

TOWARDS AN INTEGRATED APPROACH IN THE MANAGEMENT  
OF PRACTISE BREAKDOWN IN NURSING

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BY

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# **ABSTRACT**

## **Introduction**

While investigating alleged unprofessional conduct involving nurses, SANC collects a wealth of information which is used as the basis upon which to determine the nurses' guilt or innocence in respect of unprofessional conduct. No evidence exists that such information is ever used to determine how similar acts of unprofessional conduct could be prevented and/or be used in mitigating the impact of such acts on patient safety. Given that nurses have most interaction with patients, there is much to learn from practice breakdown involving nurses.

## **Methods**

A four phase cross sectional sequential exploratory mixed method approach using a modified soft system methodology (SSM) methodology was utilised to develop a framework for the integrated management of practice breakdown. Purposive sampling was followed to select five districts in KwaZulu-Natal for inclusion in the study. In addition Operational Nursing Managers, members of the Professional Conduct Committee of the South African Nursing Council, and representatives of organised labour were purposively sampled.

Qualitative data regarding causes and current practices in the management of practice breakdown in the nursing profession was gathered from key groups via focus groups, and individual phone calls. Then a survey instrument used to test the elements of the emerging theory was developed. Finally, a framework for integrated management of practice errors is suggested.

## **Results**

The study found that practice breakdown was a product of both environmental factors such as fallible managerial decisions, and unintended acts committed by nurses. In addition, the types of errors and consequences of error management were identified. Finally, conditions requisite for the integrated approach in the management of practice breakdown were identified and used to develop a framework for an integrated approach in the management of practice breakdown in nursing.

## **Conclusion**

Creation of a positive practice environment for nurses is requisite for an integrated approach in the management of practice breakdown.

## DECLARATION

I Jabulile Nonhlanhla Makhanya, do hereby declare that this study is representative of my original work. All the sources used have been acknowledged by referenced citations.

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Signature of student

.....

Date of signature

## APPROVED FOR FINAL SUBMISSION

.....

Professor N.S.Gwele

RN, RM, M Sc, PhD

.....

Date of signature

## **DEDICATION**

This thesis is dedicated to my late parents and siblings, my mother in law, Khumalo and Makhanya families, my husband Wazi and children; Nokwazi; Langelihle; Ziyanda and Bonga; friends, colleagues and all those who helped me believe in myself as I persevered with a goal that was once only a dream to me.

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I owe my gratitude to the nurses of South Africa, who nominated me to serve in the Council for Nursing. This exposure provided a unique insight into matters of public protection through professional regulation.

The KwaZulu-Natal Natal Provincial Department of Health for granting me permission to conduct this study in their facilities. Operational Nursing Managers, representative of organised labour, members of the Professional Conduct Committee of the Council and those nurses who were charged for unprofessional conduct for sharing their personal and professional experiences that shaped and enriched my thesis.

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## **LIST OF ACRONYMS**

<b>ANOVA</b>	Analysis of variance
<b>CHC</b>	Community Health Centre.
<b>DENOSA</b>	Democratic Nursing Organisation of South Africa
<b>DHS</b>	District Health System
<b>DC</b>	District Council
<b>ETQA</b>	Education and Training Quality Assurance
<b>JCAHO</b>	Commission on Accreditation of Healthcare Organisations
<b>HOSPERSA</b>	Health and Other Service Personnel Trade Union of South Africa
<b>NHI</b>	National Health Insurance
<b>NEHAWU</b>	National Health and Allied Workers' Union
<b>IOM</b>	Institute for Medicine
<b>PCC</b>	Professional Conduct Committee
<b>SADNU</b>	South African Democratic Nurses Union
<b>SAQA</b>	South African Qualifications Authority
<b>SANC</b>	South African Nursing Council
<b>SSM</b>	Soft Systems Methodology

# CHAPTER ONE

## 1.1 INTRODUCTION

A profession is defined as an occupation that is legally regulated and follows an extensive education and training program to acquire special and specific knowledge, skill and expertise. A profession therefore, has identifying criteria through which it is recognised. According to Searle, Human and Mogotlane (2009) the criteria for professional recognition includes: (a) legal and ethical foundations on which the professional practice rests; (b) a body of specialised knowledge and skill that approves the educational system to be followed by individuals who aspire to be members of that profession; (c) a scientifically, legally, ethically and socially based curriculum; and (e) mechanisms for self control and autonomy to make prudent and binding decisions consistent with the scope of practice in the profession.

