudes regarding their performance when stressed or fatigued. These operational teams often work in areas where there are inherent system defects, such as poor design, conflicting goals and poor management
decisions which they must compensate for to achieve acceptable outcomes. The results of these studies suggest that similar error management and human factors awareness may be effective in medicine. (Dawson & Reid 1997; Edkins & Pfister, 2003; Helmreich & Merritt, 1998; Helmreich, 2000). Communication, situational awareness, decision making, teamwork and leadership are all central to both domains. For many years accidents and incidents have been thoroughly investigated in aviation, and models of risk management, human factor, and accident investigation are increasingly available to determine how accidents and errors occur and recommendations identified to ensure future safety. Helmreich (2000) points out that when accidents happen in aviation they are infrequent, highly visible and can involve massive loss of life. This consequently results in exhaustive investigation into causes, recommendations for action to prevent re-occurrence and subsequent public reporting of the findings of the investigations.

Research has shown that 70% of aviation accidents involve human error. In contrast, medical adverse events that happen independently to individual patients get very little publicity. There is no standardised method of reporting, investigating or documenting adverse events. In this area medicine can learn from the work in aviation. Observations from cockpit operations have identified failure in compliance, communication, procedure, proficiencies and decision-making, all contribute to errors. Helmreich’s team has conducted surveys on personnel in both aviation and medicine (in cockpits, operating theatres and intensive care units) which have confirmed that pilots and doctors have common interpersonal problem areas and similarities in professional culture (Helmreich, 2000). In aviation error management is based on investigation of the nature of the error, identifying error-provoking situations, determining behaviours that prevent or mitigate error and training of personnel to use error-managing strategies.
Leape (1994) outlines the difference of medicine from aviation as follows

1. In medicine there is a substantial measure of uncertainty due to numbers and variety of disease states.

2. Physician’s lives are not on the line, while performing duties, where as the pilot’s life as well as the life of his passenger’s are on the line while flying an aircraft.

3. Medical systems are not designed to absorb errors.

4. Accident prevention is not the primary focus in medicine.

5. Standardisation and task design vary widely.

6. While initial education and training for health professionals exceeds that of aviation, periodic testing of performance has not been accepted in medicine.

7. Medical safety has never been institutionalised in the sense that it is the major focus of medical activities.

Helmreich (2000) cites professional culture, patient variability and the complex interactions between specialties in medicine as being unique to medicine and advises that this must be taken into account when considering adopting the aviation model. He surmises that the aviation approach to training, the gathering and interpretation of data into information that can identify threat and error should be equally effective in medicine. He advises however that organisational commitment to addressing latent errors identified by the data would be critical in eliciting support from clinicians.

2.5 Barriers to Patient Safety

There are many barriers to ensuring patient safety and quality in health care. Action is needed for groups to work collaboratively with a wide range of players to ensure that clear goals are developed to achieve significant and sustainable improvement. Some of the barriers identified by the ACSQHC Reference Group include:
1. A culture of blame: There is a prevailing culture of blame in health care industries where staff are reluctant to report errors or near misses because they are likely to be named, blamed and shamed if they report an incident. Therefore the opportunity to learn from mistakes is missed and safety problems are driven underground. There needs to be a cultural change in health care where staff are commended for reporting incidents, and given an opportunity to review mistakes and near misses and the creation of forums where staff can learn from the findings (ACSQHC, 2003a; Leape, 1994; Reason, 2000).

2. Unclear governance responsibilities. Lack of clear governance frameworks outlining responsibilities and accountabilities for managers and clinicians have led to poor staff and patient outcomes and persistent failures in health care organisations (ACSQHC, 2001b, 2001c; 2002a; Walker, 2004).

3. Limited use of information technology. There is clear evidence that clinical support systems and clinical information systems have enhanced patient safety. However, the healthcare industry is lagging behind other industries in investing in information technology and cannot therefore take full advantage of the information revolution. Issues such as competing priorities for limited resources, privacy concerns, high costs and cultural issues have been identified as the barriers that must be overcome before access to such technology will be available in health care (ACSQHC, 2001b Ferry, Fitzpatrick, & Long , 2004; Hansen, Durbin, & Sinkowitz-Cochran 2003; Leigh, Long, & Phillips 2004). Fragmentation of care. Lack of communication and collaboration between primary health care, community services and the interface with hospital care can lead to lack of continuity of care for patients (Banks, 2001; Fletcher et al., 2002; Hansen et al., 2003).
4. Low investment in systems design. In the health care industry systems design takes low priority when changes are being implemented. Changes are often implemented without thinking of the consequences and these changes will have on other parts of the system. Due to the rapid changes necessary for the ever changing health care environments, redesign of processes and systems of care, ongoing evaluation of the changes are necessary to ensure that ad hoc changes do not add to the burden and complexity of existing systems (ACSQHC, 2003b; Kohn, Corrigan, & Donaldson, 2000).

5. Safe effective staffing. Research shows that staff in the health care industry feel frustrated and limited in their capacity to contribute to delivering continual safe effective health care. A wide variety of factors has contributed to this, including lack of clear goals in an organisation, lack of time and resources to carry out quality care, staff shortages, skill mix of the workforce numbers and distribution of staff, recruitment problems including rural recruitment issues, administrative burden, tort and legal risk. Individual factors such as stress, fatigue and low morale are also strong influences on the delivery of safe efficient patient care (ACSQHC, 2003ce).

6. Complex regulatory frameworks. Inefficient, punitive, nationally inconsistent and administratively cumbersome regulations have been cited in the safe staffing report as a barrier to patient safety (ACSQHC, 2003b). The report outlines that there are 2000 pieces of commonwealth, state, and territory legislation that regulate the establishment and operation of health care organisations and the registration of health care professionals. While regulation of health care is necessary to the achievement of safe patient environments it is necessary to ensure that the regulation is implemented in an efficient, and multifaceted approach which does not cause confusion and
unnecessary burdens on the health care providers (ACSQHC, 2003b; Banks, 2001).

Significant changes in both the health care system and its stakeholders are necessary to ensure patient safety. In Australia government supported strategies have led to a number of these programs being implemented. It is now well recognised that the need to improve the quality and safety of the health care system for patients and staff is a key priority of governments, administrators and clinicians alike. This will need investment in research, human resources and a change in attitudes towards the culture of safety and quality and the need for national standards and the redesign of health care systems to be addressed.

2.6 Patient Safety Initiatives

As a result of the Quality in Australian Health Care Study commissioned in 1994 by the Commonwealth Department of Health (Wilson et al., 1995) and other studies overseas, it became evident that there was a need for an overarching, coherent framework for managing the quality of health care in a systematic way in New South Wales (NSW). The results of the Wilson et al. (1995) publication attracted much attention and resulted in the National Taskforce on Quality in Health Care being established to investigate the quality of care in NSW hospitals. This task force made 132 specific recommendations for improvements in health care to the NSW Department of Health. The taskforce also recommended increased funding and the establishment of a national organisation for safety and quality of care (ACSQHC, 1996). In response to this challenge the NSW Ministers Advisory Committee on Quality Health Care, and the States Continuous Improvement Committee in collaboration with the NSW Department of Health, developed the Framework for Managing the Quality of Health Care Services in NSW (NSW Health, 1999). This
The framework was incorporated in the formal planning processes for health services. It focused on safety in patient care, appropriateness of treatments, effectiveness of outcomes of services, and the extent to which consumers are involved in and satisfied with the services provided. The framework mandated that a peak Quality of Health Care Council be established as a committee of the AHS Board. This committee provided area wide leadership on the quality of care, monitoring and facilitation of continuous improvement, and promoted education, training and research into quality care. It was also responsible for measuring and reporting on quality to the Health Ministers (Commonwealth Department of Health and Aged Care, 1999).

The framework contains six dimensions of quality and five cross dimensional issues related to quality of health care, which give a clear signal to consumers, providers and funders, of the performance of AHS and includes methodology to assess the quality of health services. These dimensions include:

1. Safety - ensuring consumers progress safely through our health system. Harm from their care, by omission or commission, as well as from the environment in which it is carried out, must be avoided and risk minimised in care delivery processes.

2. Effectiveness - consumers of health care services should be able to expect that the treatment they receive will produce measurable benefit and outcomes.

3. Appropriateness - that the interventions that are performed will produce the desired outcome.

4. Consumer Participation - consumers have a fundamental right to participate in health care delivery, planning, monitoring and evaluation.

5. Access - equitable access to health services should be provided on the basis of need regardless of geography, socio-economic group, ethnicity, age or sex.
6. Efficiency - health services must ensure that resources are utilised to achieve value for money.

The five cross dimensions are:

1. The competence of providers of care - ensuring clinicians are appropriately credentialed and reviewed.
2. Continuity of care - across all health care settings regardless of whether care is delivered in the hospital, community or GP setting.
3. Information management to support effective decision-making.
4. Education and Training for quality is provided for all staff.
5. Accreditation of health care services (NSW Health, 1999).

This coincided nationally with the establishment of the ACSQHC by Health Ministers and has been a landmark in the leadership of quality and safety of health care in Australia.

A similar pattern was happening internationally (Brennan, 1991). Since the mid-1990 the momentum to address preventable risks and to improve the safety and quality of health care has increased. The catalyst reports for this were the Quality in Australian Health Care Studies (Wilson et al., 1995), To Error is Human: Building a Safer Health System (IOM, 1999) and An Organisation with a Memory (National Health Service Department of Health 2000).

2.7 The Quality of Health Care in Australia

In Australia the establishment of the ACSQHC in 2000 has led national efforts to promote systemic improvements in the quality and safety of health care, with particular focus on minimising the likelihood and effects of error. The aims of the ACSQHC was to build a health care system that

(1) supports a culture of safety,
(2) is patient centered,

(3) supports multidisciplinary team approaches to health care,

(4) has a culture of learning for quality,

(5) has a willingness to share information,

(6) recognises the inevitability of errors and system failures

(7) actively works to minimise the impact and where possible prevent errors

(ACSQHC, 2000a; 2001b).

It is known that adverse events occur because of the complexities of the systems resulting from error prone situations rather than error prone people. The majority of errors actually arise from a series of events in the processes of care. Evidence from high risk industries identify that errors can be averted through proper design of equipment, support systems and processes, as well as vigilance through the monitoring of errors and near misses (Berwick & Leape, 1999). To ensure safe, quality care, leaders and managers need to create an open and transparent culture where people are willing to discuss and respond to errors and system problems. This concept is supported by the (IOM, 2001)

… the biggest challenge to a move towards a safer health system is changing the culture from one of blaming individuals for errors to one in which errors are treated not as personal failures but as opportunities to improve the system and prevent harm. (p.12)

To achieve this culture, health care must change from a culture of blame and shame to one of learning for quality improvement and safety.

2.8 Implementing Patient Safety in Health Care

A fundamental change in organisational priorities in health care must occur to achieve a safe patient environment. To achieve this, a health care organisation must make patient safety an organisation wide priority. Developing a culture of safety requires an
understanding of the complexities of the health care system, an evaluation of an organisation’s culture and effective governance (ACSQHC, 2001f, 2003b; Sexton, Thomas, & Helmreich, 2000). Industries which require high levels of safety have made significant efforts to understand factors that contribute to the complexities of the industries which in turn lead to the development of effective safety programs. An analysis has shown that safety problems are primarily attributed to human failures rather than technical failures (Helmreich, 2000; Leape, 1994; Reason, 1990). Flin et al. (2002), states that non-technical skills, such as leadership, decision making, assertiveness and team coordination play a major role in error management in the operating theatre. Helmreich (2000) also advised that other factors of health care delivery such as professional and organisational cultural factors, interpersonal aspects of teamwork, and communication also need to be studied.

2.9 Patient Safety Programs

Many health care organisations, internationally and nationally have intensified their efforts at preventing patient injuries and made patient safety a priority through the development of patient safety programs (ICE, 2003; Leape, 1994; NEADG, 1999). The medical imperative is clear, health care needs to redesign systems to make error difficult to commit, create a culture where risk of error is acknowledged and injury prevention is everyone’s responsibility. Health care must move beyond the tradition of blaming the individual when mistakes are made. Health care professionals tend to blame themselves when things go wrong as they have been taught that they are responsible for whatever happens to their patients. Bogner (2000), states that prevailing presumption in health care and its literature is that the source of medical error is the care provider and goes on to comment that once the person who has made the error has been identified no further search for the cause is initiated therefore the
full cause of the error is not identified therefore the presumption that the care provider is at fault is verified.

However, literature in a number of safety critical domains tells us that error is the alignment of a number of factors, occurrences, and conditions that create error provoking conditions that affect the context in which the error occurs (Bogner, 2000; Leape, 1994; Reason, 1990). Research into error analyses now tells us that the role of organisations and their ability to influence and shape behaviours of their staff have an important influence on error management. Therefore, patient safety programs now need to include the concepts of error tolerance, detection, and recovery. They need to ensure that the programs are robust, able to recognise trouble before negative consequences occur, by developing processes that detect problems, and redirect situations away from poor outcomes. A number of these patient safety programs and initiatives have been implemented nationally and internationally.

2.9.1 Clinical Governance

Many of the patient safety programs are guided by the Clinical Governance Framework. Clinical governance is the term used to describe the links between clinical and organisational responsibility for the quality of care (Heard, et al.,). CEOs of health care organisations are no longer only responsible for financial performance but they now have specific responsibility for the quality and outcomes of clinical services. This governance also places an imperative on clinicians to see quality improvement as an organisational issue as well as a clinical and professional issue.

Clinical governance rejects the notion that the doctor patient relationship and clinical autonomy can operate independently of organisational processes and accountabilities. Clinical governance guarantees a patient centered approach where accountabilities for patient care are part of the organisational processes that flow from
the clinical setting to the boardroom. Under clinical governance the monitoring of clinical processes and the development of support systems including training, research, clinical audit risk management and professional development are the link between clinical and organisational responsibility for the quality of care (Donaldson, 2001; Sausman, 2001a; Walshe & Offen, 2001)

Leadership is an essential ingredient for success in the search for safe delivery of health care. Leadership is needed at all levels (Firth-Cozens & Mowbray 2001; Moss & Garside, 2001). In the absence of commitment from professionals and organisational leaders, efforts around patient safety will be fragmented and uncoordinated. Major system changes require direction and support from top management and leaders must communicate the commitment by ensuring that safety is an explicit organisational goal and demonstrate this by providing adequate resources to implement necessary changes. Local champions, individual doctors, nurses, and pharmacists, can by their enthusiasm motivate others to make improvements especially when the barriers of naming, shaming, blaming, and punishment are removed. However, to make fundamental and long acting changes and to have major impact on patient safety, many of the complex works systems must be examined and redesigned. Standardisation in the approach to diagnosis and treatments, empowerment of staff, encouragement of teamwork, prevention of, and learning from adverse events and a strong emphasis on consumer satisfaction are all necessary to achieve a safe system in health care.

Clinical governance is about cultural change. There needs to be strong commitment by management and clinicians, to design safe systems which will reduce the likelihood of error and its impact when it does occur. Organisations need to learn from mistakes and recognise sources of risk and ways to minimise these risks. Creating a culture of safety requires attention to processes, system designs and to the
conditions under which we work. Examples include staff schedules, how staff interact, and communicate with others and most importantly how every member of the health care team is trained to participate in the quest for safer patient care. To achieve a *just culture* which is one of learning, trust, curiosity, systems thinking, and effective responsibility, a cultural change under the spotlight of the public must now be achieved. Health care needs to accept the legitimacy of the public’s right to know when serious accidents occur. The public has a right to be informed, to be given legitimate explanations and honour the expectation that mistakes would be admitted and investigated and the necessary changes made to prevent them from occurring in the future. For this to occur an open and non-punitive environment must prevail where clinicians and leaders broadly accept and share responsibility.

In summary, effective clinical governance programs produces health organisations with positive cultures, patient centred policies, effective teams, strong safe systems of quality assurance and quality improvement at the front line delivery of health care. Development of effectively trained leaders and managers is essential for achieving the transformation to a safe just culture (Donaldson, 2001).

2.9.2 University of Texas Threat and Error Management

The Human Factors Research Group at the University of Texas developed a program for implementing and maintaining a safety culture which has been adapted to the aviation, medicine, and rail industries. They describe three main factors that helped aviation effectively reduce threat and error (Helmreich, 2000). These were:

1. A formal program known as Crew Resource Management (CRM) to address interpersonal skills and aspects of flight operations.
2. The collection and analyses of data to provide an accurate picture of the strengths and weaknesses of the organisations and the system in which staff worked.

3. The development of a safety culture addressing the sources of threat and error in their organisations, systems, and cultures.

The University of Texas Human Factors Research Group presented a six-step program for developing and maintaining a safety culture.

1. History - a complete history of safety issues in the organisation should be identified.

2. Diagnoses - diagnoses of these issues based on current reliable data indicating the nature and prevalence of problems, including threat, errors and their management.

3. Organisational change - the organisation should define clear standards of performance, a credible policy that reflects the acceptance of the inevitability of error and a non-punitive stance towards error.

4. Training - this includes providing formal, practical instruction in the human and interpersonal aspects of staff’s jobs. Organisational cultural change where the organisation has a defined standard on performance.

5. Feedback and reinforcement - the organisation provides front line staff with accurate assessment of the interpersonal as well as technical aspects of their performance and rewards effective teamwork on a regular basis.

6. Ongoing commitment - the organisation must realise that one time efforts will not work, recurrent training, regular assessment of the organisation and its personnel, and continuous monitoring of the system through active data collection must be part of the organisational culture (Helmreich, 2000).
Figure 2.2. Developing and maintaining a safety culture: A six-step program. (Helmreich, 2000)

Helmreich and his colleagues report that as these programs are being introduced into hospitals a number of threats and barriers to their effectiveness have been identified. These include staff that see the programs as quick fixes and believe that they do not diagnose the context and cultures in health care. Another barrier described is resistance on the part of medical staff to outsiders who claim to have solutions to the longstanding problems of health care. This is to be expected as with any change strategies within an organisation. Helmreich, (2000) reasons that:

The common elements of teams dealing with technology and known human limitations imply that training that enhances awareness of the sources of error and provides countermeasures will generalise from one domain to another if it is presented in the relevant context (p.38).

He also advises that the collection of data and the identification of organisations latent problems should prove to be as beneficial in building support from staff in medicine as it has been in aviation.

2.9.3 Veterans Health Administration Approach

The Veterans Health Administration (VHA) at the Department of Veterans Administration USA were involved in developing and implementing a system called
the Patient Safety Improvement Initiative. This system seeks to understand the causes of the adverse events or near misses. It includes a prioritising scoring method of analysing an incident or adverse event. The Safety Assessment Code (SAC) is used to assess the event to identify the actual or potential severity and the probability of occurrence. The SAC matrix specifies actions that must be taken for specific scores. A system for performing Root Cause Analysis (RCA) was developed to guide clinicians at the front line to develop corrective action around the issue being investigated. The final step in the program is that the recommendation from the learnings from the RCA requires that the facility's CEO concurs or non-concurs with the recommended corrective action. If the CEO does not concur with the recommendations, a written report must be submitted to the RCA team explaining the decision. The RCA team proposes an alternative corrective action until concurrence is achieved. Having the CEO concur on the recommendations ensures leadership support and responsibility that the corrective actions are actually implemented. The effectiveness of the corrective action is evaluated and any subsequent lessons learned are considered for dissemination throughout the VHA health care system (Bagin & Perlin 2001).

Following the identification of this successful program in the USA, The Institute of Clinical Excellence (ICE) in Australia, developed, in collaboration with New South Wales (NSW) Health and VHA a similar model for implementation across Australian health care. These programs are currently being introduced in all AHSs in NSW.

2.9.4 Institute for Healthcare Improvement Breakthrough Series

The Institute for Healthcare Improvement (IHI) is a not-for-profit organisation in the USA driving the improvement of health by advancing the quality and value of health
care. A breakthrough series collaborative is a short-term (5 to 6 month) learning system that brings together a large number of teams from hospitals or clinics to seek improvement in a focused topic area. Since 1995, IHI has sponsored over 50 such collaborative projects on several dozen topics involving over 2,000 teams from 1,000 health care organisations. Collaboratives range in size from 12 to 16 organisational teams. Each team typically sends three of its members to attend learning sessions (three face-to-face meetings over the course of the collaborative), with additional members working on improvements in the local organisation (Berwick, 2001). The collaboratives produce improvements by harnessing the collective wisdom of participants, an advisory panel of experts and a literature review to develop strategies to aid the implementation of evidence based practice. NSW Health in conjunction with the ICE have commenced a Patient Flow Collaborative Breakthrough series in a number of hospitals to address decreased delays in operating theatre access for emergency surgery, decreased delays in referrals for specialist consultations, reduced delays in blockages in the discharge process, reduced incidents in patient falls and the prevention of pressure sores (ICE, 2003). Teams in such collaboratives have achieved dramatic results including reducing waiting times by 50%, reducing worker absenteeism by 25%, reducing Intensive Care Unit costs by 25% and reducing hospitalisations for patients with congestive heart failure by 50% (Berwick, 2001).