According to Donahue (1996), the word 'nursing' is derived from Latin '*nutrire*' meaning to 'nourish' and has evolved from this to mean many things related to caring. Its development depended on knowledge; skill and expertise, with the knowledge base emerging as more and more information about diseases and illness became available. Nursing's recognition as a profession is based on several criteria, such as: (a) the existence of a self-regulatory body which provides leadership and governance to the profession making prudent and binding decisions in relation to the education, training and conduct of its members; (b) orientation of individual members towards service to the public; (c) ongoing research for knowledge development and evidence based contribution, especially to practice; and (d) a code of ethics which places high value in the worth and dignity of others.

As a profession alongside other professions, nursing has a commitment towards the public. This is realised through the regulatory responsibilities as undertaken by the regulatory body. The regulatory body is a legal entity that operates under an act of parliament. The authority for the practice of nursing is based upon a social contract that delineates professional rights and responsibilities as well as mechanisms for public accountability. In almost all countries, nursing practice is defined and governed

by law, and entrance to the profession is regulated at the national or state level by a Board or a Council.

According to Donabedian (cited in Affara and Styles, 1992:ii), self-regulation is described as “a social contract between the society and profession”. In this context, society grants the professions authority over functions vital to itself and permits them considerable autonomy in the conduct of their affairs. In return the professions are expected to act responsibly always mindful of the public’s trust. Flook (2003) describes regulation as the control of conduct by rule, law or ordinance by a Council or Board when there is a potential for harm to be caused to the public if an untrained or incompetent person performs an act on a member of the public.

The ultimate goal of professional regulation is to protect the public from harm that could be caused by unqualified, incompetent or unfit practitioners. The regulation of nursing began as a process to protect the nursing title and the public, hence the social agreement with the public to provide services that are safe and responsive to the needs of the public at all times. The public is protected through defining nursing practice, approving nursing education and training and overseeing the competence of nurses through licensing and disciplinary rules and regulations. The nursing title is protected through registration and licensure of individuals who have complied with specified educational, clinical and ethical standards to practice as a nurse. As such, nursing regulation applies mainly to nursing practice and disciplinary measures.

Internationally, State Boards in nursing have developed and implemented standards to regulate the practice of nurses. Standards represent criteria against which the nurses’ practice can be measured by the public, patients/clients, employers, colleagues and nurses themselves. Practice standards reflect the value of the profession and clarify what is minimally expected of nurses (Brunke, 2005). The common responsibilities of State Boards have been listed by Flook (2003) as:

- (a) The definition and enforcement of minimum requirements for safe nursing practice;
- (b) The setting of licensing requirements and validation of licensing credentials;
- (c) Outlining and implementing procedures for receiving, investigating and resolving complaints concerning licensed practitioners, including taking appropriate disciplinary actions;

- (d) Defining standards of conduct and misconduct;
- (e) Interpreting and enforcing the Nursing Act; and
- (f) Approving nursing education programs.

Nurses are expected to uphold the agreed upon clinical and ethical standards of conduct of the nursing profession. This compliance is monitored by State Boards of nursing in response to the public demand for safe and competent practitioners. These State Boards of nursing are also legislatively given authority to license and discipline members of the nursing profession, whereupon, the license to practice nursing may be revoked or restricted if an individual is found to be in violation of the Nursing Act or convicted of certain state or Federal laws. However, a Johnstone (2005) note that nurses are disciplined even in cases of unintentional misconduct. Grounds for disciplinary action include fraud, criminal acts, substance abuse, mental incompetence, incompetent acts of care including advocacy and record keeping and other willful or unintentional acts of misconduct with extenuating circumstances (Flook, 2003).

In South Africa, the nursing regulatory body is known as the South African Nursing Council (SANC). As a statutory body SANC is established by an Act of Parliament, namely, the Nursing Act, No 33 of 2005 (Republic of South Africa, 2005). The Nursing Act outlines the objectives of SANC as, inter alia, to serve and protect the public in matters involving health services in general and nursing services in particular. SANC's approach to ensuring public protection is threefold. Firstly, it is by ensuring that a high standard of quality health care is maintained through regulating nursing education and practice, secondly by exercising control over who may practice the profession through setting and maintenance of registers and thirdly by instituting predetermined disciplinary measures in instances of unprofessional conduct (Republic of South Africa, 2005).