2.9.5 Clinical Support Systems Program

The Clinical Support Systems Program (CSSP) is a joint initiative of the Royal Australasian College of Physicians (RACP) and the Australian Government Department of Health and Ageing (the Department of Health and Ageing), with New South Wales Health (NSW Health) and the Victorian Department of Human Services (VIC DHS). The CSSP model uses the application of two methodologies to improve practice and reduce costs. These are: (1) Evidence Based Medicine (EBM) which
provides clinicians with greater knowledge and understanding of the nature of their clinical practice through clinical practice guidelines, peer reviewed clinical research and direct clinical measurement and (2) Clinical Practice Improvement Methodology (CPI) where relevant performance data are fed back to clinicians in a timely manner to help improve outcomes. This CSSP model demonstrated that EBM had a clear role in improving outcomes for patients and that CPI was useful in discussion and resolving issues that emerged through improvement phases (Leigh, Long, Philips, & Mortimor, 2004). To date four major consortiums which cover multiple sites were chosen to be involved in the CSSP model (Tito Wheatland, 2004)

1. The Monash University consortium - acute stroke management;
2. Austin Bowel Cancer Consortium - colorectal cancer care;
3. Brisbane Cardiac Consortium - congestive heart failure and acute coronary syndrome; and
4. Towards a Safer Culture (TASC) Consortium - acute coronary syndrome and stroke in the emergency setting.

2.10 Summary
As a result of some highly publicised reports and investigations into the quality of health care both internationally and in Australia the focus on patient safety has exploded. There is a growing body of evidence, tools and skills for improving patient safety. Health care organisations are focusing on improving structures and processes and increasing the commitment and investment in system changes to improve safety. There are still many challenges identified which need to be addressed to ensure that the highly complex and ever changing systems continue to improve. To meet these challenges there needs to be a continual level of commitment to the safety agenda at all levels: political, organisational, individual, and team. For recognition of system vulnerabilities and safe systems of care the following areas need to be addressed: (1)
investment in infrastructure, (2) improvements in information technology, (3) encouragement of reporting cultures, (4) improvements in governance arrangements, (5) the embedding of patient centred safety focus and values in the culture of health care settings, while supporting health care professionals, and (6) sharing information with and learning from other high risk organisations.

To address the safety issues in the health care industry there needs to be a concerted effort at many levels. Already much effort has gone into sharing knowledge, promoting a systems approach to reducing error, and identifying system issues that influence patient safety. The key messages from the literature on patient safety are:

- Health care organisations are focusing on improving structures, processes, and increasing the commitment and investment in system changes to improve safety.
- The patient safety literature has identified safety and organisational culture, teamwork, leadership, error management, human factors and communication as key areas that need to be addressed.
- The safety culture of an organisation is determined by the perceptions of staff and of management commitment to safety.
- Leadership is an essential ingredient to produce safe quality care.
- Organisations that have been successful in achieving a safe patient environment successfully did so by shifting the organisational goals to a focus on safety. That required individual and team behaviours and attitudes to reflect personal responsibility, accountability and leadership.
- Evidence of error management in the health care organisations is scarce, however over the last decade, as the effects of adverse events in hospitals and health care settings became known, organisations have been increasingly concerned with developing tools for managing unsafe acts and system failures based on the
premise that humans are fallible, that errors are to be expected and to investigate how the system defences for safety failed.

- The majority of the literature on performance shaping factors is from the aviation and transport industries. It stresses the impact of performance on safety. A number of research papers explore the effects of stress, fatigue, personal issues, staffing levels, confidence levels, and their effect on patient outcomes. These need to be explored in addressing patient safety.

- The need for effective useful and accurate communication between health care professionals at all levels in an organisation is evident throughout the literature on patient safety.

- At all levels of health care teams and team working is considered to be the cornerstone of effective care.

- Action to address the barriers to patient safety must involve collaboration with a wide number of players with clear goals, making an effort to achieve significant and sustainable change.

- There must be a change in culture of health care from one that blames the individual when something goes wrong to a culture where reporting of adverse events and near misses is applauded so an organisation can learn how to prevent reoccurrence.

- There is a need to investigate staff attitudes to the key elements cited above before health care organisations can instigate a patient safety program.

- The reduction of harm and the minimisation of its impact on patients must be the outcome of safety programs. This requires redesigning systems at all levels to reduce risk. Working in partnership with the patients so that they are informed, involved, and empowered helps to improve patient safety.
• Leadership at all levels in health care has an important part to play in effecting change and sustainable improvement.

• Adequate resources and staffing is essential to patient safety. Many other safety critical industries have made safety an organisational priority and have learned many lessons that could be transferable to health.

2.11 Focus of the Study

The review of the patient safety literature shows a number of patient safety programs and other human and organisational factors that contribute to patient safety. The relationship of staff attitudes to patient safety are acknowledged but have not been explored or researched. This study therefore will investigate staff attitudes to patient safety as a prelude to the development of a patient safety program.
Chapter 3:

Methodology

3.1 Introduction

The clear message from the literature is that fundamental to improving the level of safety for patients in the health care system is the understanding of organisational culture and staff perceptions on safety, error and error management (Better Health Centre, 1999; Carroll & Edmondson, 2002; Merritt & Helmreich 1996). As a starting point for a Patient Safety Improvement Program, a metropolitan Area Health Service (MAHS) identified the need to examine staff attitudes to their organisation’s culture, patient safety and teamwork. Although the research on the frameworks for which patient safety programs is vast, there is very little research on staff attitudes to patient safety therefore this study is an initial exploration on the subject. The major source of data collected was by way of an organisational survey, which gleaned quantitative data on staff attitudes to organisational culture, teamwork, error, safety and performance shaping factors. This enabled the collection of a significant amount of information from staff and provided a sample of opinions on key areas.

These quantitative data provided the broad picture of the subject being studied. Roberts & Taylor (1998), outline some of the qualities of quantitative research methods:

*The knowledge is absolute or deductive, used to attain rigor, can be validated through control of variables, is reliable through test and retest, can be objective without human distortion. The findings of quantitative research are qualified in numbers, statistical significance can be determined and findings can be predictive and generalisable (p. 101).*

Following analyses of the quantitative data, a number of focus group interviews were held with various professional groups within the MAHS, to provide greater depth to salient issues identified. The qualitative data from the focus groups provided
a richer picture of the issues under investigation. With qualitative research, methodologies that have an ‘up front agenda’ and may bring about change as a consequence of raising awareness of social and political issues (Roberts & Taylor, 1998). Qualitative enquiry provides opportunities to study real-world situations as they unfold. The data are usually detailed description of real life events giving the researcher personal contact and insight, getting close to the people, situation, and phenomena under study. It also places findings in a social, historical and temporal context and allows for a deeper understanding of the issues being researched (Bagley, 1996; Burnes & Grove, 1995).

This chapter will provide an overview of the research design and methodology used for this study. This will include details on the process of the data collection and analysis. Ethical issues, as well as reliability and validity are also addressed.

3.2 Research Design

A mixed method design was used in this study. Mixed methods combine qualitative and quantitative techniques at the level of sampling, data collection and analyses giving a versatility and variety of possible combination of theory and findings (Bliss 2001; Zimmaro, 2001). The blending of qualitative and quantitative data within single studies is an emerging trend (Sanelowski, 2000). Pilot & Hungler, (1995) believe that:

…some areas of enquiry can be enriched through the judicious lending of qualitative and quantitative data - that is, by undertaking what is generally referred to as multimethod (or mixed method) research (p.257).

They do however acknowledge that there are some researchers who argue that qualitative and quantitative data are based on totally incompatible paradigms. Some of the advantages of blending mixed methods in a single study can be
complementary; provide enhanced theoretical insights, incremental, illustrative and can be capable of theory building. The mixed method was ideal for this study because of the following attributes:

1. Complementary: defined as mutually supplying each other’s lack (Webster Dictionary, 1986). In this study, the quantitative data derived from the questionnaires could be considered as a representative of staff attitudes in the MAHS. Therefore, the findings from the study can be considered as generalised. However, the full context of the situation is often difficult to capture through the data gleaned from questionnaires. By introducing the qualitative data from the focus group enquiries, human experiences, behaviors and characteristics, depth is added to the study.

2. Theoretical insights: mixing two methods of research allows alternative ways of viewing the phenomenon and can reflect and reveal different aspects of reality. In this research, it was necessary to understand the different aspects of staff attitudes and behaviors towards patient safety.

3. Incremental: Different research approaches are often appropriate at different stages of the study in the evolution of theory. In this study, an initial quantitative method (the questionnaire) was used to verify what the staff attitudes were. Secondly, the qualitative method (focus group interviews) was used to explore issues in more detail, and to verify the results of the questionnaire. This incremental flow of information helped to gain an understanding of the subject being studied.

4. Illustration: The combining of two methodologies in this study has helped to clarify important results and has helped to corroborate the understandings gained through statistical analyses from the questionnaire. The focus groups allowed guidance in the interpretations of the questionnaire results.
The disadvantage of mixed methods research discussed by Pilot and Hungler, (1995) were, (1) epistemological bias: where researchers may support both qualitative and quantitative methodologies and have differing assumptions of the world and ways of learning about it (2) costs: using mixed methods may be more expensive than using one method, (3) researcher training: where some researchers may have a level of training that stresses either qualitative or quantitative methods, (4) analytical challenges: where integrating the data analyses may be challenging and where there could be inconsistencies and contradictory findings, and (5) publication bias: where some journals have a preference for quantitative research over qualitative research.

The disadvantages they describe did not affect this study. The researcher was trained in both qualitative and quantitative methodologies and did not have a bias towards one particular method. The cost of the research was identified in advance and a mixed method design was agreed on. It was perceived that any publications from the study would be within the quality and safety in health care context, which publish both qualitative and quantitative studies. There were some challenges in the data analyses but the outcome of these challenges enhanced the study findings. The researcher considered this an advantage both for her own education and the value it gave to the study.

In conclusion, although not all researchers recognise the value of blending qualitative and quantitative methods, it suited the purpose of this study to use a mixed method design because it allowed the researcher to gain information that represented reality and to assess the different perspectives of the research question offered by different research processes.
### Table 3.1. Mixed method design

<table>
<thead>
<tr>
<th>Mixed method</th>
<th>Questionnaire</th>
<th>Focus Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Quantitative</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>All staff in the MAHS</td>
<td>Doctors, nurses, allied health staff, managers, administration and support staff</td>
</tr>
<tr>
<td>Data source</td>
<td>Answered questions</td>
<td>Themes from focus groups</td>
</tr>
<tr>
<td>Response rate</td>
<td>26%</td>
<td>35</td>
</tr>
</tbody>
</table>

#### 3.3. Organisational Questionnaire

An Internet and literature search produced a safety survey developed by the University of Texas Human Factors Research Project (HFRP). For the past 20 years, the HFRP has developed surveys to collect data on airline pilot’s attitudes about safety. The original survey was used by HFRP to survey flight deck staff in the airline industry about attitudes concerning error, stress, and teamwork and the surveys have been refined over time. They extended their work to the health care industry to examine the attitudes of operating theatre personnel to teamwork and safety (Appendix 1). They adapted the Cockpit and Flight Management Attitudes Questionnaires (CMAQ) to produce the Operating Room Management Attitudes Questionnaire (ORMAQ) This questionnaire measures staff attitudes to stress, hierarchy, teamwork and error using questions that are relevant to understanding error, predictive of performance, and sensitive to training interventions (Sexton, Thomas et al. 2000). The results of their surveys support the viewpoint that safety approaches as used in the aviation industry may be effective for enhancing safety, improving performance, and error management in health care.

A committee was set up by the MAHS to review the ORMAQ survey and to assess if it would be suitable to use for the study. The committee agreed that the survey should be piloted to test its usefulness and suitability to the study. The questionnaire was adapted for the Australian context from the ORMAQ Intensive
Care Unit version of the safety attitudes survey. This was achieved by translating the American terms to their Australian equivalents. The questionnaire was also adapted to be able to be used in a broader context of the MAHS. It contained 60 questions and contained a core set of 23 items derived from the flight deck management attitudes questionnaires with minor modifications of wording to match the work environment. These 23 core questions addressed the key areas of (1) teamwork (2) organisational culture (3) attitudes to stress and (4) patient safety. The remaining questions relate to status hierarchies, leadership and personal interaction issues as well as error related issues (Sexton et al., 2000). The questionnaire consisted of three sections.

1. In the first section the respondents were asked to rate the quality of collaboration and communication between various members of the health care team. A six-point scale was used consisting of very low (A) low (B) adequate (C) high (D) very high (E) not applicable (X).

2. In the second section respondents were asked to respond to questions relating to organisational culture, leadership, and information sharing, stress, fatigue, confidence assertion, teamwork and error. Respondents indicated the extent to which item on the six-point scale best described their response. This scale consisted of the items disagree strongly (A) disagree slightly (B) neutral (C) agree slightly (D) agree strongly (E) not applicable (X).

3. The third section related to medical error. Respondents were advised that this section might not be relevant or applicable to staff working outside of the hospital or direct care setting. Nonetheless, respondents were encouraged to consider each question carefully and using the six point scale to respond with the non-applicable response to those questions that had no relevance to their work environment. Section 3 also included demographics.
The questionnaire was designed to be completely anonymous with demographic data requested related to place of work, current work status, designation, age and experience. Only samples of the refined questionnaire were given to staff from various disciplines to complete. They were encouraged to complete the questionnaire and then make comments on it. For instance, staff were asked to comment on the content, the wording, the definitions given, how easy or hard it was to complete, how much time it took to complete, and any suggestions to improve the overall layout of the questionnaire. The respondents’ comments were incorporated in a redeveloped tool. However the working party was careful to limit the change in wording of the tool as it had been validated by the HFRG (Appendix 2).

3.3.1 The Pilot Study

- A pilot study was undertaken in one area of the MAHS. The three main aims of the pilot study were to
- Assess the feasibility of the study
- Test whether the information from the questionnaire would be useful in finding out about staff attitudes concerning organisational culture, stress, teamwork and patient safety.
- Identify and correct any problems before carrying out the main study.

3.3.1.1 Pilot Study Sample

In February 2001, a pilot study was conducted in the medical and surgical wards of one of the smaller district hospitals of the MAHS. All staff working in the identified wards were selected and surveyed. The sample included nurses, doctors, allied health staff, administrative and managerial staff. In all 120 surveys were distributed.
3.3.1.2. Pilot Data Collection

The questionnaires were distributed via the organisation’s internal mail system by attaching the questionnaire to each staff’s pay slip with a covering letter explaining the reason for the study. Respondents were requested to return the questionnaires in the addressed envelopes provided through the internal mail to the Area Quality Unit. Staff were made aware of the study through advertisement in the weekly news and through the management structure of the hospital.

3.3.1.3. Pilot Data Analyses

The data from the questionnaires was entered into excel database spread sheet and transferred into Statistical Program for Social Sciences (SPSS. Inc., Chicago, IL, USA) to allow further statistical analyses. The responses were analysed by the percentage frequency to each question. These data was then further analysed by professional group and the information tabulated and graphed for reporting.

3.3.1.4 Pilot Results

The return rate for the pilot study was 28% with 34 surveys returned. The report produced provided a descriptive profile on the results. Such a low return rate could not allow the results to be generalised and will not be included here as many events and changes have occurred between the pilot and the main study. However, the study did allow the MAHS to recognise the potential to obtain extremely vital information about teamwork, environment, stress factors, organisational culture and safety climate if done in a larger study with an increased response rate.

From the researcher’s perspective, it allowed evaluation of such areas as the recruitment of participants, the sampling technique, time periods, and costs. As a result of the pilot study the research plan was adjusted. It was apparent from the
results that a much more extensive communication strategy was necessary. Feedback from participants indicated that the tool was not user friendly and that the format was confusing.

The following recommendations were made to the MAHS as a result of the pilot study:

1. The tool to be refined for local applicability and user friendliness according to the comments of the staff surveyed.
2. Commitment from the MAHS to move ahead with an area wide implementation of the survey for all staff.
3. The profile of the importance of the survey to be increased.
4. A communication strategy to be developed.
5. That the study be continued.

3.3.1.5 Changes to Questionnaire

As a result of the pilot study the questionnaire was again refined. The working group reconvened and respondent’s comments on the questionnaire were taken into consideration. The format of the survey was changed. Assistance was sought from the University of Texas on the layout and format. They too had revised the format of the tool they were using. The questionnaire changes ensured that it was easy to understand, adequate definitions were provided and the format was more user friendly. Members of the working party had doubts as to whether the questionnaire was suitable for all levels of staff in the organisation. For example, a number of the questions focused on resuscitation of patients. After much debate and consultation it was agreed that all staff would have an opinion on most of the questions and that patient safety issues were not only restricted to clinical staff. It was decided to change the orientation of the survey by putting the questions relating to medical error
together with notation that these questions may not be relevant to those staff working outside of the hospital or direct care settings. Nonetheless, staff was asked to consider each question carefully and to mark as not applicable those that had absolutely no relevance in their work environment. The revised questionnaire was then distributed to members of the committee for comments. When members of the committee agreed after consultation with their local staff that no further changes were necessary, the final copy of the survey was sent to the ethics committee for approval (Appendix 3).

A scantron program (Teleform Elite, 2000. Version 8 Cardiff Software INC) used elsewhere in the organisation for clinical data entry was identified as the cost effective and timely method of data entry for the questionnaire returns. This scantron program allowed the data from the returned questionnaires to be scanned directly into a database. The survey tool was developed in the scantron format and the program was checked for completeness and accuracy. There was a verification function attached to the program for this purpose. It was also possible to transfer the data collected into the SPSS for statistical analysis. The ethics committee again approved the refined survey tool. The research plan and timeline was changed to include a structured communication strategy informing staff about the study. This will be discussed in the main study section.

3.3.1.6 Communication Strategy

All members of the quality committee were asked to inform staff in their divisions and facilities of the planned survey. A column in the organisation’s weekly newsletter was organised over a six-week period to keep staff informed about the dates they would receive the questionnaire, and the dates for the return of the questionnaire as well as the progress of the project. This was also used to thank staff for their participation and to keep them updated on the progress of the project. Colour posters
with information about the questionnaire were displayed across all facilities and e-
mailed organisation wide to inform staff of the upcoming events (Appendix 4).
The researcher held meetings, speaking at the Clinical Nurse Specialists groups and
requesting key staff to promote the importance of the survey whenever possible to
front line staff. The progress of the survey remained on the agenda of the quality
committee until after the survey was completed and members were requested to bring
communication of the progress back to their local committees and meetings.
The communication about the study in the “Weekly News” (a paper circulated on
Wednesdays in the MAHS on a weekly basis) commenced two months prior to
distribution. One month prior to the questionnaire mail out, the posters were
distributed and displayed across all facilities. As the pay cycle for the organisation
operates over a two-week cycle, the questionaries and an information sheet were
attached to staff payslips with a return envelope over a month’s period. A four-week
return period was given for returns of the questionnaire. Two weeks after distribution
a thank you notice for those who responded to the survey and a reminder to those who
had not yet completed the survey was placed in the organisation’s weekly news.

3.3.2 The Main Study

Following ethical approval and endorsement by the Area Quality and Safety
Committee, the main study was commenced. In June 2002 the entire MAHS was
surveyed. The decision to again do an internal mail survey was taken based on the
need to ensure that all staff would receive a copy. By attaching the questionnaire to
staff payslips this would facilitate the delivery of the questionnaires across the
organisation. As it was necessary to motivate staff to complete the questionnaire, a
communication strategy was developed to ensure that staff were aware of the planned
project.
3.3.2.1 The Questionnaire Sample

A census population defined as every employee in the MAHS who had an employee number, as well as all Visiting Medical Officers (VMO) who were contracted to the MAHS received a questionnaire. The population of the MAHS as of June 2002 was 3,400 employees as well as 78 VMOs who had contracts at that time.

3.3.2.2. Questionnaire Data Collection

The questionnaire, information sheet (Appendix 5) and a return internal envelope were distributed to all staff in the MAHS attached to their pay slip. VMOs received surveys via postal mail. As the pay cycle for the organisation operates over a two-week period, the questionnaires and an information sheet were attached to staff’s payslips with a return envelope over a four-week timeframe. A month turn around period was given for return of the questionnaire. A reminder notice for those who had not yet completed the survey was placed in the organisation’s weekly news two weeks after the main distribution. The data from the questionnaires was scanned into the database as the completed questionnaires were received.

3.3.2.3 Questionnaire Data Analysis

The Teleform Elite scantron computer program that allowed the questionnaire to be formatted in a way that completed responses could be automatically scanned through a computer and the data on a completed questionnaire would automatically be transferred into a database. This program had the facility to verify any problems identified by the program, thus allowing reliability of the data entry to be assured.

A description of the data was the first step to be undertaken. This yielded general information on the numbers of respondents, demographics, and different
categories of respondent, for example numbers of nurses, doctors, allied health managers, clinical managers, administrative and support groups. The percentage of the proportions of respondents to the total groups was then obtained. This then allowed comparisons of the groups to be made. The next step in the analyses was to work out the number and percentage of each subgroup by generating a statistic called a frequency distribution table. This is a description of the components of the group.

The information obtained was then organised in a series of tables to provide a meaningful presentation of the descriptive data that provided a snapshot of the data and made it easier to draw any potential conclusions. Following that, a statistical measure of central tendency was employed by calculating the overall mean for each of the four domains identified by factor analyses by the HFRG (Sexton et al., 2000). This allowed the most common scores in each group to be identified and measured. The percentage frequency of the responses in each of the domains was analysed and tabulated. For reporting purposes, responses of “agree strongly” and “agree slightly” were combined, as were “disagree strongly” and “disagree slightly”. Whilst it is important to know the degree of support for each question, an overall assumption of agreement was sought. Once the analysis of the questionnaire was complete stage two of the study was commenced.

3.3.3 Focus Groups
The preliminary review of the questionnaire findings was completed and a series of focus groups were organised with front line staff to gain further insight and qualify data from the findings of the questionnaire. In the focus group interviews, staff explored a range of perspectives around particular issues that emerged from the results of the questionnaire. Hennink and Diamond (1999) cites Krueger’s (1988) definition of a focus group as:
A carefully planned discussion designed to obtain perceptions on a definite area of interest in a permissive, non-threatening environment. It is conducted with approximately seven to ten people by a skilled interviewer. Group members influence each other by responding to ideas and comments in the discussion. (P.18)

The aim of the focus groups was to encourage a range of responses to provide insight into the attitudes, perceptions, behaviours and opinions of staff around the issues that emerged from the questionnaires. Focus group interviews facilitate group discussions that make use of group interactions as a means to explore the research issue being studied (Fossey, Harvey, McDermott, & Davidson, 2002). The decision to use a focus group methodology in this part of the study was that focus group discussions are particularly useful in exploring sensitive issues where people are more likely to feel comfortable talking with others who share similar experiences. It is known from the literature that some health care workers find it difficult to speak up about problems in relation to organisational management, error, stress and hierarchy (Buback, 2004; Coriera & Tombs, 1998; Sexton et al., 2000). The data collected in this fashion were reflective of views of a group of participants rather than an aggregation of individual interviews. Group dynamics often help elaboration on a subject and prompt recall (Fossey, et al., 2002; Roberts & Taylor, 1998).

3.3.3.1 Focus Group Sample

The focus groups were held with four groups of staff over a three-month period. These groups were (1) nursing staff (2) allied health staff (3) clinical and non-clinical managers (4) administration and support staff. Focus group participation was through notices in the weekly newsletter, through advertisements via e-mail and through flyer advertisement on ward and office areas. Managers were also requested to encourage their staff to attend in the
relevant focus groups. All focus groups were held in local facilities and participants attended in their work time.

A list of open-ended semi structured questions had been prepared before each focus group, which were based on the questionnaire results (Appendix 5). Each participant was given an information sheet (Appendix 6) and consent to participate form (Appendix 7) prior to the meeting. The researcher explained the purpose of the research and the focus group and clarified questions, ensured confidentiality and stressed that there were no right or wrong answers to the questions posed. At the close of the discussion, the participants were advised that the report on the analysis would be made available to them to review and clarify for accuracy. Participants were personally thanked for their contribution and a letter of appreciation was sent following the focus group.

3.3.3.2 Focus Groups Data Collection

The data collection method within the focus group interviews involved a combination of note taking, audio taping and observation. The conversation was recorded and a second set of notes taken from listening to the audio tapes. This helped to reduce loss of data and to ensure the data were captured in context. To ensure data collection was accurate a scribe took notes and noted themes, issues or physical expressions of participants. This information complemented the transcripts from the audio recordings. Focus group transcription occurred immediately after the focus group was conducted.

3.3.3.3. Focus Group Data Analyses

Data analyses of the focus group interviews involved transcription of the text, analyses of the text, and theme development. There were four focus groups recorded
for transcriptions. The transcribing of each focus group took approximately 6 hours each.

The data obtained from the focus groups were to an extent pre coded given that semi-structured questions based on certain knowledge about the context being studied, (based on data gleaned from the June 2002 survey). These semi-structured questions guided the conversations in the focus group discussions. The transcribed text was entered into NVIVO, a software program that was designed for qualitative analyses of data. Text from each focus group was reviewed and coded for themes as they emerged. The aim of this was to establish patterns and connections between the emerging themes. This enabled the researcher to bring together similarly labelled data for examination and to retrieve data that related to one or more of the themes identified. For example, issues around communication reoccurred in the themes that emerged from teamwork, organisational culture and patient safety. As a result, communication was identified as a major theme of the analyses. The meanings of the themes were then explored and reflection occurred. An understanding of the findings was developed through review of the experiences of the focus group participants with the use of quotations (i.e. the participants own words) helping to clarify the researcher’s description and interpretation.

As central themes and issues emerged the next level of investigation was to draw understanding from the data. Five categories were identified which included communication, organisational culture, teamwork, stress, and patient safety. These categories form the basis for the reporting of the findings in chapter four.

3.4 Ethical Consideration
Careful consideration was given to the ethical requirements during the planning stage of the study to ensure that ethical principles and human safeguards were followed and were ethically acceptable. The simple principles of ethical property such as fairness, honesty, openness, disclosure of methods, respect for the integrity of the individual, guarantee of individual privacy confidentiality and informed willingness of the subject to participate voluntarily were all considered. The MAHS Ethics Committee granted approval of the ethics application (Appendix 3).

When the questionnaires were distributed, an information sheet was attached outlining the aim of the study, ensuring confidentiality and the principles of voluntary participation. Return of a completed questionnaire was therefore considered consent to participate. Likewise, in the focus group interviews, participants were invited to participate. Once they showed interest an information sheet and consent form was sent to each person. Before commencement of each focus group participants were given the opportunity to clarify any questions they may have had with regards to the study, and the consent to participate forms were signed. Participants were informed verbally and in writing within the consent form that they could withdraw from the study at any time, without any form of repercussion. Ethical and confidential considerations were discussed at the commencement of each focus group. Arrangements were made for a trained, experienced counsellor to be available to participants of the focus groups should any of them become distressed. Members of the group were made aware that the service was available.

The privacy of participants was ensured using pseudonyms. The researcher was the only person who had access to the participant’s names and
storage of all the study related data was kept in a locked cabinet in the researcher’s office. All such data will be kept for a minimum of five years (Morse & Field 1996).

3.5. Validity

By employing a mixed method design to this study the validity of the study and its findings were enhanced. This method allows the same research question to be investigated from more than one perspective. Polit and Hungler (1998) assert that when multiple and complementary types of data are used to support a researcher’s hypothesis or model the researcher can be much more confident of the validity of the results and such approaches can be especially persuasive. They cite a quotation by Brewer and Hunter, (1989)

Although each type of method is relatively stronger than others in certain aspects, none of the methods are so perfect even in its area of greatest strength that it cannot benefit from corroboration by other method findings. (p. 259)

In this study, the blending of qualitative and quantitative data at different stages in the study provided incremental gain in knowledge, and the method, which allowed for clarification of the findings to be undertaken. This opportunity to discuss and clarify the findings also added strength to the study.

The ORMAQ questionnaire used in the first stage of the study was a validated tool developed by the HFRP at University of Texas. This tool and variations of it are now used worldwide to determine aspects of a safety culture in organisations. The HFRP deemed the questionnaire to be reliable, sensitive to change, and the elicited attitudes have been shown to predict performance (Sexton et al., 2002). Given the prominence of the ORMAQ tool and that it had
been used the patient safety literature it was considered unnecessary for further justification of the tool. We did however send a copy of the questionnaire, which had been adapted for the MAHS, to the HFRP to seek their advice as to whether the changes made would adversely affect the validity of the tool. Given that the changes were minor and related mostly to language changes and placement of questions on the form they considered that validity was not compromised.

The validity of the questionnaire was further authenticated by the qualitative findings from the focus group interviews. This produced deeper understanding and reasoning of the results of the questionnaire. The focus group interviews allowed the researcher to place the findings in context so as to represent the real world of those studied and to document their lived experiences which added depth and thick description to the study. As the purpose of qualitative research is to understand meanings the interpretations of the data from the focus group needed to be validated (Bloor, 1997). This helped to establish the trustworthiness and reliability of the study. This validation consisted of showing the respondents the interpretations and themes which emerged, and seeking verification in which the respondents recognise the relationship between the interpretations and what they said.

3.6. Rigour

As a mixed method design was used for this study, the issue of rigour was important when considering the qualitative methodology. Roberts & Taylor (1998) believe that: Qualitative research works on the assumption that truth is relative and context driven. This means that what is seen to be true may change, and it may reflect
the features of the time, the place, and the circumstances in which people find
themselves (p. 172).

Given that there is no one accepted test for ensuring rigour the
researcher followed the advice of Roberts and Taylor (1998). They advise the
continual critiquing of the research process, openness, scrupulous adherence to
philosophical perspective, thoroughness in data collection and being open to new
ideas are necessary. They also believe that the categories for ensuring rigour are
credibility, “fittingness”, audit ability, and conformability. This was achieved by
ensuring that participants (MAHS staff) were involved at all stages in the
project. Staff were involved in the review of the questionnaire, the pilot of the
questionnaire, their advice was sought on improvements to the language used
and the format of the questionnaire, in the development of the communication
strategy for the study and of course in the participation in the first phase the
questionnaire mail out and at stage two in the focus groups.

The results of the study were presented at a number of forums in the
organisation on completion of the study. Credibility was ensured by the fact that
it was the lived experiences of staff that were the sources of information and
data. It was their information that guided the discussions in the focus group
where deeper meaning of the themes was sought. To ensure the process could be
audited the study plan and processes were documented in the ethics proposal
and a time line was drawn up for the study. At any time another researcher
could conduct the same study and possibly arrive at comparable conclusions.

3.7 Limitations

As with any research study this one was not without limitations. In spite of an
extensive communication strategy being undertaken prior to and during the
distribution of the questionnaires there was a relatively small response rate. It is possible that this may be due to the fact that the organisation had undertaken a number of surveys in the previous year (different subject) using a similar distribution methodology and staff may have reached survey saturation. During the pilot stage the community health staff were not chosen to be involved in the pilot. Therefore, the problem of its suitability to the community health setting was not investigated although it formed part of the final study. There were a high number of not applicable responses to the questions in the survey, which related to medical error. In the planning stage and after the pilot stage the issue has been discussed with some staff and the decision was made to group the questions on medical error together with a note to non clinical staff to enter a response of N/A where the questions were not applicable. In the analyses, the N/A responses were quite high. If repeating the study again the researcher would recommend that the questionnaire be adapted to meet the needs of non clinical and community staff.

The response rate for focus group involvement for some groups was small especially for the nurse’s focus group considering the fact that nurses make up one third of the workforce. No doctors volunteered to participate in the focus groups; however, fifty staff specialists and VMOs completed the questionnaire. Only six junior doctors completed the questionnaire.
Chapter 4: Results

4.1 Introduction

The results of this study are reported in two sections. The first section reports the results of the area wide questionnaire which was undertaken, and the second section outlines the results of the focus groups held with staff to discuss the questionnaire findings in more depth.

4.2. The Questionnaire

A total of 3,078 questionnaires were distributed to staff across the MAHS and 802 questionnaires were returned, a response rate of 26%. The findings from the respondents were reported under the following domains

- Organisational culture
- Leadership
- Error management
- Performance shaping factors
- Communication
- Teamwork

Table 4.1 below depicts the spread of respondents across their occupational groups. For reporting purposes, senior nurses, registered nurses, and enrolled nurses were grouped together under nurses. Senior doctors and junior doctors were grouped under doctors. Administration and support staff were grouped as administration and nurse managers, clinical managers, non-clinical managers, and area executive were grouped as managers.
Table 4.1 Questionnaire Returns by Occupational Groups (n = 802)

<table>
<thead>
<tr>
<th>Designation</th>
<th>n</th>
<th>Designation</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Nurse</td>
<td>57</td>
<td>Senior Doctor</td>
<td>50</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>189</td>
<td>Junior Doctor</td>
<td>8</td>
</tr>
<tr>
<td>Enrolled Nurse</td>
<td>31</td>
<td>Support Staff</td>
<td>41</td>
</tr>
<tr>
<td>Nurse Managers</td>
<td>53</td>
<td>Area Executive</td>
<td>13</td>
</tr>
<tr>
<td>Non Clinical Managers</td>
<td>12</td>
<td>Administration staff</td>
<td>107</td>
</tr>
<tr>
<td>Allied Health</td>
<td>106</td>
<td>Others</td>
<td>135</td>
</tr>
</tbody>
</table>

The largest response was from registered nurses, which was expected given that nurses make up a third of the workforce in the organisation. The second largest response was from allied health staff followed by administration staff. The relatively high response from senior doctors and area executive was encouraging and could be indicative of their view on the importance and relevance of the study. However there was a very low response from junior doctors with only eight respondents from a possible 38. This issue needs to be addressed in future studies.

### 4.2.1 Organisational Culture

As indicated earlier culture is defined as the underlying values and beliefs, rituals, symbols and behaviours that we share with others in the context of an organisation or workplace. Helmreich, 2003:

*Related to organisational culture is organisational climate, which is defined by pride and a sense of family in the organisation and liking for the job (or lack of these characteristics). When the organisational climate is positive, harmony exists between the subcultures of an organisation and better teamwork and increased safety results (P.102).*

The responses to questions relating to culture are summarised in Table 4.2.

While the vast majority of respondents liked their jobs (80% agreed overall), other organisational culture statements such as *management supports my daily efforts in my work area, trainees in my discipline are adequately supervised, receive appropriate feedback about my performance, AHS is doing a good job of training personnel, and working for this AHS is like being part of a large family* elicited largely neutral
responses, with a relatively consistent 30-40% disagreement with these statements across all groups. The exception to these negative organisation-wide statements was the positive response to local management, with 59% agreeing with the statement *the manager in my area is doing a good job*.

**Table 4.2 Summary of Responses Relating to Organisational Culture**

<table>
<thead>
<tr>
<th>Organisational culture</th>
<th>DR n = 58</th>
<th>AH n = 106</th>
<th>NR n = 220</th>
<th>MAN n= 78</th>
<th>ADM n = 148</th>
<th>TOT n = 802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.2 I like my Job</td>
<td>Agree</td>
<td>80% 45</td>
<td>84% 87</td>
<td>80% 167</td>
<td>74% 55</td>
<td>73% 128</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>11% 7</td>
<td>8% 9</td>
<td>9% 19</td>
<td>11% 8</td>
<td>11% 16</td>
</tr>
<tr>
<td>Q.8 Management in this Area Health Service doing a good job</td>
<td>Agree</td>
<td>13% 6</td>
<td>18% 18**</td>
<td>19% 39</td>
<td>35% 24</td>
<td>31% 42</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>58% 27</td>
<td>35% 35</td>
<td>47% 97</td>
<td>41% 28</td>
<td>38% 51</td>
</tr>
<tr>
<td>Q.7 Working for this AHS is like being part of a large family</td>
<td>Agree</td>
<td>33% 17</td>
<td>30% 30</td>
<td>20% 42</td>
<td>24% 17</td>
<td>43% 60</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>52% 27</td>
<td>39% 30</td>
<td>55% 113</td>
<td>41% 32</td>
<td>31% 44</td>
</tr>
<tr>
<td>Q.40 The manager in my area is doing a good job</td>
<td>Agree</td>
<td>62% 31</td>
<td>56% 56</td>
<td>62% 135</td>
<td>67% 47</td>
<td>54% 33</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>8% 4</td>
<td>26% 26</td>
<td>20% 44</td>
<td>11% 8</td>
<td>23% 33</td>
</tr>
<tr>
<td>Q.9 Management supports my daily efforts in my work area</td>
<td>Agree</td>
<td>25% 13</td>
<td>40% 40</td>
<td>30% 61</td>
<td>48% 35</td>
<td>42% 59</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>42% 22</td>
<td>43% 43</td>
<td>47% 96</td>
<td>33% 24</td>
<td>34% 48</td>
</tr>
<tr>
<td>Q.44 Trainees in my discipline are adequately supervised</td>
<td>Agree</td>
<td>54% 26</td>
<td>37% 35</td>
<td>36% 70</td>
<td>42% 29</td>
<td>33% 44</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>38% 18</td>
<td>29% 27</td>
<td>44% 87</td>
<td>22% 24</td>
<td>22% 30</td>
</tr>
<tr>
<td>Q.6 My AHS is doing a good job of training personnel</td>
<td>Agree</td>
<td>29% 15</td>
<td>40% 41</td>
<td>38% 88</td>
<td>37% 28</td>
<td>39% 54</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>37% 19</td>
<td>26% 26</td>
<td>31% 62</td>
<td>13% 17</td>
<td>32% 44</td>
</tr>
</tbody>
</table>

**High neutral response over 25%**

Key: DR= doctors, AH= Allied Health, NR = Nurses MAN = Managers, ADM = Administration & support, TOT= Total focus group members

### 4.2.2 Teamwork

Sixty percent of respondents felt that they were supported by other personnel. Forty-
six percent felt that teamwork was encouraged. More doctors (67%) than nurses (46%) felt that doctors and nurses worked well together. Over 60% of each agreed that input from nurses was well received.

**Table 4.3 Summary of Response Relating to Teamwork**

<table>
<thead>
<tr>
<th>Teamwork</th>
<th>DR N=58</th>
<th>AH n=106</th>
<th>NR n=220</th>
<th>MA N=78</th>
<th>AD M=148</th>
<th>TOT n=802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.5 I have the support I need from other personnel</td>
<td>Agree</td>
<td>63% 32</td>
<td>64% 65</td>
<td>61% 127</td>
<td>51% 39</td>
<td>19% 48</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>11% 6</td>
<td>17% 17</td>
<td>19% 41</td>
<td>9% 7</td>
<td>9% 13</td>
</tr>
<tr>
<td>Q.20 This AHS encourages teamwork</td>
<td>Agree</td>
<td>41% 21</td>
<td>41% 39</td>
<td>47% 97</td>
<td>21% 37</td>
<td>44% 58</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>41% 21</td>
<td>28% 27</td>
<td>20% 40</td>
<td>18% 13</td>
<td>30% 39</td>
</tr>
<tr>
<td>Q.55 Doctors and nurses work well together</td>
<td>Agree</td>
<td>67% 38</td>
<td>35% 35</td>
<td>46% 98</td>
<td>36% 25</td>
<td>24% 30</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>12% 7</td>
<td>15% 15</td>
<td>29% 52</td>
<td>14% 10</td>
<td>11% 14</td>
</tr>
<tr>
<td>Q.59 Medical consultants in my area are doing a good job</td>
<td>Agree</td>
<td>62% 34</td>
<td>32% 32</td>
<td>42% 88</td>
<td>34% 24</td>
<td>24% 31</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>10% 5</td>
<td>6% 6</td>
<td>18% 39</td>
<td>10% 7</td>
<td>24% 31</td>
</tr>
<tr>
<td>Q.3 Input from nurses is well received in my area</td>
<td>Agree</td>
<td>80% 43</td>
<td>65% 65</td>
<td>72% 152</td>
<td>57% 43</td>
<td>33% 46</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>11% 1</td>
<td>9% 9</td>
<td>10% 22</td>
<td>8% 6</td>
<td>8% 12</td>
</tr>
<tr>
<td>Q.33 Effective coordination of personnel requires that personalities of others be taken into account.</td>
<td>Agree</td>
<td>77% 40</td>
<td>67% 62</td>
<td>59% 120</td>
<td>66%4 5</td>
<td>67% 89</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>13% 7</td>
<td>6% 6</td>
<td>10% 20</td>
<td>13% 9</td>
<td>11% 14</td>
</tr>
</tbody>
</table>

*** High neutral or not applicable response over 25%

Key: DR= doctors, AH= Allied Health, NR = Nurses MAN = Managers, ADM = Administration & support, TOT= Total focus group members
4.2.3 Communication

The vast majority of respondents agreed that briefing of personnel before a procedure was important to patient safety (72%). However, only 39% agreed that briefings were common in their work area. Doctors and nurses work together in emergency situations, but over half admit to not knowing the names of other personnel involved in these tasks.