In line with the prescripts of the Nursing Act (Republic of South Africa, 2005), the Council has developed a range of regulations and rules as instruments for achieving its role of protecting the public thus ensuring that the public is cared for by competent and safe nurse practitioners. These legislative instruments set out the standards for assessing nurse training programmes by stipulating minimum standards for the educational and training requirements for access to pre-registration training.

Compliance with the standards is through rigorous quality assurance processes defined by the South African Qualifications Authority (SAQA) (Republic of South Africa, 2005).

The Nursing Council has also established committees to realise the various regulatory aspects expected of it. Some of the important committees include Education, Accreditation, Laws and Preliminary Investigation, Impairment and Professional Conduct Committees. These committees impact on nursing practice to ensure maximum protection of the public. Through these committees the code of conduct for nurses, ethical code, values and beliefs of the nursing profession, competency framework, standards for nursing practice and scopes of practice for the various categories of nurses are chartered (SANC, 2004).

The Professional Conduct Committee (PCC) serves to provide finality in unprofessional conduct hearings. Currently, all complaints reported to SANC are classified as unprofessional conduct and dealt with in line with the provisions of the Nursing Act and related regulations. The regulations outline the procedure to be followed when a case of unprofessional conduct is reported, as well as options for sanctions that SANC can impose upon finding a nurse guilty thereof. Upon receipt of a complaint, the preliminary investigation committee of SANC may take one of four options in making a decision. The committee can: (a) decide that there is no prima facie for a hearing; (b) request that further information be solicited from a complainant; (c) offer an admission of guilt fine not exceeding the prescribed fee; and (d) refer the case to the PCC for a formal hearing (SANC, 2002: R373).

During the hearings, nurses charged with unprofessional conduct are allowed to present their case to the committee and only after due consideration a determination is made and the verdict reached. The PCC following a formal hearing has to rule on guilt and if necessary impose a sanction in accordance with the decision of the committee. If the PCC finds that the nurse has, whether by act or omission engaged in unprofessional conduct, the PCC may make one or more of the determinations provided for in the Nursing Act. Penalties that could be imposed range from a caution and/or reprimand, suspension from practice for a period of time, a suspended sentence, removal from the roll (hence removal of a license to practice), extension of a prescribed period of training in case of a student nurse or a fine not exceeding the

prescribed fee depending on the severity of the offense as perceived by the committee (Republic of South Africa, 2005).

While penalties imposed are seen as a necessary deterrent to further acts of unprofessional conduct, their effectiveness in prevention of similar situations has never been determined. This approach of intervening at an individual level does not address systems issues that place clients at risk of unsafe nursing practice. Instead, it reflects a mechanical approach to public protection as it claims to protect the public by imposing punitive penalties on nurses found guilty of unprofessional conduct without guaranteeing improved patient safety with subsequent attendance at the same health care facility. Johnstone (2005) argues that while this approach is mandatory, its appropriateness in improving quality of nursing care is open to question. In this regard the author suggests that there is a need to develop strategies that will ensure that errors are managed in a more constructive and comprehensive manner.

## **1.2 PROBLEM STATEMENT**

A preliminary review of transcripts of unprofessional conduct hearings conducted by SANC between June 2003 and June 2008 revealed that in the course of investigating alleged unprofessional conduct involving nurses, SANC collects a wealth of information. This information is used as the basis upon which to determine the nurses' guilt or innocence in respect of unprofessional conduct. No evidence exists that such information is ever used to gain in-depth insight and lessons that would prevent recurrence. Yet, Meurier (2000) observed that much of what is known today about accident prevention was, in fact, learnt from incidents which were properly reported and investigated.

Perusal of documented evidence (Kohn, Corrigan & Donaldson, 2000; Liang, 2001; Reason, 2004; Benner, Malloch, Sheets, Bitz, Emrich, Thomas, Bowen, Scott, Patterson, Schwed & Farrell, 2006; Hansen, 2006; Currie & Watterson, 2007) reveals glaring similarities between what has come to be internationally recognised as practice errors and mitigating factors given by nurses charged with unprofessional conduct, during professional conduct hearings in South Africa. Despite growing evidence in the international literature that most of the root causes of practice breakdown is as a result of flaws in systems rather than in individual recklessness,

SANC's approach to unprofessional conduct focuses exclusively on personal and professional responsibilities of a nurse with no regard to system factors.