Table 4.4. Summary of Responses Relating to Communication

<table>
<thead>
<tr>
<th>Communication</th>
<th>DR n = 58</th>
<th>AH n = 106</th>
<th>NR n = 220</th>
<th>MAN n = 78</th>
<th>ADM n = 148</th>
<th>TOT N = 802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.13 Briefing of personnel before a procedure is important for patient safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>92%</td>
<td>68%</td>
<td>85%</td>
<td>77%</td>
<td>48%</td>
<td>72%</td>
</tr>
<tr>
<td>Disagree</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
<td>0%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Q.14 Briefings are common in my work area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>43%</td>
<td>44%</td>
<td>27%</td>
<td>55%</td>
<td>27%</td>
<td>39%</td>
</tr>
<tr>
<td>Disagree</td>
<td>31%</td>
<td>26%</td>
<td>33%</td>
<td>21%</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td>Q.30 I know the proper channels to direct questions regarding patient safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>68%</td>
<td>69%</td>
<td>74%</td>
<td>71%</td>
<td>48%</td>
<td>66%</td>
</tr>
<tr>
<td>Disagree</td>
<td>14%</td>
<td>10%</td>
<td>10%</td>
<td>6%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Q.34 Disagreements in my workplace are appropriately resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>47%</td>
<td>50%</td>
<td>41%</td>
<td>56%</td>
<td>31%</td>
<td>44%</td>
</tr>
<tr>
<td>Disagree</td>
<td>39%</td>
<td>27%</td>
<td>24%</td>
<td>16%</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Q.38 Disruptions in the continuity of patient care can be detrimental to patient safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>77%</td>
<td>38%</td>
<td>58%</td>
<td>44%</td>
<td>26%</td>
<td>47%</td>
</tr>
<tr>
<td>Disagree</td>
<td>0%</td>
<td>13%</td>
<td>16%</td>
<td>14%</td>
<td>7%</td>
<td>12%</td>
</tr>
<tr>
<td>Q.47 I always know the first and last name of other personnel involved in emergency situations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>15%</td>
<td>15%</td>
<td>25%</td>
<td>27%</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>Disagree</td>
<td>60%</td>
<td>30%</td>
<td>50%</td>
<td>27%</td>
<td>17%</td>
<td>34%</td>
</tr>
<tr>
<td>Q.11 I receive appropriate feedback about my performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>37%</td>
<td>45%</td>
<td>41%</td>
<td>43%</td>
<td>38%</td>
<td>42%</td>
</tr>
<tr>
<td>Disagree</td>
<td>32%</td>
<td>36%</td>
<td>37%</td>
<td>26%</td>
<td>49%</td>
<td>38%</td>
</tr>
</tbody>
</table>

*** High neutral or not applicable response over 25%

Key: DR= doctors, AH= Allied Health, NR = Nurses MAN = Managers, ADM = Administration & support, TOT= Total focus group members
4.2.4 Assertiveness

If communication defines a team, then assertiveness is an important mechanism that gives safety-critical information the best chance of being acknowledged and acted upon by the team. Sixty-two percent of respondents felt encouraged to report patient safety issues. Despite this, 22% found it difficult to speak up about perceived problems with patient care. More nurses (25%) than doctors (9%) had this difficulty. There was a threefold difference between the nursing (35%) and medical (11%) staff’s ability to express disagreement with medical consultants.

Table 4.5 Summary of Responses Relating to Assertiveness

<table>
<thead>
<tr>
<th>Assertiveness</th>
<th>DR n = 58</th>
<th>AH n = 106</th>
<th>NR n = 220</th>
<th>MAN n = 78</th>
<th>ADM n = 148</th>
<th>TOT n = 802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.21 I am encouraged by my colleagues to report any patient safety issues I may have</td>
<td>Agree</td>
<td>62%</td>
<td>67%</td>
<td>71%</td>
<td>67%</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>16%</td>
<td>6%</td>
<td>10%</td>
<td>7%</td>
<td>11%</td>
</tr>
<tr>
<td>Q.27 In my work area it is difficult to speak up if I perceive a problem with patient care</td>
<td>Agree</td>
<td>9%</td>
<td>23%</td>
<td>25%</td>
<td>30%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>73%</td>
<td>52%</td>
<td>56%</td>
<td>49%</td>
<td>26%</td>
</tr>
<tr>
<td>Q.56 I am frequently unable to express disagreement with medical consultants in my work area</td>
<td>Agree</td>
<td>13%</td>
<td>17%</td>
<td>31%</td>
<td>23%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>47%</td>
<td>28%</td>
<td>34%</td>
<td>23%</td>
<td>9%</td>
</tr>
<tr>
<td>Q.60 There are no circumstances where junior nurses or doctors should assume control of patient care</td>
<td>Agree</td>
<td>24%</td>
<td>10%</td>
<td>24%</td>
<td>24%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>61%</td>
<td>29%</td>
<td>36%</td>
<td>24%</td>
<td>16%</td>
</tr>
<tr>
<td>Q.54 The consultant should be formally in charge of the unit personnel during rounds</td>
<td>Agree</td>
<td>36%</td>
<td>13%</td>
<td>20%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>19%</td>
<td>11%</td>
<td>30%</td>
<td>26%</td>
<td>7%</td>
</tr>
</tbody>
</table>

*** High neutral or not applicable response over 25%

Key: DR= doctors, AH= Allied Health, NR = Nurses MAN = Managers, ADM = Administration & support, TOT= Total focus

82
4.2.5 Error

Only 48% of doctors and 31% of nurses admit to having made potentially harmful mistakes. Despite this, half of doctors and nurses have seen such mistakes made by others. Only 10% of respondents agreed that such mistakes occurred every day.

**Table 4.6 Summary of Responses Relating to Error**

<table>
<thead>
<tr>
<th>Attitude to error</th>
<th>Q.45  I have made mistakes that had the potential to harm patients</th>
<th>Q.19 I have seen others make mistakes that had the potential to harm patients</th>
<th>Q.53 Medical errors occur every day in my work area</th>
<th>Q.37 Errors due to lack of knowledge are rare</th>
<th>Q.32 Errors due to lack of skill are rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>DR n = 58</td>
<td>AH n = 106</td>
<td>NR n = 220</td>
<td>MAN n=78</td>
<td>ADM n =148</td>
<td>TOT N= 802</td>
</tr>
<tr>
<td>Agree</td>
<td>48%</td>
<td>24</td>
<td>19%</td>
<td>17</td>
<td>31%</td>
</tr>
<tr>
<td>Disagree</td>
<td>34%</td>
<td>17</td>
<td>47%</td>
<td>43</td>
<td>45%</td>
</tr>
<tr>
<td>Agree</td>
<td>58%</td>
<td>31</td>
<td>36%</td>
<td>35</td>
<td>49%</td>
</tr>
<tr>
<td>Disagree</td>
<td>16%</td>
<td>8</td>
<td>32%</td>
<td>31</td>
<td>25%</td>
</tr>
<tr>
<td>Agree</td>
<td>22%</td>
<td>11</td>
<td>10%</td>
<td>10</td>
<td>11%</td>
</tr>
<tr>
<td>Disagree</td>
<td>57%</td>
<td>33</td>
<td>34%</td>
<td>32</td>
<td>56%</td>
</tr>
<tr>
<td>Agree</td>
<td>46%</td>
<td>23</td>
<td>42%</td>
<td>40</td>
<td>26%</td>
</tr>
<tr>
<td>Disagree</td>
<td>40%</td>
<td>20</td>
<td>20%</td>
<td>19</td>
<td>41%</td>
</tr>
<tr>
<td>Agree</td>
<td>42%</td>
<td>22</td>
<td>48%</td>
<td>47</td>
<td>35%</td>
</tr>
<tr>
<td>Disagree</td>
<td>46%</td>
<td>24</td>
<td>23%</td>
<td>22</td>
<td>43%</td>
</tr>
</tbody>
</table>

***= High neutral response or not applicable of over 25

Key: DR= doctors, AH= Allied Health, NR = Nurses MAN = Managers, ADM = Administration & support, TOT= Total focus group members
4.2.6 Performance Shaping Factors

The link between fatigue and deteriorating performance of complex cognitive tasks is well established. The majority of respondents (78%), including doctors, agreed that they were less effective when fatigued. However, up to 30% of doctors and nurses felt that other potentially performance-shaping factors, such as interruptions and workload, did not adversely affect their performance.

Table 4.7 Summary of Responses Relating to Performance Shaping Factors

<table>
<thead>
<tr>
<th>Performance Shaping Factors</th>
<th>DR n = 58</th>
<th>AH n = 106</th>
<th>NR n= 220</th>
<th>MA N =78</th>
<th>AD M n =148</th>
<th>TOT N = 802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.1 High levels of workload are common</td>
<td>Agree 75%</td>
<td>42 92%</td>
<td>95 90%</td>
<td>192 86%</td>
<td>67 89%</td>
<td>128 86%</td>
</tr>
<tr>
<td></td>
<td>Disagree 12%</td>
<td>7 3%</td>
<td>3 4%</td>
<td>9 1%</td>
<td>1 4%</td>
<td>6 5%</td>
</tr>
<tr>
<td>Q.16 When I am interrupted, my patient’s safety is unaffected</td>
<td>Agree 31%</td>
<td>16 48%</td>
<td>45 31%</td>
<td>62 24%</td>
<td>16 14%</td>
<td>1 19 29%</td>
</tr>
<tr>
<td></td>
<td>Disagree 44%</td>
<td>23 16%</td>
<td>15 41%</td>
<td>83 22%</td>
<td>15 9%</td>
<td>12 9%</td>
</tr>
<tr>
<td>Q.41 Very high levels of workload stimulate and improve my performance</td>
<td>Agree 15%</td>
<td>7 30%</td>
<td>28 25%</td>
<td>50 55%</td>
<td>38 45%</td>
<td>64 34%</td>
</tr>
<tr>
<td></td>
<td>Disagree 60%</td>
<td>29 51%</td>
<td>47 51%</td>
<td>103 31%</td>
<td>22 32%</td>
<td>45 44%</td>
</tr>
<tr>
<td>Q.51 Fatigue impairs my performance during emergency resuscitation</td>
<td>Agree 48%</td>
<td>27 11%</td>
<td>9 37%</td>
<td>79 29%</td>
<td>22 8%</td>
<td>10 25%</td>
</tr>
<tr>
<td></td>
<td>Disagree 19%</td>
<td>11 9%</td>
<td>8 25%</td>
<td>53 16%</td>
<td>12 5%</td>
<td>7 26%</td>
</tr>
<tr>
<td>Q.35 I am less effective when fatigued</td>
<td>Agree 80%</td>
<td>42 80%</td>
<td>76 78%</td>
<td>163 76%</td>
<td>55 65%</td>
<td>88 78%</td>
</tr>
<tr>
<td></td>
<td>Disagree 11%</td>
<td>6 10%</td>
<td>10 15%</td>
<td>31 10%</td>
<td>7 16%</td>
<td>22 13%</td>
</tr>
</tbody>
</table>

*** = High neutral response or not applicable of over 25

Key: DR = doctors, AH = Allied Health, NR = Nurses MAN = Managers, ADM = Administration & support, TOT = Total focus group members
4.3 Focus Groups

The data from the focus groups were thematically analysed and are presented under the five areas of interest in this study: organisational culture, communication, teamwork, stress, and patient safety. Table 4.8 displays the themes that emerged from the analysis of text from the focus groups for each category of staff. The table shows where the themes were similar and different for the members of these groups of staff. Each of the area and associated themes are described for each group of staff in turn. In order to provide clarity examples are used and coded according to group and participants as follows:

Nursing focus group participants (n = 8)

Allied health focus group participants (n =10)

Managers focus group participants (n = 6)

Administration /support staff focus group participants (n =16)
### Table 4.8 Themes Emerged From Focus Group Discussions

<table>
<thead>
<tr>
<th>Themes evident in data</th>
<th>Nurses</th>
<th>Allied Health</th>
<th>Managers</th>
<th>Administration &amp; Support Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ORGANISATIONAL CULTURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Themes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No identity with area health service</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Identify with area health service</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of identity of facility</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify with facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No knowledge of area health service functioning or strategies</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived instability at senior executive level effecting morale</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public perception of the organisation important to staff</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Themes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication between executive management and front line staff</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Barriers to communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TEAMWORK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Themes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fragmented approach to teamwork</td>
<td>✓</td>
<td></td>
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<tr>
<td>Aggressive behaviour and bullying</td>
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<tr>
<td>Improved multidisciplinary teams</td>
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<td><strong>STRESS</strong></td>
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<td>Themes</td>
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<tr>
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<td>Support</td>
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<td><strong>PATIENT SAFETY</strong></td>
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<td>Informal Incident reporting system</td>
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<tr>
<td>Managing Patient Safety</td>
<td>✓</td>
<td></td>
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In Table 4.8 themes evident in data that emerged from analyses of transcribed text in the focus groups. ✓ indicates that themes were noted in the text from a specified category of staff. It does not mean that all staff agreed with this perception.
4.3.1 Nurses Focus Group

In all, eight nursing staff attended the focus group, including nursing staff from operating suite, women and children’s health, surgical division and medical divisions.

Table 4.9. Emerging Themes from Nurses Focus Groups

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub themes</th>
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<tr>
<td>Organisational Culture</td>
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<td>• No knowledge of Area Health Service</td>
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<tr>
<td></td>
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<td>Communication</td>
<td>• Lack of communication between executive</td>
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<td></td>
<td>and front line staff</td>
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<td>• Barriers to communication</td>
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<td>Teamwork</td>
<td>• Fragmented approach to teamwork</td>
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<td>• Barriers to teamwork</td>
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<tr>
<td>Stress</td>
<td>• Recognised by nursing staff</td>
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<td>• Normalising of stress</td>
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<td>• Support</td>
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<tr>
<td>Patient Safety</td>
<td>• Staff impact on patient safety</td>
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<td></td>
<td>• Formal Incident Reporting system</td>
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<td></td>
<td>• Knowledge of patient safety system</td>
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4.3.1.1 Organisational Culture

The nursing staff identified a number of issues around organisational culture and there was a general consensus that there was a strong culture. However, they identified that it was a local culture, eg division or hospital rather than the area health service.

4.3.1.1.1 No identification with the MAHS

In general, nurses are satisfied with their work organisation, local management and supervision. They have good relationships with other employees and feel proud to be associated with their immediate place of work (i.e. unit, service or division). Respondents questioned about the survey results stated that they did not identify with the MAHS. They stated that they had little or no dealings with the executive staff. One nurse stated the following and each participant in the group nodded in agreement.
I think most people are happy working in their own unit and are aware of the culture within the unit but we don’t feel part of the Area Health Service (N3).

4.3.1.1.2 No knowledge of MAHS functioning or strategies

The nurses were asked to discuss the MAHS values, goals and strategies. The consensus was that the nurses had no understanding or knowledge of MAHS goals and values and even though they knew strategies for their local work place, they had no knowledge of strategies for the MAHS. They commented that they feel that they get no input from the area executive and that they think that there is a lot of information that was not passed on to them.

Well we don’t know what’s going on out there – nobody tells us – we know what is happening relating to our own department. We have meetings but we don’t have anything else (N3).

Does not really affect us directly anyway (N2).

We get no communication from the service manager – we hardly even know who they are – I have never seen the CEO – never have anything to do with Executive – wouldn’t have a clue (N6)

When questioned if they ever attend any of the forums that are designed to communicate area issues, for example, communication about strategic plan, open forums etc, respondents all agreed that there was little or no opportunity for front line staff to attend.

One nurse stated

More focus groups like this. It gives an opportunity to have our say. This is great – I had no idea it would be like this, and if what you say is true, and something will be done, well this is great (N4).

When asked if nurses would be willing to attend focus group discussions they stated that they would, if given the opportunity. The following quotes express this:

Yes, if they are told what it’s about – given the opportunity to talk up (N3)
Yes, but then we have to be let off the wards to attend. I feel guilty today having left things undone to get here (N6).

Yes, and I think if staff are reluctant at first that’s because they do not know what to expect. We would need to get support from the nurse unit managers (NUM) and they could nominate three from morning shift and three from evening shift. That’s manageable (N3).

When asked how the AHS could support staff better, the group responded that “a thank you” from their immediate managers every so often would be good. Some small local appreciation would be good.

4.3.1.2 Communication

The nurses in the group identified a number of issues around communication and agreed that management needed to consider improvements in this area.

4.3.1.2.1 Lack of communication

For the nurses the major issue in this area were lack of communication and barriers to communication, in particular between executive management and front line staff.

This theme was reflected in the conversations of all members of the focus groups. When asked to comment of the issue of communication the nurses stated that they need information to be distributed in different ways. For some staff the weekly newsletter was useful for gaining information, another respondent stated that she never sees a newsletter. Others stated that the information displayed outside the lifts was a good idea. There was consensus that there was a lack of communication between management and the front line staff.

All the nurses agreed that NUMs were the main link for the dissemination of information. All agreed that the NUMs should be able to decipher what kind of information needed to be disseminated at a ward level. They then commented that managers need training in effective communication.
I think managers need training in how to communicate and appreciate their staff. Also, if AHS want to communicate issues with us, one page of information with key issues rather than reams of paper. Look at salary packaging – this was done really well – they used lots of ways to communicate, including coming to us individually. Everyone knows about salary packaging (N6).

Another nurse stated:

I don’t think management realise what it’s like here – we are busy all the time. There is a big communication problem here like it gets stuck somewhere. For instance this focus group, I did not know it was on – I was just told to come along (N2).

Discussions continued on the different types of communication channels that could be used. Suggestions included face-to-face communication, communication through regular meetings and information in flyers and newsletters.

Well we have regular meetings with our NUMs. They should be able to tell us what is happening. Talk to us (N5).

When discussing the weekly newsletter the following comments were made.

Hardly ever seen it (N 5).

And who gets time to read it – its usually stored away in our office, and when it finally gets out its weeks old news anyway N6.

We leave ours in the tea room and people browse through it on the breaks (N 4).

Outside the lifts that are the best place for information – the only time a nurse gets a chance to stop and read is while she is waiting for the lift! – We’re told there are lots of stuff we need to know on the Intranet, but who gets a chance to look at it. I would not even know how (N6).

The consensus at the end of the conversation was that there needed to be some effective communication strategies in place for communication with front line staff. Nursing staff believe that a lot of relevant information about the organisation is not getting down to the front line level. The fact that different staff had different access to information channels should be taken into consideration.
4.3.1.2.2 Barriers to Communication
The nurses agreed that there were many barriers to communication, which include workload, ineffective networking, support from managers to attend information sharing forums, shift work and issues around where information is displayed and how it is disseminated.

One respondent stated

*There is lots of information about bet ween often don’t get the time to look at it and take it in, its not allocated as part of our daily duties so often we don’t even know what’s happening in our own hospital (N7).*

4.3.1.3 Teamwork

The nurses discussed a number of issues around teamwork and acknowledged that teamwork had an important function in patient care and patient safety however their main issue was the fragmented approach to teamwork and the barrier to teamwork.

4.3.1.3.1 Fragmented Approach to Teamwork

The nurses felt teamwork was fragmented because a model of patient allocation used in a number of ward areas: For example:”Yes that happens often, is patient allocation”. “Patient allocation is not good for teamwork really”(N5).

Others like one midwife informed the group that they practice team nursing, which works really well within the Women and Children’s Health Division (W&CH) “In maternity we work well together, teamwork is really important. If we have spare time we help each other”(N3)

Nurses in general believed those doctors and nurses work well together and state that junior doctors do have initial problems fitting into teams. As far as team membership is concerned generally, doctors fit in eventually. However, they also stated that junior doctors depend on nurses for guidance at times. Another comment made was the
communication between Visiting Medical Officers and staff specialists and junior doctors always seem to be a problem. When asked how doctors fit into the team one participant replied “Doctors generally listen sometimes you get the odd one ‘who knows it all’ and don’t take any notice. There are some who give you the impression of ‘don’t tell me what to do’ attitude (N6)

Another stated:

Interns and junior doctors should get some training around multidisciplinary teamwork at orientation. They often work independently of the rest of the team and seem to find it hard to communicate with senior doctors, allied health staff and nurses. Teamwork is important; things can generally be managed better if the full team is involved (N4).

4.3.1.3.2 Barriers to Teamwork

The nurses did not believe that the Area Health Service encouraged teamwork and they acknowledged this as a major barrier to teamwork. They acknowledged that teamwork is vital to patient safety but that there are many barriers to effective teamwork. They believe that the divisional structures have divided the hospital culture and that there has been a decline in team effectiveness over the last few years.

We used to work well as teams but things have changed over the years. The way we are allocated our duties has changed. It used to be that an enrolled nurse and a registered nurse worked together to care for a certain group of patients, but now you are given your patient load and you are totally responsible for them. It’s nearly impossible to get any help (N2).

Again the nurses emphasised that the patient allocation model was in itself a barrier to teamwork. For example:

The concept of ‘not my patient’ exists across the organisation. I work in the operating suite and when I go to the wards to return a patient it is so hard to find anyone willing to take responsibility for the patient on their return. If the nurse who is allocated to that patient is busy other nurses do not want to know ‘not my patient’ (N7).
Four other participants nodded in agreement in the focus group and another continues:

But we are always so busy, it’s hard to get involved with other patients because your patients may miss out. Hand over is really important – and if you are taking another nurse’s patient then you have to hand over again, its doubling up and things can be missed (N7).

Issues between departments could also be a barrier to teamwork. Discussions around how problems and disagreements are resolved in teams revealed that there are not many disagreements between team members and if there are they are mostly resolved without much fuss. However, there are often disagreements between departments which can cause some stress and bad feeling between different teams. Respondents stated that they know there are issues between departments which are deferred to the managers but they seldom find out if issues are resolved or not.

One nurse commented:

We never know if this sort of stuff is ever resolved (N6).

Overall, nurses agreed that teamwork was the goal of staff but often there were barriers, such as the model of care, the departmental and divisional structure, communication and professional attitudes. The nurses realised the importance of teamwork and were always striving to encourage team participation.

We always try to work as a team and we encourage new staff to participate (N7).

4.3.1.4 Sources of Stress

All the nurses recognised that stress can affect patient safety and that it affected their own performance. They talked about sources of stress, how it was recognised and how they normalised it. The nurses mentioned heavy patient allocation, changing of doctors’ rosters and management of patients after hours, and cost of staff as sources of stress. For example, one nurse commented on patient allocation:

We more than often have too many patients per nurse. If we have an aggressive, confused patient in our group of patients they are
very hard to manage. So much time is spent with them, then the other patients miss out (N2).

Another nurse continued talking about patient acuity and financial issues:

Well we discuss it with our manager or team leader about the need to get a special nurse or maybe restraint (although nobody likes to use restraints). With the manager it’s all a financial issue – about costs not safety. Even though you may get a special for 24 hours only – but the patient’s confusion does not resolve quickly and you are back in the same position again (N3).

A different nurse describes frustration with patient management:

If it’s after hours, it’s worse – nurses are not allowed to approve getting specials on the wards – evening supervisor, then the approval has to be from doctor also - who have to document this and they are reluctant to do that because they are juniors (N8).

One nurse spoke of new doctors and their rotation:

It depends on the situation, for instance every year the interns and the registrar begin the new term on the same week. So you have all new medical staff on the one week. Nobody knows what is going on and usually they are not confident or afraid to talk to the VMOs. It’s dangerous. Nurses have been saying for years this needs to be changed, but as usual nobody listens. That should be simple to change but it never will (N6).

4.3.14.1 Normalising Stress

The nurses all agreed that stress was now part of the normal working day. They acknowledged that it was the different levels of stress and how the stressful days are managed that needs to be the focus of improvements.

One nurse pointed out:

Stress is everywhere; some people can deal with it better than others (N6).

Another nurse stated:

In the ward areas things are pretty good I think – we all have bad days – but as far as big picture stuff there seems to be lots of problems, stress and pressures. It makes us tired (N4).
The nurses discussed the effects of stressful situations on patient care and agreed that tense, hostile situations and extreme situations have a negative effect on care but as nurses are now used to working in stressful situations and have learned to manage it to a reasonable degree.

*We are trying not to let it but I suppose it does. We have learned to accept stress daily in our work. I am not sure what it would be like without it (N4).*

### 4.3.1.5 Patient Safety

All the nurses agreed that patient safety was important. They discussed the management of patient safety and how it related to incident management. They all agreed that the focus of patient safety was their key priority but that there were difficulties in the system that did not necessarily enhance patient safety.

#### 4.3.1.5.1 Importance to Staff

The nurses believed they had a strong patient safety focus. They agreed that it was the most important aspect of patient care in their minds. One nurse commenced the conversation:

*When I look after my patients, safety is the number one priority – that is what it’s all about. However, at times their safety is compromised because of the workload (N2).*

They believe that nursing routines are all about safety for the patient. At times they believe that the importance of safety was compromised by heavy workload but in these situations nurses continue to ensure safety as best they can.

#### 4.3.1.5.2 Managing Patient Safety Issues

Issues of patient safety were usually discussed at the ward level and reported but the nurses felt these were often ignored:

*We know the correct system to report safety issues but often when we report things we do not get any feedback. People now think, why bother (N3).*

*Well we discuss problems with our manager or team leader. Usually we sort things out at ward level but that’s as far as it goes. I don’t know really what happens after that (N4).*
The nurses agreed that at times they are given the opportunity to comment and make suggestions around these kinds of issues that cause patient safety problems. However they stated because of resource restraint the comments did not go far:

*What if it boils down to extra staff and costs, our suggestions don’t get far* (N6).

The nurses felt that admitting to mistakes was important to managing patient safety. They agreed that they are willing to admit to mistakes and take steps to learn from them. They would resolve them as soon as possible so they will not occur again.

*Yes, I see what you mean but that’s the big picture and we don’t really think of that. They should be discussed at management level too. Others could learn from our mistakes. I see how this would help* (N5).

Nonetheless, participants believed that the system is not there to share the learnings. Some of the respondents stated that they never thought of it that way before, that others in the organisation could be learning from the mistakes of others and that this could be a positive thing. For example: “There is nothing in my area to stop errors happening again – no process even though we do discuss the incidences” (N5).

All participants agree that once again it comes down to communication and management:

*Well they are discussed but we don’t see many processes for prevention happening, except what we put in place ourselves. We support one another when we make mistakes; nothing formal is done really to ensure that we learn from them. At ward level we may change a guideline or policy. Communication is usually verbal on these things* (N5).

**4.3.1.6. Formal Incident Reporting System**

The nurses reported they knew the channels to follow in the event patient safety concerns. On the subject of reporting incidents around patient safety, nurse’s replies
were very cynical. The general consensus that even though there is a process for incident reporting they do not believe that it is effective:

*We fill in an incident form after incident form and we never hear a thing back* (N2).

There was a lack of communication and feedback on such reporting and this caused frustration:

*We still fill them in because we have to but what’s the point and for instance, I spent three hours filling in a form a few months ago and was told that I would be asked to go on a team to fix the issue – have heard nothing, probably never will* (N5).

and:

*Feedback is very important; we never get any – so how do we know if things have been fixed. The form is filled in, handed to the NUM. You don’t know what’s written on it after its left your hands – where does it go – Risk Management, so what?* (N3).

The nurses felt that staff found the forms threatening:

*A lot of nursing staff feel consequences from forms will be bad – sometimes seen as staff complaining so often things are not reported. They find the report forms threatening* (N2).
4.3.2 Allied Health Focus Group

Ten allied health staff attended the focus group, including occupational therapists, social workers, dietetic staff, pharmacy staff and physiotherapists.

Table 4.10. Emerging Themes from Allied Health Focus Group

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<thead>
<tr>
<th>Themes</th>
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<tr>
<td>Organisational Culture</td>
<td>• No identification with the MAHS</td>
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<tr>
<td></td>
<td>• Perceived instability at senior executive level affecting morale</td>
</tr>
<tr>
<td>Teamwork</td>
<td>• Barriers to teamwork</td>
</tr>
<tr>
<td>Communication</td>
<td>• Communication between executive to front line staff.</td>
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<tr>
<td>Stress</td>
<td>• Sources of stress</td>
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<td>• Support</td>
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<td>• Importance to staff</td>
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<td>• Informal incident reporting system</td>
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<td></td>
<td>• Managing patient safety</td>
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4.3.2.1 Organisational Culture

A similar theme of lack of identification with the MAHS emerged with allied health staff as with nursing staff. They also felt an affiliation with the hospital they worked in as distinct from the MAHS.

4.3.2.1.1 No identification with the MAHS

Allied Health staff were generally satisfied with their immediate contacts within the organisation e.g. their team leader, the people they work with and with their immediate supervisor. However, most of the allied health staff felt that they did not identify with the AHS. They stated that they had little or no knowledge of the organisational strategies and that issues that were discussed with them were not necessarily what they felt were the important issue but what the manager decided what is relevant to pass on.

*I feel between myself and my team leader, communication is great, between me and my department head, no, I only see...*
them once a fortnight and then I would get what they present at a meeting which they think is relevant to pass on, perhaps not what we want to hear. We never hear officially what is going on in the Area Health Service (AH 5).

Another allied health staff member stated:

*I don’t even know where or at what meeting the area health strategies are discussed. I know where allied health issues are addressed but we should be told about area stuff too (AH 6).*

4.3.2.1.2 Perceived instability at senior executive level affecting morale

When discussing organisational culture allied health staff responded by saying that it is very important to have stability at senior management levels.

One respondent commented on the recent departure of the CEO:

*There is constant restructuring and the trickle down effect of those affects staffing levels and moral, which means that in my mind, it’s impacting” (AH1).*

Another stated:

*Constant restructuring means that there is an insecurity about staffing levels, the staffing levels are frequently inadequate, that if you don’t have enough staff, I myself for instance am not dealing with whether the patient lives or dies medically, but I am only scratching the surface of the patient’s concerns. Where if there were more staff I could actually get below the surface (AH 5).*

Allied health staff expressed disillusionment with executive management and with communication channels about what is happening across the area and with instability of the executive.

4.3.2.2 Teamwork

In general, allied health staff felt there was a culture of teamwork within the workplace but it depended on individuals rather than systemic processes. When asked if they felt an integral part of the multidisciplinary team, most said they did and acknowledged that their colleagues and managers supported them in their clinical work.
4.3.2.2.1 Fragmented teamwork

Discussions about the effectiveness of teamwork and allied health staff’s participation in clinical teams revealed that in different areas and units teams communicated and collaborated differently with allied health staff. This in general leads to a fragmented and uncoordinated approach to teams caring for patients. Some comments were:

- Depends a lot on individual differences and personalities (AH 2).
- Most wards have a closed conference time that everyone shares.
- This works well (AH 7).

Pharmacy participant commented:

- Pharmacy is often neglected in multidisciplinary teams. And often times we get charts for various drugs, which are mainly restricted. We page the doctors because there is a policy that was written up by the Microbiology Team saying that this is what you supply, and that they need to be contacted when these drugs are ordered. They (Microbiology Team) came down to pharmacy last week and said please do not supply these drugs unless we are contacted. The interns and registrars are fully aware that they need to be contacted if they are prescribing these drugs. So you page them and most of them (interns) say who are you to say what I have to write? This is what my boss said I have to order. Most of them don’t contact the Microbiology Team. Some are helpful, others are not. They never asked for any input. I have worked in other hospitals where the ward pharmacists sit down in the ward meetings. You are introduced to the ward staff as their pharmacist. This is your pharmacist who will be looking after the patients; anything with the drugs and anything that has to do with ward services we were always called. It does not happen here (AH 5).

A participant from the district hospital stated:

- I work in a different hospital to this one and we feel a bit fragmented up there because our Area Head is at this hospital obviously and we are a lot smaller than the main department, so often a lot of the things we want to do, does not happen. Or if it is Area stuff, like if it is quality stuff and it is going to affect the rest of the department it has to go though a lot of channels to get an answer, it takes a long time to come back again to us and then we don’t even know if this hospital management has heard about what we are talking about anyway, so it is very difficult to actually work as a team from that point of view. I think we have come along way, I mean I wasn’t at my current hospital before we became area wide and I think the communication is probably a lot
better than it used to be but still just because the sites are so remote and because we are so much smaller it often feels like we are the last to hear what’s going on at an area level and those issues might not completely reflect what’s going on for us. It might not; we need to be included a bit earlier so that we could give our ideas (AH 4).

4.3.2.2.2 Barriers to Teamwork

Major barriers identified were disagreements between personalities of team members. In general participants stated that disagreements were uncommon however when that did happen, if they were not resolved appropriately it had a negative effect within the teams.

AH 10 commented:

We can go to our team leaders but then it goes somewhere and doesn’t get resolved and then it is just diffused i.e. don’t worry about it.

Five other participants nod in agreement.

Its handed back down basically to team leader level
Then they get frustrated because there was no more they could do with it. We just have to grin and bear it (AH 6).

Most of the time issues are resolved only sometimes they are not. I think the frustration builds when also I think that the team leaders perhaps don’t feel as supported as they could do, and that is really important. I mean we are all working in tough places (AH3).

AH 9 commented:

In our department anyway, we probably have area meetings with our clinicians and with everybody, we go across the facility and network that way. I think we don’t have many areas issues to be resolved in the first place. Teamwork is pretty good really.

The allied health staff agreed that there was a positive change in the culture as far the division is concerned and expresses it as follows:

The other thing is like in the context of restructure; we had each department like physiotherapy, occupational therapy and speech pathology. Each had their own house. Now with the restructure, I see, as a bigger picture it is not just our own house, it is a bigger house, with things to share and to help, not just within the department but it should be within the allied health. We were very used to the old culture but now to come into the new one there are some limitations at the moment but I think that may improve to address everyone’s needs rather than - no you can’t take that, it belongs to us”, rather than we are all allied health and you can use it (AH 6).
Overall, the participants agree that there is a teamwork culture in existence even though it has a lot to do with personalities. Teamwork needs to be more coordinated and inclusive of all staff. Disagreements between teams and team members need to be resolved. Participants agree that the culture of teamwork is changing but teamwork needs to be fostered and developed within the organisation.

4.3.2.3 Stress

All participants recognise the negative effects of stress on patient safety. Discussion centred on the sources of stress and the level of support staff experienced when stressed.

4.3.2.3.1 Sources of Stress

One of the main sources of stress described was the conflicting loyalty between home and work life. However, participants also discussed the support they received when in stressed situations. This is how AH10 described it:

*I think you shouldn’t bring your problems to work but on the same hand you can’t help the effect of what your personal life has on your work life and how you perform. So I think you really need to sort that out. I know that in my area, I would be able to approach my team leader if I did feel there were personal issues in my private life that was (were) affecting my professional life and that I am quite sure my manager would talk to me about it or give me some time off to deal with those problems.*

AH 2 described the following scenario of having a sick child at home and the need to stay at home to care for the sick child.

*Then there were the guilt feelings for the situation in the work environment and knowing that the workload on colleagues would increase by the staff member’s decision around the family life. Staff acknowledged that they often felt torn between their personal and professional responsibilities. You know you can’t possibly come to work because your first responsibility is your child but you still feel the guilt because you know the likelihood of you being replaced at work is nil. So, you feel bad for your colleagues who have to do your work (AH 2).*

Staff also commented on poor staffing levels as a source of stress. Stating that because of staff shortages, the amount of care they give to a client is often sub
optimal due to time and workload constraints. They often feel they are only scratching the surface.

One participant commented:

\[ I \text{ really feel stressed and pressured by my workload sometimes, we are always working with one or two staff down, and I feel terrible rushing through my consults. What if I miss something important because I am in a hurry? I just do not perform as well when under pressure (AH 2).} \]

4.3.2.4 Support
Participants agreed that stress has an impact on the care that they give to patients. This stress is often the result of poor staffing levels as well as conflicting loyalties with personal life responsibilities. They are of the impression that management does not support them when they try to address these issues.

\[ We \text{ try to explain this to management but they just say do the best that you can, but that is not the answer (AH 1).} \]

However, allied health staff agreed that when it came to sources of personal stress e.g. family issues they felt well supported by their managers.

\[ In \text{ the two wards I work, the NUMs have been great. When I first started, they said to me ‘if you have any questions or problems come to me and we will sort through them’. Even my co-workers have been really receptive and said if I have any problems just ask (AH 4).} \]

4.3.2.5 Patient Safety Culture
Allied health staff agreed that they all have the potential to impact on patient safety. They know the channels to follow in the event of non-agreement with clinical care or patients at risk. All participants agreed that they had a responsibility and accountability to patient safety and had taken the necessary steps to ensure this.
4.3.2.5.1 Importance to Staff

Allied health staff acknowledged the importance of safety in their day-to-day practice. Parts of the assessments they do on patients were to do directly with the patient’s safety both while in hospital and around their safety in the home. They discussed the resistance by some of the health care team to follow their advice, especially around a patient’s readiness for discharge. They stated that often their advice was sought but then ignored due may be to constraints on beds or just specialists orders. Often their concerns were addressed through negotiation with the medical team but this also has not happened on a number of occasions.

There are instances when we can’t always run back to our team leader and ask what do you want me to do? At times, you have to pick up a phone or go and say ‘hey this is not correct’, and to confirm that, and having confirmed that or knowing it is correct, but the doctor is saying ‘no we don’t want to pursue this’ but that’s not in the patient’s best interest, it is possible to set-up links with medical administration. It has happened, with difficulty but I have worked in areas where it has had good outcomes with the patient, and the patient’s safety. But it is difficult with the resistance (AH 2).

Five other allied health members nodded in agreement. The group discussed the resistance they have faced about recommendations they have made, being ignored or not acknowledged. They stated that this happened on occasion but was not the norm. All agreed that they then had a responsibility to follow up the recommendation where it affected patient safety.

4.3.2.5.2 Formal Incident Reporting System

The formal process for reporting incidents and how inadequate it was prompted the following comment

I completed some incident forms from time to time, but nothing happens as a result, as far as I know!(AH 6).
In general, allied health staff agreed that formal reporting of incidents was not effectively encouraged by management but rather staff reverted to the informal management of reporting.

4.3.2.5.3 Informal Incident Reporting

All agreed that it was the culture in their work areas to discuss mistakes informally and through their own accountability, lessons were learned. It was acknowledged that there was no formal method to do this, it happened in an adhoc manner as issues came up.

One participant states:

*We talk among ourselves about how we could do things better next time or about how to avoid the same mistake again. Nothing formal is put into place (AH5).*

Participants agreed that they all had the potential to impact on patient safety. They knew the channels to follow in the event of non-agreement with clinical care or patients at risk. All participants agreed that they had a responsibility and accountability to patient safety and that they take the necessary steps to ensure this.

4.3.2.6 Managing Patient Safety

Learning from errors to enhance patient safety was discussed. Allied health staff considered the culture in their work area makes it easy from them to learn from mistakes. Allied health staff were concerned that they were not involved in any forums where medical error or adverse events were discussed. One staff member stated that she was at a morbidity and mortality meeting once or twice but it was not relevant to her. When questioned about their knowledge of the patient safety program
being implemented in the MAHS the majority of allied health staff had not heard about the program and those that had had minimal knowledge about it.

*I saw something about it in the weekly news I think, but have not heard anything else. What is it about?*

When told about the patient safety program allied health staff were interested in finding out more about the program and agreed that it would be beneficial for staff to become involved.

4.3.2.7 Communication

Allied health staff identified communication as being a major issue in the organisation. They stressed the importance of communication to working collaboratively with other disciplines. They also identified a need for communication to be addressed strategically if the services were to work on an area work basis.

4.3.2.7.1 Communication from executive management

Respondents felt that there was a communication gap around important MAHS information passed on to senior managers from the executive which did not reach the level of front line staff. Some of the examples they spoke about were the strategic plans, the mission and goals of the AHS and changes and key priorities areas for the AHS. On discussion about the impact of a change of CEO, one staff member replied:

*I think so, I think it does impact on our work because if the bigger picture stuff unsettles our head or team leader, then that effect flows onto us, because if they don’t have the emotional energy to give to us when we come to them with problems or to oversee what we are doing effectively (AH6).*

Participants also feel that they should be more involved in change decisions at a local level:

*In terms of communicating information, we were saying about reading the newsletter we don’t find that effective everyone has department meetings regularly*
Why are we not able to distribute relevant organisational information at this meeting?

“Just in our department, we had a change of manager and there was a lot of insecurity, seemed to be a lot of discussion behind closed doors but there wasn’t a lot of asking us what we wanted or what we thought or how we could contribute to it. We knew something was happening but we didn’t have an idea about what was happening, so there was a lot of uncertainty and a lot of whispering but nothing definite until all of a sudden it happened and then we were told it had happened (AH2).

Another respondent considered decisions made in the Division are considered by front line staff as:

Secret heads business (AH 6).

The group agreed that overall, staff were generally satisfied with their immediate contact with managers and team leaders but were dissatisfied with communication and information from the higher levels in the organisation. When asked what was the key message they got out of these discussions the group agreed that communication about initiatives and key priorities of the AHS is the most lacking.
4.3.3 Managers Focus Group

Due to the small numbers of participants at one of the managers focus groups, for the purpose of confidentiality the findings from clinical and non-clinical managers will be reported together with * distinguishing the comments of clinical managers.