A review of the literature reveals extensive research in the area of practice breakdown conducted internationally albeit mainly in high risk industries such as the aviation, engineering and the construction industry. These studies reveal consensus among researchers that incidents that downgrade business performance are in fact a combination of human and environmental factors (O'Shea 1999; Reason 2004; McBride-Henry & Foureur, 2007). The authors warn that in instances where the investigation focuses only on the immediate causes of an incident rather than identifying the much deeper or root causes, and where there are no action plans to stop the same thing from happening again, there has been little change in reducing either the frequency of accidents or their resultant severity.

Despite the extensive research conducted on practice breakdown in industry, Meurier (2000) notes that in nursing practice very little is known about the types, antecedents and consequences of errors. The author attributes this limited information on the observation that although practice errors are common in clinical practice, these are under-reported. Yet, medical mishaps share many important causal similarities with mishaps that happen in complex socio-technical environments.

Despite the growing evidence of the impact of globalisation on health, specifically chronic staff shortages, the complexity of health problems presenting in health care facilities and the strain these factors place on South Africa's nurse driven health care system (World Health Organisation, 2006), research and/or scholarly discourse in the area of practice breakdown still does not exist in South Africa. It would seem that nurse researchers in South Africa have not paid much attention to this phenomenon. Currently, there are no mechanisms of identifying patient factors, nurse's characteristics, working conditions and other systems characteristics that contribute to the unsafe acts committed by nurses. Instead, professional and personal responsibilities of a nurse remain a focal point in making a determination during professional conduct hearings.

It would seem that SANC's approach to making a determination in response to allegations of unprofessional conduct remains guided by the traditional approaches of disciplining nurses who have committed acts of misconduct by focusing on the

individual's acts or omissions without due consideration of factors within the care environment which compromise patient safety. Liang (2001) contends that focusing on an individual does not promote the elimination of mistakes nor maximize the systems functioning thus inducing improved performance for both the individual and the system. The author argues that shaming and blaming the individual is highly counterproductive and tends to induce fear of punishment which inadvertently further represses reporting of untoward actions in practice.

### **1.3 PURPOSE OF THE STUDY**

The purpose of this study was to gain an understanding of the nature and management of practice breakdown in the nursing profession, and to develop an integrative framework for the management of practice breakdown in the nursing profession.

### **1.4 STUDY AIMS AND OBJECTIVES**

The aim of this study was to develop a framework for proactive management of practice breakdown inherent in nursing practice areas within the South African health care context. It is believed that such a framework would be both developmental and regulatory in nature. The objectives of the study were to:

- (a) Determine the external and internal environmental factors that contribute to practice breakdown in nursing;
- (b) Identify active and latent factors involved in practice errors;
- (c) Describe the nature and consequences of current incident management approaches;
- (d) Determine the conditions requisite for effective management of practice breakdown; and
- (e) Design an integrative framework for managing practice errors with specific reference to learning and growth.



## **1.5 RESEARCH QUESTIONS**

- (a) What is the nature of practice breakdown in nursing practice?
- (b) What are the consequences of the current strategies for managing practice breakdown? and
- (c) How can practice breakdown be managed differently by the nursing profession?

## **1.6 SIGNIFICANCE OF THE STUDY**

Given that nurses comprise the largest group of health care providers in South Africa and that they have the most interaction with patients, there is much to learn from practice breakdown involving nurses. Although the notion that practice errors most commonly arise from latent system failures; it is apparent that, in making a determination following an alleged act of unprofessional conduct, the PCC does not look beyond the act or omissions of an individual nurse. There is a need to examine both the system and individual contributions to error in order to develop a system oriented approach with proactive and pre-emptive strategies for error management. This strategy will ensure an integrated management of both the system and individual factors that compromise patient safety.

The study will assist health service managers transform the work environment for nurses by providing evidence enabling them to gain insight into the chain of contextual factors contributing to adverse events which threaten patient safety. This will strengthen managers' advocacy role in the elimination of latent failures inherent in workplaces and provide a positive practice environment for nurses. Information from this study will enable nurse managers to ensure that systems problems with provision of care are corrected.