Table 4.11 Emerging Themes from Managers Focus Group

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<tr>
<th>Themes</th>
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<tbody>
<tr>
<td>Organisational Culture</td>
<td>• Identification with Area Health Service</td>
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<td>• Public perception of the organisation important to staff</td>
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<td>Communication</td>
<td>• Communication between executive management and front line staff</td>
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<td>Teamwork</td>
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<td>Stress</td>
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<td>• Support Services staff not understanding their effect on clinical areas</td>
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<td>Patient Safety</td>
<td>• Incident reporting</td>
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<td>• Patient safety program</td>
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4.3.3.1 Organisational Culture

Managers discussed the importance of a strong organisational culture for the area health service and were concerned that the survey results were not leaning towards a positive result. They identified a number of reasons that could relate to the findings. These were the political climate, changes in the organisation, and publicity that AHSs were getting from the media.

4.3.3.1.1 Identification with MAHS

On the issue of identification with the MAHS managers agreed that given the changes that the MAHS has undergone in the past three years, it was only natural that staff would identify with the facility in which they work. Given that there had been five
major changes in senior management positions the organisation was perceived by
staff to have an unstable management structure.

One manager pointed out:

*The question is how the inconsistency of leadership is when the CEO changes so frequently. They each have had a different emphasis on what should happen in the organisation so what happened in effect, a major area wide shift that happened five years ago has never actually settled. In fact with each new CEO there has been a slight variation on what the structures should look like and how the area should be serviced. In that sort of environment it is not surprising that people’s attachments come back to the physical structures where there is stability (M3).*

The same manager stated that in the past there used to be a strong organisational culture and a lot of optimism because the organisation was undergoing positive growth. There was a lot of career opportunity for existing and new staff and the organisation was changing aggressively. There was always going to be a slow down of this change and therefore a slow down of this optimism.

M3 further stated:

*Combine this with the change in management structure and restructuring in the Area offices it was bound to cause a certain amount of negative organisational culture.*

Another manager referred to the 1998 Bisset Review, which the group was informed was a staffing review of the main facilities in the MAHS in line with the massive growth in the organisation. M4 stated:

*Feedback from this review was very negative. Up until then there was a total optimism.*

When questioned as to the importance of staff identifying with the AHS the general consensus was that it did not matter. The general opinion of managers was that it was more beneficial for staff to identify with a facility and have pride in that facility with links to the AHS.
Let us identify with the facility we are working in if we want to, let the Department of Health call it X collectively if they want to but I work for Yl, I don’t think we should be bothered worrying about it (M1).

The managers believe that the public perception of the organisation centres on the facilities. They also asserted that the media perception is similar, as the media refer to issues or situations at particular facilities in the MAHS, not the MAHS as a whole.

When discussing pride in working for the MAHS, one participant stated:

* There is a perception of how the public perceives the organisation. You can be proud to work for this organisation but again you don’t want to be associated with an organisation that screws up basically and wind up in the media and that’s the overall perception of the organisation (M2).

Another manager stated:

..... but you are not going to turn up to the singles bar and say, hi I am the quality manager for Pan Pharmaceuticals, nice to meet you! You want to be associated with something with a positive perception (M4).

Respondents believe this is why there was a 30% non-response to this question in the original survey. Staff did not want to associate themselves with an organisation that has not got a good reputation, but recognise at the same time that there is a lot of good work being done in the same organisation. This discussion concluded with the comment:

I think they have known what the organisation’s direction is and the direction is going to stay for longer than six months or the duration of an individual and I know that’s hard but five years of it is too long to expect people to do anything other than what they have done (M2).

4.3.3.2 Communication

Managers mirrored the views of other focus groups when discussing the issue of AHS executive management engaging or communicating with front line staff.

M5 stated:
They should not be faceless and nameless to the people who are the senior managers of the organisation. I think it is as simple as that; …this would make an enormous difference. When I first started, the then CEO would be present in places other than the executive office I mean does the CEO deliver the welcome address to new staff at AHS orientation?

Three other managers nodded in agreement. Managers in general believed that the area executive management would remain unstable for some time and consider that the management at the facility level is more stable therefore; they believe this to be the reason why staff can identify better with the facilities in which they work rather that with the AHS.

We are going to have more structural changes given some of the hints we are getting now and I don't see that we are going to settle. I think once again, there is going to be a lot of angst from certain groups as they are shifted around once again within the clinical streams. They are talking about dividing clinical streams as well. Any stability that we may have be able to put together in the last little while is all about to go up in the air again while they get shoved from pillar to post and that's unfortunately the way they feel. I think that is why they are so protective and feel safe in their own areas (M20).

4.3.3.3 Teamwork

Some managers agreed that the quality of teamwork in clinical areas is adequate but that teamwork between departments was lacking, while other managers state that teamwork is non existent in some areas.

4.3.3.3.1 Fragmented Approach to Teamwork

Managers had different views on the extent of which teams and teamwork had a strong focus. Some managers were of the opinion that teamwork was strong in some areas in the AHS while others felt that it was non existent in other areas.

Teamwork did not exist in this hospital. The divisional structures encourage an atmosphere of antagonism between the different streams. There was a time when one area was very busy another
area that was quiet would send staff to help. Now it’s all about “as long as I am not paying for it!” (M1).

A number of the managers agreed that personalities had a lot to do with the effectiveness of teams.

* In my unit when certain people are on duty the day flies, not that they are out there visibly doing anything special like rounding people up, chasing this or that. The day just sails, the group just clicks and work together, and it’s hard to pinpoint what it is. There are certain individuals that when they are on duty the team is efficient and effective whether that person is the team leader or not. Then there are other staff and it’s just hopeless (M3).

Others agreed that teams in emergency departments, intensive care units for instance work very well, but in non clinical areas the idea of teamwork across divisions and departments is very difficult.

4.3.3.3.2 Barriers to Teamwork

The main barrier to teamwork was identified as cost centre management. The sharing of staff between clinical areas when areas are over extended should be easy but due to financial and cost centre management of resources, it is not possible.

M4 stated:

*It is still pretty limited and at some point I was going to raise cost centre accounting, which is probably one of the most evil mechanisms which you prevent cooperation between departments in the organisation. Numerous times I have come across situations where department X is best equipped to deal with a certain situation, department Y technically funded to deal with a certain situation, so you spend the next 6 months of your life trying to get department Y to transfer some funds.*

Managers seem to think that teamwork is encouraged within clinical areas and within divisions but due to financial accountability it can’t happen between divisions. They state that this needs to be formally acknowledged and addressed by the area executives.

M4 reports:
I think it needs to be formally recognised for a start. A big document came out about financial accountability. Not one part of it addressed how that could be made to work in relation to teamwork environment where we are all providing benefit outside of your own area. It was basically a document on how we are going to measure your performance and “beat you up should you fail.” My direct line is that if someone comes to me from another division and says hey this is really great, I will cost it and get details so that formal recognition to get around this cost centre issue being a barrier.

Managers discussed other barriers to teamwork as being delegation of funds and divisional streaming.

M3 relates:

I think that some of the divisions have streaming within themselves and cost centre management within those streams and the same sorts of things can apply. I think delegation has a lot to do with it. Appropriate delegation is necessary, not requiring everything to be held at the most senior level of an organisation. If you want teamwork to be effective, then you have to allow people to have the scope to operate within any given environment. We have streamed teamwork I think, as well as some productivity questions by maintaining delegations that are not workable at the levels of the organisation that would allow for. The failure of teamwork is one of the symptoms of failure to actually trust. People are not here to rip one another or the system off. We have become so rigid in a number of the structures we have and delegations are just one of them and those things sometimes work against us in being able to work most effectively, most productively and most together on a daily basis. Those things are important questions when it comes back to teamwork and it is not always delegation of money. It is sometimes delegation of authority to act.

The managers concluded that although there is much work to be done in the organisation that teamwork has improved on a clinical level over the last few years. The communication and collaboration between allied health staff and the nursing teams have improved immensely but some medical staff are still reluctant to engage in teamwork. They feel that it is most difficult to get VMOs engaged in teamwork. A lot of the time the communication is lacking because there is even difficulties between the medical teams themselves communicating.
M6 stated:

Team work in the clinical setting is much better now than it was five years ago. We have much better communication now with most of the doctors, VMOs are still a bit of a problem, but generally the multidisciplinary teams are working better together.

4.3.3.4 Sources of Stress

Managers believed that the greatest source of frustration was with complicated work systems. In general, managers agreed that a number of processes need to be reviewed and re-designed. Current processes around some systems have not been reviewed for years and as things have changed over the years, bits have been added on making some of these processes complicated, inefficient and frustrating for staff. One example given was the management of linen on the wards. The process now involves the delivery of linen on trolleys; the unpacking of the trolley into a linen cupboard and then the trolley was taken away.

The manager asked:

Why can’t we just leave the linen on the trolley, why does it have to be so complicated? (M2).

The conversation continued about how system change was managed. Changes were not initiated in a timely manner, nor are they always evaluated for effectiveness. Therefore if the implementation of a change is not an improvement it causes further disruption, confusion and frustration for staff.

A manager commented:

….the problems is when we redesigned systems, we do not go back fast enough to evaluate if they are effective or not. (M1)

Another source of stress discussed was the problems around the new food preparation and catering system recently introduced. These issues were discussed in great detail and it was agreed that in theory the system is good but in reality there are lots of problems with the variances that occur in the clinical areas that are not complemented with an alternate method of managing food distribution. Examples
included patients attending medical imaging for tests, patients transferred in after
hours and patients who are admitted outside the normal admission times. These
problems then have to be addressed by nursing staff that spend time dealing with this
instead of caring for the patients.

4.3.3.5 Support

There was a lot of discussion about the fact that support services do not in fact
support clinical areas effectively. The group proposed that the reason for this is
because often those staff in support areas do not realise where they fit in to the
organisation and how they in fact impact on patient care. M4 explained:

Take incident report forms for instance. When a staff member completes the
form after an incident it is reviewed by the manager, completed and a
corrective action initiated. It then goes up to the divisional manager for sign
off. It then sits in their in-tray until they get around to it. Then it goes to the
secretary who holds it in their in-tray until they have a bundle of them to be
sent to risk management for entry on risk mate. A month or two goes by before
the information is entered. So therefore reports when and if we get them are
not accurate. The secretaries do not understand their part in the system that
the information needs to be moved efficiently and timely for them to be
meaningful and useful to manage patient care.

4.3.3.6 Formal Incident Reporting System

When discussing patient safety most of the conversations revolved around incident
reporting and incident management. Managers believe that staff were often reluctant
to report errors because they are afraid that they will get in trouble. Staff were not yet
convinced that a non-punitive system exists.

There are still lots of work needed to be done in convincing staff
that we do not have a blame culture, because in some parts of the
organisation we still have. Staff don’t report incidents because
they don’t want to get in trouble and if and when they do, nothing
ever comes of it. Things are fixed up locally, but system problems
are a different story (M1).

The clinical managers stated reporting was getting better but there was a significant
under-reporting of errors. There is a clear process for reporting the incidents for
nursing staff. They have the opportunity to sit with their manager to work out the reasons for the incidents. The system is the same for medical staff but they do not seem to have the support structures in place to facilitate this. The lack of adequate systems in place to provide feedback on incident investigation and the lack of data or trended information on the frequency of incidents was identified as a frustration for managers.

Manager 5 stated:

A particular bug bear of mine is, we send in incident reports to risk management but we can’t get trended data about frequency of incidents. I have been trying to get information on medical errors for ages and just can’t get the reports. The Risk-Mate database is supposed to have this facility but we still can’t get the information. Pharmacy can’t give you any information either.

All respondents agreed that it was now easier to learn from mistakes. They believed that they have an important role to play in ensuring that this happens. Staff were given the opportunity to sit down with their managers and discuss the system issues around the errors and work out ways to prevent these happening again.

4.3.3.7 Managing Patient Safety

The patient safety program was discussed in detail. The general feeling was that it is an important program but there still needs to be a lot of information sharing at different levels. It was acknowledged that to date the consultation has been at a senior management level and that more education needs to be delivered as the program progresses. One manager related:

I think it was targeted at a senior manager level and it’s understandable why that’s the case, but it is back to the same issue the feedback loop. Not all staff need to know the details of the whole patient safety program. The way the patient safety program is meaningful, I think to clinical staff is not to say someone is going to do a RCA and this is the structure of RCA and this is the concept behind it, it’s to say we had this incident, we did a lot of
investigation and the method we used is called RCA, but what you need to know is that it highlighted this huge range of things for us in the division and we now need to engage how we can change that, and that’s the sort of feedback that doesn’t happen (M4).

Managers agreed that the concept of a process for investigating adverse events and the continuing and enhanced system for incident reporting and monitoring would be beneficial in the management of patient safety.
4.3.4 Administration and Support Staff Focus Group

Two focus groups were held for this group, one at the teaching hospital and the second at the district hospital. Comments from staff in the district hospital are denoted by the**. In all, 16 staff attended the focus groups, including wards clerks, secretaries, switchboard staff and administration staff.

Table 4.12 Emerging Themes from Administration and Support Staff Focus Group

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<tr>
<th>Themes</th>
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<tbody>
<tr>
<td>Organisational Culture</td>
<td>• Identification with Area Health Service</td>
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<td>• No identification with Area Health Service</td>
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<td></td>
<td>• Loss of identity with facility</td>
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<td>Communication</td>
<td>• Communication between executive management and front line staff</td>
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<td>Teamwork</td>
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<td>• Aggressive behaviour and bullying</td>
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<td>Stress</td>
<td>• Sources of stress</td>
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<td>• Support</td>
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<td>Patient Safety</td>
<td>• Managing on patient safety</td>
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4.3.4.1 Organisational Culture

This group of staff had contrasting views to organisational culture within the group. Some of the staff held area positions while others has positions that were relevant to the facility in which they worked.

4.3.4.1.1 Identification with MAHS

Among the administration staff some felt that they identified well with the AHS while others dependent where in the organisation they worked, identified with the facility in which they worked.

** We feel as if we have lost the identity of our Hospital. It’s like we are an annex of the larger hospital. We have no idea what is
We receive little if any information, don’t know about the AHS, what services are available, we only know what services are available in the mountains (AS4)

I feel that I identify much more with the hospital, I would even say down to the unit I work in rather than the hospital (AS 6).

### 4.3.4.2 Communication

As with other focus group participants administration and support staff identified issues around communication and the transfer of information. The need for better and timely communication was spoken about as well as the lack of relevant information about changes and staffing at an area level.

One staff member stated:

**There is not enough information about what is going on. New stuff for instance. Managers just appear. We are not told what is going on, Staff do not know what is happening, who is taking over, they just start to work here and that’s it. It would be nice to know in advance, and then at least you would have an idea who they are when they appear. Communication is an issue. We get no information about area staff. If it gets up to this hospital it’s certainly not distributed to us (AS 11)***

Generally, participants felt strongly about the hospital being a good place to work but stated that it could be a lot better. Staff expressed a need for better communication between themselves and management both at a facility level and from the executive level. They went on to say that if the reasons around why decisions are made are explained (especially controversial ones) then staff would have a better understanding and more likely to be more positive in attitude.

Support staff commented:

*When people come to you and explain something and ask you to do something for a certain reason, you then become part of that team because you’re doing something that supports the organisation. You may not see it in that way but you are (AS12).*

One administrative staff member commented on a positive change that had taken place recently.
.....people from higher up were not interested in our meetings. They were not interested in listening, they were not interested in our point of view ......the meetings ended up being a kind of a support group because no matter what certain people or who the chair person was you hit your head on a brick wall. So these new ones that the Director of Nursing attends, are getting somewhere, we are getting some people from management listening (AS6).

4.3.4.3 Teamwork

In general, the participants felt that there was a culture of teamwork within the workplace but it depends on personalities rather than systemic processes. A number of the administration staff in the focus groups work across a number of units and departments and experience different levels of teamwork in different areas.

4.3.4.3.1 Barriers to Teamwork

The only barrier to teamwork discussed by administration and support staff spoke of was the difficulty in becoming accepted as part of the team:

** Sometimes it takes a long time for you to be accepted as part of the team (AS2)

Casual staff discussed difficulties in fitting into a team that has already been established and asserted that sometimes they get the impression that some nursing staff look down on them.

A participant from the district Hospital states:

** I feel part of the team in the area where I work. We have team meetings and the NUM makes sure I am asked along. You need to feel appreciated and as part of the team. Some people make you feel more part of the team than others. Some people give the impression that admin/ward clerks are lower than nursing, especially the older nurses and it also depends on people’s personalities (AS11).

The teaching hospital staff member commented:

I’ve always found that people as a whole are pretty good, exceptionally nice to me. They’re very much into team work. When we had our planning days the cleaners are invited, everyone was invited. If there is a problem we speak to everyone about it (AS8).

AS4 commented on how their team communicated:
Say there is 20 people around our table, there are wards persons, I and sometimes there are secretaries if they are around, and there are nursing and clinical assistants and doctors. The whole ward is invited. We are asked if we have any issues and every single person in that room gets an opportunity. Do you have an issue; is there anything you want to say? Someone’s say oh yes, ‘I am leaving, we have got to have a party there is a barbeque on. It maybe a minor issue, it maybe that someone is not signing something properly. Everyone is given an opportunity (AH 4).

4.3.4.4 Support
Administration staff found that they get the support they need from other staff. They get a lot of support from one another but all feel confident that their immediate manager would support them. However participants identified a need for staff to be able to go somewhere if they were distressed or needed to debrief.

We don’t actually have an area, I mean we have a small little room but if you go in there the patients can hear you. Years ago we used to have a social worker visit. Whenever there was something dramatic, she would come up and debrief the staff. That is not happening anymore because we don’t really have a regular social worker (AS 11).

4.3.4.5 Improved Multidisciplinary Teams
Most participants felt part of the multidisciplinary team. Most acknowledged that their colleagues and managers supported them. When discussing if disagreements are appropriately resolved, participants were happy with how disagreements are resolved. The general attitude was that if there were disagreements staff try to resolve them at the time of the disagreement, but if there is no resolution they go to their manager or NUM if appropriate.

We have NUM 1s. You don’t have to go up to the boss all the time, and I think that has made a really big difference because they will solve the problem before it gets to that stage. They don’t get as far as the boss. It may be brought up later at their meeting, this happened, put in a strategy what we can do. But as a rule everything gets sorted out there first. So we are lucky –it makes a hell of a lot of difference (AS12).
4.3.4.6 Aggressive, Behaviour and Bullying

There were some conversations about aggressive behaviour and bullying. Ward clerks stated that abuse and bullying is part of the job. Clerks affirmed that they inform new staff to expect it as part of the job. One commented:

*I mean, look let’s face it we all get abused, one way or another. It’s all part of the job and when you train them you got to let them know. If it’s a relative or someone outside, I cope quite well with it, if it is staff, sometimes which can happen and especially if it’s a VMO it’s hard to deal with (AS4).*

Another participant stated:

*It happened to me last week and it was also the same week as the “have you been bullied form came out. I didn’t fill it in, and I went home and I thought about it and I thought should I ask them to send me another one because I didn’t fill it in and it was a VMO(AS2).*

*So will you fill in the form now, because if you don’t, it’ll never change? The thing is you just don’t expect it, and it comes out of the blue, I’ve never met this person before it has a terrible effect, it does for weeks on end, and takes quite some time to get over something like that (AS4).*

*At the district hospital a participant commented that the hardest thing to accomplish is **“To be able to challenge rude staff in the right manner. I mean having the leaflet is good [workplace bullying. It is not OK, report it]. It makes me feel I have a right to stand up for myself and I will try but I am not convinced about the repercussions – that there won’t be any. Especially since some of the bullying is from those higher up. I mean we need to continue working here and that makes it really difficult (AS7).”**

Some participants agreed that they were confident to stand up for themselves and are confident to report bullying but there were other participants who confessed that they would not be able to be assertive even though they know that they should try. Some administration and support staff revealed that they are not able to deal with conflict, and were not confident to speak up for themselves. These participants were not aware that there were courses they could attend to address these issues.
4.3.4.7 Sources of Stress
Administration and support staff acknowledged that stress exists in the workplace and that this stress could sometimes affect their ability to perform. Although the majority of participants stated that they could cope with a certain amount of stress, it adversely affects their performance when it gets excessive. The group discussed the types of stress that affects them during working hours and identified that being a non-clinical person in a clinical area results in many members of the team requesting tasks to be done or for information and each one thinking that their task is the most important one. They also stated phone interruptions as another cause of stress due to constant interruptions.

There was an interesting discussion on the lack of confidentiality standards by some staff as a source of stress. One participant stated that some staff expect to be able to gain access to medical records of patients without introducing themselves or identifying their need to access a patient’s file. One example given:

*We get quite upset sometimes when people just walk in and expect to just be able to look around and see who is in the unit and discuss the person’s condition (AS6).*

*I hear a lot, and I would have to say communication and confidentiality are the things I feel very strongly about, especially in the unit where I currently work and that’s where it came up, that people that work within the hospital system get very angry that they have less privacy than any normal person that comes off the street. If you are a staff member who happens to be a patient and I think that other staff think they have a right to know about it. We have been taught to say ‘stable’ and nothing else (AS9).*

4.3.4.8 Support
Participants agreed that having discussed their stress with their managers they felt confident that they would be supported.

Some comments were:
**Of course, I have had some drama in my life lately and my manager was very supportive. She knew I was under pressure and it helped me deal with things knowing that she understood (AS3).**

Another stated:

**If the stress is really bad I go to my supervisor (AS11).**

**Colleagues usually help each other out and keep an eye on each other (AS7).**

*If something really big happens, they will organise with our social workers, they will organise a debriefing session, one for the day staff and one for the night staff (AS10).*

When discussing stresses outside of the work environment the group agreed that these stresses also affect their working life.

AS 4 stated:

*I mean you are talking about other stresses in your life, if there is something happening in your life, I know my boss always says can you handle this OK, you seem a bit tense and about 6 weeks later something little happened and I burst into tears and I was straight into her office and we sat down and she supported me then (AS4).*

Another followed with the comment:

*…They are just like an extended family, I mean you spend so much time here, I think it is important you have a good working relationship and they are there to help if needed (AS8).*

### 4.3.4.9 Patient Safety

When discussing how their performance impacted on patient safety, administration staff were able to articulate that the work they perform could often have an impact on patient safety directly and indirectly. They discussed issues of accuracy of patient identification, information and communication of patient information to other team members as being very important to patient safety.

AS 11 explained her point:
…For me when I have to type in data and if I ever made a mistake with it then bloods have to be retaken, you can’t afford that, so it is a safety issue as far as I’m concerned. That’s when it happened one time and the patient was compromised, I mean not seriously but the sample had to be redone because of it (AS11).

Administration and support staff also believe that they play a very important part in environmental safety also which in turn affects patient safety. Participants also stated that issues around safety have improved immensely in the last ten years.

AS 11 stated:

Oh yeah, goodness me and the occupational and health and safety compared ten years ago has changed immensely. Everything’s very proactive now, and the things that we do now previously we would be called trouble makers, if we did that years ago. For instance phoning up saying there’s a problem here, now everyone accepts it, its part of our job. We can go around and check the unit every now and then or if anything else that crops up. This is besides your everyday work. We just take it as part of the normal work and we expect it. This makes the place safe for patients too. And we expect to do that (AS11).

District hospital staff member made a similar comment:

…I have been here for 15 years. Things are certainly a lot better than the last 5-6 years and have changed for the better. Even OH&S stuff is much better. If I think something is unsafe and report it now it’s fixed or changed and it’s safe for everyone. That’s great (AS12).

4.3.4.10 Informal Incident Reporting

Participants agreed that they all had the potential to impact on patient safety. They knew the channels to follow to report safety issues and were confident to do so. All participants agreed that they could learn from their mistakes, often reviewing what has happened and changing practices as a result. However, they do not do so in a formal process and there is no systematic way of sharing these learnings. AS4 stated:

We often report patient safety incidents, but we never hear anything back. We never know if anything changes.
The data collected from the focus group interviews reiterated and added substance to the findings of the attitudinal questionnaire.
CHAPTER 5.
DISCUSSION AND CONCLUSIONS

5.1 Introduction

The findings of the research will be presented in this chapter. Similarities and differences between the findings of this research and that of other similar research will be discussed. Two seminal papers of Sexton et al., (2000), and Flin et al., (2003) will be used for comparison. Following this, the relevance and importance of the research findings will be discussed. Conclusions and recommendations for further research will finally be addressed.

5.2 Discussion of Findings

This study was the first attempt to systematically survey the attitudes of staff in MAHS in relation to patient safety. The findings from both the results of the survey and the focus group interviews have yielded valuable information for the organisation on staff attitudes to patient safety. The results show that there is a positive safety and teamwork culture. However, the results about organisational culture were not positive. Results showed that there is a high level of stress factors that influenced the safety in the organisation. There was a number of attitudes and patterns that warranted improvement and further investigation. These are discussed below in relation the six major domains that were identified in the literature: (1) Organisational culture, (2) Leadership, (3) Teamwork, (4) Communication, (5) Performance Shaping Factors, and (6) Error management.

The results of this MAHS study are compared to the results of two similar studies: (1) A Scottish study by Flin et al., (2003) in which 222 anaesthetist from 11 hospitals were surveyed (using a similar tool to the MAHS) to measure their attitudes towards human and organisational factors that can have an impact on effective team
performance and consequently on patient safety (Flin et al., 2003). (2) The second study is the famous American study by Sexton et al., (2000), whose objective was to survey operating theatre and intensive care unit staff about attitudes concerning error, stress, and teamwork. They then compared the medical staff attitudes to those of airline cockpit crew. This research group developed the ORMAQ, which was the survey tool used by the MAHS. The MAHS study was conducted in 2001.

5.2.1 Organisational Culture

Before any action can be taken to strengthen or alter an organisational culture around patient safety, there first must be clear knowledge of the existing culture. There is agreed consensus in the patient safety literature that a positive organisational culture reduces the risk of harm to patients. There is a related need for a culture of reporting of adverse events and near misses reporting in order to learn from mistakes to ensure long term and comprehensive improvements in the quality of care (Berwick 2001; Carroll, 1998; Clarke, 2002; Firth-Cozens, Ginsburg & Cording, 2003; Hart & Hazelgrove, 2001; Spath, 2002).

In the MAHS study findings there was not a positive result for organisational culture in the MAHS. Although 80% of respondents like their jobs, only half of the respondents were proud to work for the MAHS and only 30% of respondents believe that morale is high in their work area. When comparing the findings of this study with the Flin et al., (2003) study of anaesthetists’ attitudes to teamwork and safety, their study showed a more positive result, with 90% of anaesthetists replying that they liked their jobs and 58% were proud to work for their hospital. Likewise, similar to the MAHS study only 41% agreed that working in the hospital was like being part of a large family. Helmreich et al., (1998) suggested that:

...organizational culture can be characterized by subgroup
cooperation, a strong corporate identity, a positive organisational climate, and high employee morale, all of which have a positive impact on service and safety. (p.122)

A weak culture is recognised by poor corporate identity, sub group divisiveness, poor staff morale, and a negative organisational climate, which were the traits which emerged in this research (Helmreich et al., 1998). An organisation’s culture reflects staff attitudes and policies about human error, openness of communication between management and staff, and the level of trust between staff and senior management. The data from the MAHS study suggest that while 80% staff like their job and 59% were satisfied with the performance of managers in their work areas, the perception of the performance of MAHS management is less affirming (42%). To some extent these scores could be reflective of the general levels of motivation and satisfaction in health care in general. This rationale was also cited by Flin et al., (2003). The majority of respondents felt that their department leaders listened to their concerns but only 43% thought that they were given sufficient information by their department. Clinicians in the focus group interviews also voiced these concerns. Significant proportions across all groups did not feel that management provided adequate support, supervision of trainees (37%) or feedback on performance (38%). These results suggest that it would be worthwhile addressing these issues in more detail especially in regard to factors known to influence safety, which are adequate communication, effective teamwork affects of performance shaping factors, and leadership. Flin et al., (2003) also made similar recommendations and advised that there were a number of instruments available for this purpose.

5.2.2 Leadership

It is evident from the literature that a well led organisation benefits from a clear vision on clinical governance being communicated effectively to its staff. Leadership,
feedback on performance, adequate communication, supervision of trainees, and continuing education are important components of a strong clinical governance framework (Heard, 2001; Halligan, 2001). On items relating to clinical leadership, respondents were more positive about the clinical leader doing a good job than that for executive leadership. The clinical leaders rated a more positive result (47%) than the area executive (23%). This could be, the fact that the majority of the respondents would work more directly with clinical leaders and therefore would have a better understanding of their work practices. Interestingly when asked to respond to the question *the consultant should be formally in charge of the unit personnel during rounds* 36% of doctors and 20% of nurses agreed with this statement. This reflects the fact that a lot of the consultants in the MAHS are Visiting Medical Officers (VMO) and do not have a clinical leadership role on the units.

### 5.2.3. Teamwork

Patient safety will be enhanced through the coordinated efforts of effective health care teams (Carter & West, 1989; Mickan, & Rodger, 2000; Millard & Jeffries 2001). Effective teamwork is necessary to inform and influence the problems faced in health care, and to develop resolution strategies through, coordination, communication, cohesion, decision making, and conflict management. To enhance a team-orientated approach, tactics that can be fostered include thoroughness and attention to detail, sharing of responsibilities, communication, giving and receiving feedback and an understanding of each other’s roles within the team (Mickan, & Rodger, 2000).

In general, the MAHS study reported a positive trend towards satisfaction with teamwork in the MAHS. Differing perspectives on teamwork among doctors and nurses were shown however in the responses on the item *doctors and nurses work well together*, doctors felt they were part of a team more than nurses (Q.55), with
67% of doctors stating that doctors and nurses work well together with only 46% of nurses agreeing with this statement. A similar pattern was reported by Sexton et al., (2000) who found that surgeons generally reported good teamwork with anaesthetists, but anaesthetists do not reciprocate this perception. In contrast, Flin et al., (2003) reported positive attitudes in relation to teamwork behaviours reporting that 65% of respondents believed that operating theatre personnel worked as a team.

In the Sexton et al. (2000) study 80% of medical staff reported that briefings were important to patient safety. The Flin et al., (2003) study reported the verbalisation of plans and procedures as important with a 92% response but the importance of briefings in the Flin study of only elicited a 40% response in importance. In contrast, the MAHS study identified that the importance of briefings with regards to patient safety resulted a 92% agreement response from doctors. However, when asked if briefings were common in the work area the response in this study was only 43% of doctors in agreement, 27% of nurses agreed, with an overall agreement of 39%. Given that briefings were viewed by participants in this study as very important for conducting medical procedures safely, these results suggest that briefings are not included in the normal functioning workings of teams in the MAHS.

CRM has demonstrated proven as having a positive effect on crew behaviour and by inference on safety (Helmreich & Merritt 1998). Effective communication strategies have been a core component of CRM in the aviation industry since 1980. This includes formal discussions or briefings of potential risks and communication of schedules and plans before and after flights. A number of health care organisations have developed coordinated programs that build on aviations experience and utilise its approaches. Helmreich & Schaeffer (1994) found that surgeons were less likely than anaesthetists to use team briefings techniques (as cited in Flin et al., 2003). Staff
from the focus groups outline pressure to proceed, time constraints, and lack of formal training or policies for conducting briefings before procedures, as contributing factors to the lack of briefings before and after procedures in the operating theatre. In many situations common to health care, where the working conditions and the tasks required may not be reliably foreseen from shift to shift and where team cohesion is not assured due to high staff turnover, the need for the briefing of teams before execution of complex tasks (e.g., running a theatre list or a medical ward) becomes paramount to safety. Interdisciplinary cooperation, and regular team discussion and feedback significantly improve safety in patient care (Firth-Cozens, 2001b).

*Good teamwork is still not common in health care, but its importance makes it imperative that we consider how its performance is managed and how good team working is rewarded, not just through one individual member but for the team as a whole. (Firth-Cozens, 2001b p. ii29)*

Given this, it is strongly recommended that the reasons for the sub-optimal prevalence of briefings be further researched. The findings from the focus group mirrored these findings where respondents recognised the valued of teamwork but felt that there were number of organisational constraints that were barriers to effective teamwork. These included staffing issues, cost centre management, financial constraints, and the existence of differing models of teamwork within the organisation.

**5.2.4 Communication**

Break down in communication is a common cause of harm to patients. Wilson and Sheikh (2002), list the most common communication problems in health care as: (1) the informality of the communication process e.g., a forgotten comment in the surgery corridor, a post it note that fell behind a desk; (2) transcription of information
and the associated risks of inaccuracies eg dictating of referral letters; (3) transition of 
information between hospitals and community services e.g., discrepancies between 
the drugs prescribed at discharge and those received in the community.

In focus group discussions the issue of communication was examined in 
detail. The focus of most of the discussions was on the availability of relevant 
organisational information for frontline staff and on the engagement of the area 
executive with front line staff. The conclusion was that there was a gap between the 
communication of the two groups that led to inadequate information and knowledge 
of Area vision and strategies. This was also reflected in the results of the survey 
which revealed that the collaboration and communication of the area executives rated 
the lowest discussed.

The high proportion of doctors and nurses unaware of the names of co-
workers during resuscitation (Q.47) may not be surprising but is nevertheless of 
concern. The researcher could not locate any formal data on the use of names in 
health care teams. It is the contention of the researcher that names are an important 
factor in accelerating team formation, promoting team cohesion, directing the flow of 
information and energy during crises. Not using names during crises may be a source 
of confusion, errors, and inefficiency contributing to poor outcomes.

5.2.5 Error Management

Error management is defined by Helmreich (1998),

“as a means of using all available data to understand the cause of errors and 
then taking appropriate action, to reduce the incidence of the error 
reoccurring and occurring again and of minimising the consequences when 
an error does occur”. (p 362)

He also advises that this may include the changing of policies and procedures and 
specialised training in error management. An essential component of an error
management strategy is an expectation that errors will always occur (Donaldson 2001; Helmreich 2000; Helmreich and Merritt 1998). While human function in complex environments such as health care, errors will always occur. This is a result of physiological and psychological limitations such as stress, fatigue, work loads, boredom, lack of skills and knowledge, poor interpersonal communications, and flawed information processing and decision making, to name but a few.

The advice from safety experts is that an organisation should strive to understand and manage errors effectively, decreasing the probability of errors and minimising the consequences. This requires strategies to improve patient safety which include (1) cultural changes to occur throughout the system (2) an emphasis on multidisciplinary patient care teams (3) improved communication among health providers (4) a focus on prevention and health promotion and (5) the introduction of strategies that address both human and system issues when managing error (Helmreich, 1998, 2000; Leape et al., 1998; Reason, 2002). In the Sexton, et al., (2000) study, it was found that substantial pressures still exist to cover up mistakes and susceptibility to error was not universally acknowledged by medical staff. They also reported that respondents did not believe that medical errors were responded to appropriately in the hospitals in the study. However, Flin et al., (2003) found that 84% of anaesthetists admitted that they had made errors but only 39% of respondents said that the mistakes were handled appropriately.

In this MAHS study, only 48% of doctors and 31% of nurses admitted to having made mistakes that had the potential to harm patients and only 22% of doctors and 16% of nurses agreed that medical errors occur in the work area every day. These findings reflect the findings in the Sexton et al., (2000) study. Likewise only 35% of respondents believe that errors are handled appropriately in their work area. This result is consistent with previous findings by Sexton et al. (2000) and Flin et al.,
(2003). It can be inferred from these results that health care professionals are still reluctant to report adverse events. Lawton (1998) echoed these findings. Overall, one in two respondents admitted to having seen others make mistakes that were potentially harmful to patients. Interestingly, 51% of respondents of the MAHS study state that they are encouraged by colleagues to report patient safety issues, yet only 48% of respondents agree that the culture in their work area makes it easy to learn from mistakes. The importance of recognising and reporting errors in a formal manner in order to learn from errors and mistakes and reduce the chance of reoccurrence has been advocated in the medical profession (DOH, 2002; Kohn et al., 1999; Leape et al., 1998).

5.2.6 Performance Shaping Factors

The detrimental effects of stress and fatigue on skilled performance are well documented in the safety literature (ACSQHC, 2001b; 2002a; Flin, Fletcher and McGeorge et al., 2003; Sexton, Thomas et al. 2000; 2003 Helmreich, 1991, 1998; 2000; Sexton et al., 2000). Flin et al., (2003) reported less than encouraging results from the respondents in their surveys to the effects of stress and fatigue, with only 30-40% of anaesthetists and doctors reporting that they were unaffected by stress and fatigue. In the MAHS survey, doctors appeared more willing to admit the effects of stress and other factors on their performance than other groups, specifically regarding the effects of discontinuity of care, excessive workload, fatigue, and interruptions. An encouraging finding for the WAHS study is that our respondents have a more realistic perception of the effects of stress and fatigue on their performance. For example, Sexton et al., (2000) state:

\textit{between 47-70\% of doctors felt their performance during critical phases of patient care was unaffected by fatigue (p. 746).}
Encouragingly, only 14% of doctors in the MAHS study denied that their performance in resuscitations was not adversely affected by fatigue. In similar studies in the aviation industry pilots inability to acknowledge their limitations when stressed and fatigued was treated as a priority to address in training (Helmreich & Merritt, 1998; Merritt & Helmreich, 1996; O’Connor, Flin, & Fletcher, 2002; Pizzi, Goldfarb, & Nash, 2001).

In these previous studies using the ORMAQ vulnerabilities to stress, personal problems and workload issues were documented by anaesthetists and surgeons. In the MAHS study respondents reported high workload levels with 34% of respondents agreeing with the statement “very high levels of workload stimulate and improve my performance”. In fact 78% of the MAHS respondents acknowledged that they were less effective when fatigued.

For a team to benefit from the diversity of its members, those members’ ideas or attributes need to be made known to the team. Ideally, a well-led team will seek these actively but assertion ensures that a team will have the benefit of its diversity (Firth-Cozens, 2001b). Over a third of nurses felt unable to disagree with medical consultants in their work area and a quarter found it difficult to speak up about perceived problems related to patient care. This leaves patients vulnerable to the consequences of errors made by senior personnel that go unchallenged. In the Flin et al., (2003b) study the majority of respondents (anaesthetists) said they would speak up when they perceived a problem but felt less comfortable in doing so if it was a team member for another discipline. In the Sexton et al., (2000) more that half of the respondents (intensive care staff) reported that it was difficult to discuss mistakes.

The results showed that there was an awareness of the importance of juniors speaking up, but one in five stating that they are frequently unable to express
disagreement with medical consultants in their work area and 22% of respondents stating it was difficult to speak up in their work area. These findings were also reflected in the Flin et al., (2003) and the Sexton et al., (2000) studies. The issue of assertiveness and the ability of staff to speak up to peers and colleagues was discussed at length in the focus groups, with most staff agreeing that there was a degree of bullying in the MAHS which was cited as a barrier to some staff’s ability to be assertive. Some instances of assertive behaviour were discussed with respondents using these as examples of how to overcome bullying tactics. In high reliability work environments such as flight decks the importance of assertiveness skills is well documented (Flin et al., 2003; Helmreich, 2001; Jentsch & Smith-Jentsch, 2001). It is obvious that in health care, assertiveness skills are also a necessary skill and a critical behaviour that need to be encouraged in health care.

5.3. Conclusions

This study has provided the MAHS with base line data on staff attitudes towards human and organisational factors that have an impact on effective team performance and consequently on patient safety. These attitudinal data have been used to identify the prevailing safety culture of the organisation, to monitor and shape training initiatives, and to target problems in the system identified by the staff. Overall staff verified a less than positive attitude towards the interpersonal aspects of their work, such as team behaviour, leadership, and assertiveness.

In regard to attitudes suggesting invulnerability to the effects of stress and fatigue the majority of respondents acknowledged this belief. These findings are more favourable than those earlier studies using the (ORMAQ), although these were conducted in other countries and the respondents were surgeons, anaesthetists, and ICU staff (Flin et al., 2003; Sexton et al., 2000). A number of factors have emerged...
both from the questionnaire survey and the follow up focus groups that should be considered. The awareness of the need to encourage teamwork, not only in ward and service areas in the organisation but also between the different services and facilities within the organisation emerged.

CRM training has been introduced in a number of safety critical industries and is believed to have a positive impact on patient safety and teamwork. This type of training to develop team skills has been developed and trialed in Scotland. The impact of this type of training on organisational safety has yet to be determined but it does appear to enhance safety related behaviours and attitudes (Flin et al., 2003). The results of the MAHS survey suggested that staff would be amenable to such training.

Another factor that has emerged in terms of information sharing is the importance of briefings and verbalising plans before and after procedures. Yet, the data suggest strongly that this practice is not the norm. A conscious effort to practice this is conducted in some areas in the organisation e.g., operating suite and ICU by certain staff but it is not a protocol or procedure.