The study will facilitate proactive management of practice errors by suggesting a framework which recognises practice errors as distinct from unprofessional conduct and that, if managed accordingly, could enhance patient safety. Furthermore it will contribute to scholarly research in the field of regulation of nursing as there is very little written to challenge the operations of Boards and Councils.

It is anticipated that adoption of such a framework as a tool for management of practice breakdown will provide a significant shift from blaming and punishing

individual nurses to systems redress. It is hoped that nurses would gradually feel encouraged to report all adverse events irrespective of severity without fear of reprisal while management will get a clear insight into staffing and human resource issues and creation of positive environmental settings.

## **1.7 CONTEXTUAL DEFINITION OF TERMS**

### **1.7.1 Human errors**

Reason (2006) defines errors as failures of planned actions to be completed as intended or the use of a wrong plan to achieve what is intended. Human error can be described as the end result of various factors that acted separately or together to influence the human element during the performance of a particular process. These include both individual and contextual factors. Historically, human error has been isolated as a primary cause in the majority of adverse events throughout both public and private sectors.

### **1.7.2 Adverse events**

According to Page (2004) an adverse event in the health care field is defined as an injury caused by medical interventions rather than by the patient's underlying disease or condition. Adverse events are described as untoward incidents or therapeutic misadventures, iatrogenic injuries or other adverse occurrences directly associated with care or service provided within the jurisdiction of a health care facility. The author argues that a large proportion of adverse events are as a result of human errors. When an adverse event is a result of human error, it is considered a preventable adverse event.

### **1.7.3 Practice breakdown**

According to Page (2004), practice breakdown involves healthcare situations when some aspects of essential nursing practice expectations are not met. In this study, practice breakdown refers to failure in the continuum of care due to either latent conditions or active failure prevalent in care environments. As a consequence, patients do not receive the expected care. Instead patients may suffer harm while under the care of a nurse. Operationally, practice breakdown refers to unsafe acts

committed by nurses directly or indirectly in the course of providing care. In this study the term error and practice breakdown are used interchangeable.

#### **1.7.4 Latent conditions**

Reason (2006) describes latent conditions are those that may lie dormant within the system for many years before combining with active failures and local triggers to create an accident opportunity

#### **1.7.5 Active failure**

Reason (2006) defines active failures are defined as the unsafe acts committed by people who are in direct contact with the patient or systems. They take a variety of forms including slips, lapses, fumbles, mistakes, and procedural violation. Active failures have a direct and usually a short-lived impact on the integrity of the defense.

#### **1.7.6 Professional discipline**

This is a situation where members of the profession, in line with the precincts of self-control exercise and observe professional standards as stipulated by the profession.

#### **1.7.7 Malpractice / unprofessional conduct**

This is behaviour or action that is unbecoming in relation to professional standards. Finkelman and Kenner (2010:209) define malpractice as acts or continuing conduct of professionals that does not meet the standard of professional competence and results in proverbial damage to the patient. There are criteria or conditions under which malpractice can be claimed. These include:

- (a) A nurse must have a social commitment or duty to the patient. A nurse-patient relationship must have existed where a nurse must have provided care to the patient;
- (b) The duty must have been breached through acts of negligence; and
- (c) The breach of duty must be a foreseeable cause, or a cause that is legally sufficient to result in liability harm to the patient. There must be evidence that breach of duty led directly to the harm the patient is claiming.

In summary malpractice relates to the breach of duty to care where there is sufficient evidence that damages or harm was sustained as a direct consequence of breach of

duty to care. It is often described as an act of unprofessional conduct or omission committed by nurses in the cause of providing patient care.

### **1.7.8 Negligence**

Finkelman and Kenner (2010:209) define negligence as a failure to exercise the care towards others that a reasonable or prudent person would under the circumstances. The authors further describe negligence as an unintentional tort or a civil wrongful act or infringement of a right for which a remedy may be obtained in the form of damages.

# **CHAPTER TWO**

## **LITERATURE REVIEW**

### **2.1 INTRODUCTION**

This chapter focuses on the literature regarding practice breakdown including: (a) conceptualization of practice breakdown; (b) models of error causation and management; (c) approaches in the management of practice breakdown in nursing; (d) factors contributing to practice breakdown and management thereof; (e) empirical studies on error management; and (f) conceptual framework guiding this study.

### **2.2 CONCEPTUALISATION OF PRACTICE BREAKDOWN**

Hansen (2006) notes that although human error is the subject of research both in industry and professions the term remains intuitively understood. The author observes that the concept is used to describe a range of issues, including the outcome or consequence of human action, or causal factors of an accident or a deliberate violation or actual action taken by human beings. The author further notes the difficulty experienced by researchers in efforts to identify meaningful approaches to reduce the effects of human error within individual professions. The author argues that without a working concept of human error, it is not possible to attribute any mishap, accident or practice breakdown to human error.

In addition Hansen (2006) states that it is incumbent upon professions to clarify and standardise the usage of terminology important to that profession so as to eliminate unnecessary and counterproductive confusion. In this regard, he notes similarities in problems experienced by medicine and the aviation industry. Both these sectors deal with time critical decisions, both view human error as a significant problem, both know that human error can result in the death of their clients and both experience significant financial loss as a result of human error. However, the main difference between the two professions is that fatal error in aviation frequently results in the death of those who commit the error which is seldom the case in the medical profession. The author notes that in the medical field error is defined as the failure of

a planned action to be completed as intended which could either be an error of execution or an error of planning.

Liang (2001) defines medical error as a mistake, inadvertent occurrence or unintended event in health care delivery which may or may not result in patient injury. In addition the author contrasts this with purposeful or reckless actions that are intended to directly or indirectly harm the patient. These in the author's view, are malicious acts which constitute violation of patient safety. However, the author argues that the latter actions represent only a tiny fraction of patient injuries associated with the health care systems.

Furthermore, Liang (2001) describes medical errors as ubiquitous and inevitable. Errors occur as part of every system in which humans act to achieve social goals. The author argues that people can never outperform the systems which bind and constrain them no matter how professional they might be about their level of care and concern (Liang 2001). In the author's view, these systems have high potential for error emanating from common characteristics which complex systems share. The author enumerates these factors as: (a) high level technical requirements; (b) the need for quick reaction time; (c) the necessity of team coordination; (d) long hours; (e) tradeoff between service and safety and dispersed contributions influencing the outcome of the entire system; and (f) 24 hour a day operations.

Liang (2001) illustrates his argument by citing an example drawn from the aviation industry where it is not the sole responsibility of a pilot to get passengers to the appropriate destination safely, but a team effort comprising the pilot, stewards, ground staff, maintenance crew and air traffic controllers. Each and every one of these aviation system members contributes to the outcome which can either be positive or negative.

Similarly, Reason (2006) states that an error arises from an unintentional action in the performance of routine tasks, a mistake in judgment, or an inadequate plan of action. The role of an individual in this error inducing process is based on what the author describes as active failures or latent failures. Active failures are unsafe acts or omissions committed by those whose actions have immediate adverse consequences like pilots, air traffic controllers, anaesthetists, surgeons and nurses. Active failures include slips; cognitive failures and violation of rules and practice

standards. On the other hand, latent failures emanate from organisations or systems in which individuals operate. The author argues that latent failures are often inherent in the design and structures of complex systems.

This view is supported by Vincent, Taylor-Adams and Stanhope (1998) who argue that latent failures stem from fallible decisions often taken by people not directly involved in the workplace. The authors suggest that in medicine, latent failures emanate from decisions taken by management or senior clinicians which impact on the actions of practitioners. Latent failures provide the conditions in which unsafe acts occur. These conditions include; heavy workloads, stressful environment, inadequate knowledge or experience, inadequate supervision, rapid change within an organisation, inadequate maintenance of equipment or buildings and incompatible goals – for instance cost containment and service delivery. According to the authors, these factors individually or collectively tend to either influence staff performance adversely, or precipitate errors which then affect patient outcomes.

Similarly, Liang (2001) notes that latent failures are unrecognized and they often remain undiscovered and uncorrected in the system thus increasing the potential for future adverse events by predisposing the system to failure. The author describes these as “accidents waiting to happen with the human operator set up to fail under these conditions” (Liang, 2001:347). The effects of latent failures on staff performance is echoed by Delgado (2002) who argues that causes of increased number of disciplinary cases in the United States of America are due to the increased complexity of the work roles and staffing patterns in the health care services.