In the context of organisational culture the data suggest that there is not a strong organisational culture in the MAHS. Cultural change is slow, nonetheless it is possible to capitalise on opportunities to advance its progress. Given that health care organisations are under scrutiny of the public, media, and legislative bodies currently it would be fitting to take advantage of this opportunity to advance desired values and norms to enhance the patient safety program. While accidents and incidents are never desirable they can serve to alert an organisation to its vulnerabilities and weaknesses and therefore be used to propel change. There needs to be open discussion around mistakes and incidence and speedy action in response. Staff need to be able to have faith and trust that management will act on the data to improve systems rather than use it for punitive measures. Error management needs to find a permanent place in
medicine and extend to all units where multidisciplinary teamwork is critical.

This study has offered a relevant insight into attitudes to safety, error and teamwork among a cross-section of employees in a health service of a suburban metropolitan area. While the data suggest that various initiatives may well be useful in improving attitudes and patient safety indicators, effective safety cultures must rely on continuous updated information. The best interventions are based on data collected locally and using many methodologies. This information can then be employed for the development and evaluation of various countermeasures to enhance patient safety.

These findings can be directly incorporated into training curricula, providing the necessary scientific basis for recommendations. Continuing data collection can also assist in the evaluation of the long-term effectiveness of interventions and safety measures by identifying variation and trends over time to identify further opportunities for improvement. Organisations need valid diagnostic data to enhance safety, manage human error and system effectiveness. The attitudinal data gained from this study have informed the organisation on its strengths and weaknesses in patient safety management and have provided evidence on areas that require further education such as human factor methodologies, communication, assertiveness, teamwork and leadership skills.

### 5.4 Implications for Nursing

The findings of this study can make a useful contribution to the understanding of nurses’ attitudes towards human and organisational factors that can have an impact on effective communication and team performance and consequently on patient safety and organisational culture. Such attitudinal data can be used as pointers to health professionals and nursing management in areas they might focus on, to improve nurse’s attitudes to patient safety. It can also be used to monitor and shape training
initiatives and could be used as part of a periodic data collection for the AHS quality improvement programs.

Findings suggest that overall nurses demonstrated positive attitudes towards team and safety behaviours and, middle management leadership. However their responses were less favourable about the support they received from managers and supervisors towards communication and support for teamwork and stress related factors. In fact nurses believe that trainees in nursing were not adequately supervised (44%) and that the AHS was not doing a good job of training of personnel in general (31%). Factors relating to stress also produced some interesting findings. A quarter of nurses responded that disagreements in the workplace were not appropriately resolved and that high levels of workload were common. 78% of nurse respondents agreed that they were less effective when fatigued. Less than half the nurse respondents believed the teamwork was encouraged within the AHS. The majority of nurses did not believe that senior management were doing a good job. Therefore a key recommendation for nursing managers arising out of this study would be to focus on the areas of teamwork, training and leadership for nursing.

Further work is needed to explore the important topic in relation to education of nurse trainees to ensure that that future nurses are prepared adequately for the nursing role to ensure quality safe patient care. Additional research on the extent and type of education nurses receive on the topic of safety issues such as teamwork, communication, and performance related stressors would pave the way for research designed to measure the impact of human factors education has on health professional attitudes to patient safety.

Before we began the study our subjective impression was that nurses in the area health service had concerns about the flow of communication within the organisation.
The findings confirmed this and the study has demonstrated nurse beliefs as to the importance of good communication between all levels of staff within the organisation and how poor communication can effect both the moral and stress levels of nurses and other health professionals. The results offer a sound basis that justify the need for certain changes in the presently established system for communication. This is consistent with findings from the other health professional data and studies in the safety critical industries which have placed a major emphasis on communication skills and systems as part of their training for safety.

The findings of the study have highlighted a number of persistent and endangering factors, namely training and education, communication, and stress management that warrant attention. It is hoped that the recommendations provide an opportunity for strategic planning both at an organisational and local level to ensure effective participation in patient safety programs.

5.5 Recommendations and Future Research

The following recommendations from this study have been made to health care organisations:

1. To evaluate patient safety programs, health care organisations can use a safety climate survey such as the ORMAQ to measure staff attitudes about the patient safety-related domains to measure effects of safety programs, and to compare themselves with other health care and safety critical organisations.

2. Such evaluations should be conducted periodically to monitor and make improvements in behaviour and attitudes around patient safety.

3. The study has shown how the importance of teamwork and the need for enhanced teamwork should be encouraged not only in ward and service areas
in the health care organisation, as well as between the different services and facilities within an organisation.

4. The concept of CRM as team skills training model be developed for health care.

5. Health care organisations should formalise the practice of briefings before and after all major procedures.

6. The implementation of formal incident management program for collecting data on adverse events and near misses be funded to facilitate error management and inform the organisation of their hazards and risks.

7. Recognition of the relevance of the data on organisational culture and develop strategies to improve the strength of the existing culture.

8. Recognition of the influence that human factors have on patient safety and develop and support human factor program for health care staff.

Future research should include the continued assessment of attitudes of frontline health care providers across the six safety related domains in health care organisations. Results from such surveys can be aggregated by clinical areas or professional groups to demonstrate specific domains where improvements are necessary and where assessment of safety climate is satisfactory. Areas of substantial variation should be monitored over time. Such research can be used for proactive internal audit and as an organisational benchmark prior to quality improvement initiatives. Current and future research staff attitudes to patient safety should focus on the relationships between staff attitudes and patient, staff and organisational outcomes. This could be linked to performance management, error management and adverse events and incident management.

In conclusion the results of this study have provided the most available information on the attitudes and experiences of staff about the safety culture in an AHS. It also
provides information on the ways in which the perceptions on patient safety differ among services and between types of personnel. Further research is needed across all health care organisations to ensure that the patient safety initiatives and programs are in fact having a positive effect on patient care improving patient safety.
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Appendix 1

Safety Attitudes Questionnaire (ICU Version)
Safety Attitudes Questionnaire (ICU Version)

Use the scale below to describe the quality of collaboration and communication you have experienced with:

Very Low  Low  Adequate  High  Very High  Not Applicable


MARKING INSTRUCTIONS
- Use number 2 pencil only.
- Erase cleanly any mark you wish to change.

Correct Mark: X Incorrect Marks: X

Please answer by marking the response of your choice to the right of each item, using the letter from the scale below.

<table>
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<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td>Disagree Strongly</td>
<td>Disagree Slightly</td>
<td>Neutral</td>
<td>Agree Slightly</td>
<td>Agree Strongly</td>
</tr>
</tbody>
</table>

1. High levels of workload are common in this unit.
2. I like my job.
3. Input from ICU nurses about patient care is well received in my unit.
4. I would feel perfectly safe being treated in this ICU.
5. My decision-making ability is as good in emergency resuscitations as in routine situations.
6. Medical errors* are handled appropriately in this ICU.
7. I have the support I need from other ICU personnel to care for our patients.
8. My hospital does a good job of training new ICU personnel.
9. All the necessary information for diagnostic and therapeutic decisions is available for rounds.
10. Working for this hospital is like being part of a large family.
11. Hospital management of this hospital is doing a good job.
12. Hospital management supports my daily efforts in the ICU.
15. In this ICU, it is difficult to discuss mistakes.
16. Briefing ICU personnel before a procedure (intubation, central venous line, etc.) is important for patient safety.
17. Briefings are common in this ICU.
18. This hospital is a good place to work.
19. When I am interrupted, my patients’ safety is not affected.
20. Fatigue impairs my performance during emergency resuscitations.
21. Hospital management does not knowingly compromise the safety of patients.
22. Our levels of staffing are sufficient to handle the number of patients.
23. Decision-making in our ICU should include more input from other ICU personnel than it does now.
24. I have seen others make mistakes that had the potential to harm patients.
25. This hospital encourages teamwork and cooperation amongst its ICU personnel.
26. I am encouraged by my colleagues to report any patient safety concerns I may have.
27. The culture of this ICU makes it easy to learn from the mistakes of others.
28. This hospital constructively deals with problem ICU staff.
29. Medical errors* occur every day in this ICU.
30. It is easy for my ICU personnel to ask questions when there is something that they don’t understand.
31. I am ashamed when I make a mistake in front of other ICU personnel.
32. The ICU equipment in our hospital is adequate.

Medical error is defined as any error in the delivery of care, by any healthcare professional, regardless of outcome.
In our ICU it is difficult to speak up if I perceive a problem with patient care.
When my workload becomes excessive, my performance is impaired.
My department provides adequate, timely information about events in the hospital that might affect my work.
I know the proper channels to direct questions regarding patient safety in the ICU.
I am proud to work for this hospital.
Errors due to lack of skill are rare in this ICU.
Effective coordination of ICU personnel requires that the personalities of others be taken into account.
Disagreements in the ICU are appropriately resolved (i.e., what is best for the patient).
I am less effective at work when fatigued.
The consultant should be formally in charge of the ICU personnel during rounds.
I am more likely to make errors in tense or hostile situations.
Errors due to lack of knowledge are rare in this ICU.
Disruptions in the continuity of patient care (e.g., shift changes, patient transfers) can be detrimental to patient safety.
During emergencies, I am able to predict what other ICU personnel will do next.
The unit director of my ICU is doing a good job.
Doctors and nurses work together as a well-coordinated team.
Frequently unable to express disagreement with the consultants in this ICU.
Very high levels of workload stimulate and improve my performance.
Truly professional ICU personnel can leave personal problems behind when working.
During resuscitations, my performance is not affected by working with inexperienced or less capable ICU personnel.
ICU consultants deserve extra benefits and privileges, relative to other ICU personnel.
Morale in our ICU is high.
Trainees in my discipline are adequately supervised.
I always know the first and last names of the other ICU personnel involved in emergency resuscitations.
I have made mistakes that had the potential to harm patients.
Consultants in our ICU are doing a good job.
There are no circumstances where junior nurses or doctors should assume control of the care of a patient.
ICU personnel frequently disregard rules or guidelines (e.g., handwashing, treatment protocols / clinical pathways, sterile field, etc.) developed for our ICU.

<table>
<thead>
<tr>
<th>Specialization (mark your position)</th>
<th>Consultant (ICU daytime sessions)</th>
<th>Consultant (ICU on-call only)</th>
<th>Associate Specialist/Staff Grade</th>
<th>Junior Doctor (ICU)</th>
<th>ICU Secretary/Ward Clerk</th>
<th>Other:</th>
</tr>
</thead>
</table>

How much experience do you have in this specialty
(for consultants, time since appointment; for junior doctors, experience towards ICU accreditation)?

<table>
<thead>
<tr>
<th>YEARS</th>
<th>MONTHS</th>
<th>CURRENT AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>18</td>
</tr>
</tbody>
</table>

Gender:

Male
Female

Gender at birth (if different):

COMMENTS

What are your top three recommendations for improving patient safety in the ICU?

If more room for comments is needed, please provide your response on a separate sheet of paper.

Thank you for completing the questionnaire - Your time and participation are greatly appreciated.
Appendix 2

A Safe Patient Environment Staff attitude, Teamwork and Safety Questionnaire
A Safe Patient Environment: Staff Attitude, Teamwork and Safety Questionnaire

Using a black or blue pen, and with reference to the scales at the head of each section, please place a tick in the brackets that best describes your response.

SECTION ONE

Use the scale below to describe the quality of collaboration and communication you have experienced with:

<table>
<thead>
<tr>
<th>A Very Low</th>
<th>B Low</th>
<th>C Adequate</th>
<th>D High</th>
<th>E Very High</th>
<th>X Not Applicables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Senior Nurses (CNN, CNC, Educators)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Nurse Managers</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Registered Nurses</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. Enrolled Nurses (for AIN)</td>
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<tr>
<td>5. Non-Clinical Managers</td>
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<tr>
<td>6. Senior Doctors (VMO, CMO, Staff Specialists, Registrars)</td>
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<tr>
<td>7. Junior Doctors (Interns, Residents)</td>
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<tr>
<td>8. Support Staff (Domestic, Catering, Security, Maintenance)</td>
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<td></td>
<td></td>
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<tr>
<td>9. Area Executive</td>
<td></td>
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<tr>
<td>10. Administrative Staff/Ward Clerks</td>
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<td></td>
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<tr>
<td>11. Managers (Divisional/Department Heads)</td>
<td></td>
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<tr>
<td>12. Allied Health Staff (Physiotherapists, Occupational Therapists, Pharmacists, Social Workers etc)</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

SECTION TWO

Please place a tick in the brackets that best describes your response, using the letters from the scale below.

<table>
<thead>
<tr>
<th>A Disagree Strongly</th>
<th>B Disagree Slightly</th>
<th>C Neutral</th>
<th>D Agree Slightly</th>
<th>E Agree Strongly</th>
<th>X Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High levels of workload are common in my work area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I like my job</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Input from nurses about patient care is well received in my work area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I would feel perfectly safe being treated in my work area</td>
<td></td>
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<tr>
<td>5. I have the support I need from other personnel to care for our patients</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>6. My Area Health Service does a good job of training new personnel</td>
<td></td>
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</tr>
<tr>
<td>7. Working for this Area Health Service is like being part of a large family</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8. Management of this Area Health Service is doing a good job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Management supports my daily efforts in my work area</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Stress from personal problems adversely affects my performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I receive appropriate feedback about my performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. In my work area, it is difficult to make mistakes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Briefing personnel before a procedure is important for patient safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Briefings are common in my work area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. This hospital/Division is a good place to work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. When I am interrupted, my patients' safety is not affected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Medical error is defined as any error in the delivery of care by any health professional, regardless of outcome.*

160
| 17. Our levels of staffing are sufficient to handle the number of patients.
| 18. Decision making in my work area should include more input from other staff than it does now.
| 19. I have seen others make mistakes that had the potential to harm patients.
| 20. This Area Health Service encourages teamwork and cooperation amongst its personnel.
| 21. I am encouraged by my colleagues to report any patient safety concerns I may have.
| 22. The culture of my work area makes it easy to learn from the mistakes of others.
| 23. This Area Health Service constructively deals with problem staff.
| 24. It is easy for our personnel to ask questions when there is something that they don’t understand.
| 25. I am ashamed when I make a mistake in front of other personnel.
| 26. The equipment in our hospital/my work area is adequate.
| 27. In my work area it is difficult to speak up if I perceive a problem with patient care.
| 28. When my workload becomes excessive, my performance is impaired.
| 29. My work area provides adequate, timely information about events in the hospital that might affect my work.
| 30. I know the proper channels to direct questions regarding patient safety in my work area.
| 31. I am proud to work for this Area Health Service.
| 32. Errors due to lack of skill are rare in my work area.
| 33. Effective coordination of personal requires that personalises of others be taken into account.
| 34. Disagreement in my work area are appropriately resolved (i.e. what is best for the patients).
| 35. I am less effective at work when fatigued.
| 36. I am more likely to make errors in tense or hostile situations.
| 37. Errors due to lack of knowledge are rare in my work area.
| 38. Disruptions in the continuity of patient care (e.g. shift changes, patient transfer) can be detrimental to patient safety.
| 39. During emergencies, I am able to predict what other personnel will do next.
| 40. The manager of my work area is doing a good job.
| 41. Very high levels of workload stimulate and improve my performance.
| 42. Truly professional personnel can leave personal problems behind when working.
| 43. Morale in my work area is high.
| 44. Trainees in my discipline are adequately supervised.
| 45. I have made mistakes that had the potential to harm patients.
| 46. Personnel frequently disregard rules or guidelines (e.g. handwashing, treatment protocols, clinical pathways, sterile field, etc) developed for my work area.

*Medical error is defined as any error in the delivery of care by any health professional, regardless of outcome.*
SECTION THREE

The following questions relate to medical errors*, the role of doctors and the handling of medical emergencies. These questions may not be relevant to those staff members working outside of hospital or direct care settings. Nonetheless, you are asked to consider each question carefully and only mark as "N/A" those that have absolutely no relevance in your work environment.

<table>
<thead>
<tr>
<th></th>
<th>A: Disagree Strongly</th>
<th>B: Disagree Slightly</th>
<th>C: Neutral</th>
<th>D: Agree Slightly</th>
<th>E: Agree Strongly</th>
<th>X: Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>I always know the first and last name of the other personnel involved in emergency situations.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>48</td>
<td>My decision-making ability is as good in emergency resuscitations as in routine situations.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>49</td>
<td>Medical errors* are handled appropriately in my work area.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>50</td>
<td>All the necessary information for diagnostic and therapeutic decisions is available for rounds.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>51</td>
<td>Fatigue impairs my performance during emergency resuscitations.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>52</td>
<td>Management does not knowingly compromise the safety of patients.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>53</td>
<td>Medical errors* occur every day in my work area.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>54</td>
<td>The medical consultant should be formally in charge of the unit personnel during rounds.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>55</td>
<td>Our doctors and nurses work together as a well-coordinated team.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>56</td>
<td>I am frequently unable to express disagreement with the medical consultants in my work area.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>57</td>
<td>During resuscitations, my performance is not affected by working with inexperienced or less capable people.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>58</td>
<td>Medical consultants deserve extra benefits and privileges relative to other personnel.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>59</td>
<td>Medical consultants in my work area are doing a good job.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
<tr>
<td>60</td>
<td>There are no circumstances where junior nurses or doctors should assume control of care of the patient.</td>
<td>[ ] A</td>
<td>[ ] B</td>
<td>[ ] C</td>
<td>[ ] D</td>
<td>[ ] E</td>
</tr>
</tbody>
</table>

COMMENTS

What are your top three recommendations for improving patient safety in your work area?

1. 
2. 
3. 

If more room for comments is needed, please provide your response on a separate sheet of paper.

DEMOGRAPHICS

Do you work at a hospital? If YES please tick the appropriate bracket.

[ ] Nepean Hospital
[ ] Springwood Hospital
[ ] Blue Mountains Hospital
[ ] Gov'rnr Phillip Nursing Home

If not applicable please forward to the Designation.

* Medical error is defined as any error in the delivery of care by any health professional, regardless of outcome.
<table>
<thead>
<tr>
<th>DESIGINATION: (PLEASE PLACE A TICK IN THE APPROPRIATE BRACKET WHICH BEST DESCRIBES THE POSITION YOU CURRENTLY HOLD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] 1 Senior Nurse (CNS, CNC, Educators)</td>
</tr>
<tr>
<td>[ ] 2 Nurse Manager</td>
</tr>
<tr>
<td>[ ] 3 Registered Nurse</td>
</tr>
<tr>
<td>[ ] 4 Enrolled Nurse (or AIN)</td>
</tr>
<tr>
<td>[ ] 5 Non Clinical Manager</td>
</tr>
<tr>
<td>[ ] 6 Senior Doctor (VMO, CMO, Staff Specialists, Registrar)</td>
</tr>
<tr>
<td>[ ] 7 Junior Doctor (Intern, Resident)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(PLEASE PLACE A TICK IN THE APPROPRIATE BRACKET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How long have you worked in this organisation?</td>
</tr>
<tr>
<td>[ ] Less than a year</td>
</tr>
<tr>
<td>[ ] 1-2 years</td>
</tr>
<tr>
<td>[ ] 3-5 years</td>
</tr>
<tr>
<td>[ ] 6-10 years</td>
</tr>
<tr>
<td>[ ] 11-15 years</td>
</tr>
<tr>
<td>[ ] 16-20 years</td>
</tr>
<tr>
<td>[ ] 21-25 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(PLEASE PLACE A TICK IN THE APPROPRIATE BRACKET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your current work status?</td>
</tr>
<tr>
<td>[ ] Full time</td>
</tr>
<tr>
<td>[ ] Casual</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(PLEASE PLACE A TICK IN THE APPROPRIATE BRACKET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age group?</td>
</tr>
<tr>
<td>[ ] up to 25 years</td>
</tr>
<tr>
<td>[ ] 26-30 years</td>
</tr>
<tr>
<td>[ ] 31-35 years</td>
</tr>
<tr>
<td>[ ] 36-40 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLINICAL STREAM: (Please place a tick in the appropriate box)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Allied Health</td>
</tr>
<tr>
<td>Physiotherapy</td>
</tr>
<tr>
<td>Pharmacy</td>
</tr>
<tr>
<td>Social Work</td>
</tr>
<tr>
<td>Speech Therapy</td>
</tr>
<tr>
<td>Psychology</td>
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<tr>
<td>Occupational Therapy</td>
</tr>
<tr>
<td>2. Community Child &amp; Family Health</td>
</tr>
<tr>
<td>Counselling</td>
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<tr>
<td>Nursing</td>
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<tr>
<td>Therapies</td>
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<tr>
<td>Administration</td>
</tr>
<tr>
<td>4. Critical Care Nneeans</td>
</tr>
<tr>
<td>Emergency Department</td>
</tr>
<tr>
<td>High Dependency</td>
</tr>
<tr>
<td>Intensive Care</td>
</tr>
</tbody>
</table>

Thank you for completing the questionnaire -
Your time and participation are greatly appreciated.
Please return the questionnaire in the envelope provided to:
the Area Quality Unit by 5th July 2002

7742418979