Based on disciplinary case files from the state nursing boards, Woods and Doan-Johnson (cited in Hansen, 2006) identify seven categories of errors in nursing. These categories include systems, individual and practice errors and comprise: (a) lack of attention; (b) lack of fiduciary concern; (c) inappropriate judgment; (d) medication error; (e) lack of intervention on patients’ behalf; (f) mistaken health provider order; and (g) documentation errors.

With regards to management of practice breakdown emanating from active failures, Reason (2006) agrees with Johnstone (2005) that, in instances where an individual nurse is reckless, uncaring or even has a malicious or criminal intent, nursing regulatory authorities have a stringent responsibility to deal effectively with such

individuals, to ensure that they are prevented from harming the patients and the public interest. These authors recommend that under such circumstances, taking a punitive approach may not only be appropriate but also strongly warranted.

## **2.3 MODELS OF ERROR CAUSATION AND MANAGEMENT**

Many theories and models relating to error causation have been developed even though these have specific focus on accidents happening in industry and are designed around the goal of accident investigation. Construction of these is based on legislation, description, causation and prevention research. Through literature review, Harvey (1984) traced the historical progression of accident causation theories and models from the original single factor theories to the more recent systems theory. In this process, the author identified three accident causation theories, namely:

- (a) the Heinrich model, which focuses on unsafe acts and unsafe conditions;
- (b) the epidemiological model, which considers the three broad factors of host, agent and environment; and
- (c) the multilinear events sequencing model.

Most recent models of error causation and error management were identified through further review of literature. These include; the organisational accidents model which focuses on active failures and latent failures and an integrated model for error management which focuses on both error causation and error management developed by Gillingham, Blanco and Lewko (1997).

### **2.3.1 Heinrich's Domino Theory of accident causation (1929-1980)**

Central to Heinrich's model is the assertion that the immediate causes of accidents are of two types: unsafe acts and unsafe conditions. Heinrich's theory (cited in Harvey, 1984) states that accidents result from a chain of sequential events with one triggering the next. The author argues that like dominoes, when one falls it triggers the next one. However, the author argues that removing the key factor such as an unsafe condition or unsafe act prevents the start of the chain reaction. In addition, the author suggests that unsafe acts of a person are by far the most common cause of accidents and are caused by personality traits such as ignorance and recklessness that make individuals prone to accidents. According to the author, unsafe conditions such as environmental and social conditions within which accidents occur form the



most remote cause of accidents. The Heinrich model describes accidents as preventable occurrences that cause injury. In essence this model suggests that accidents arise from poor compliance with safety measures. As a consequence, the author advocates for reinforcement strategies in the management of these unsafe acts. These strategies include strict supervision, remedial training and discipline as measures for ensuring compliance.

Critics of the Domino Theory note that it is easy to implement since it requires the investigator to identify unsafe acts of a person as causing accidents thus provide simple measures for prevention. However, the downfall is that it resolves the problems by blaming and punishing people concerned and disregards the effects of the unsafe conditions created by the system in the first place.

### **2.3.2 Epidemiological model**

The epidemiological model for the investigation of accidents is an adaptation of the method used for investigating the incidence of disease and other medical conditions. Harvey (1984) suggests that the epidemiological model is more of a methodology readily used as a tool for investigating accidents than a theoretical framework. In addition, the author suggests that the purpose of the epidemiological model is twofold: to identify specific types of accidents and to provide a basis for choosing and implementing prevention measures.

The model is based on the assumption that accidents potentially have multiple causes. However, each causal factor need not be thought of as either necessary or sufficient for the occurrence of the accident. In addition, the methodology identifies three broad classes of data: information about the object that produces an accident (the agent); the person to whom the accident happens (the host); and the circumstances surrounding the accidents (the environment). The strength of the epidemiological methodology as applied to accident investigation lies in its ability to produce a list of environmental factors to be recorded. These factors can then be used to identify dangerous situations and persons at risk of a particular type of accident. On the other hand the weakness of this model lies in the observation that describing an agent has proved to be a very cumbersome task, often resulting in an unmanageable number of agent categories which do not add any value in understanding accident causation (Harvey, 1984).

### **2.3.3 Benner's Multilinear Events Sequencing model (1975-1983)**

The Multilinear Events Sequencing Model was developed largely in response to the inadequacies found in the Heinrich model. Benner's model is informed by and is consistent with the Systems Theory Approach to accident causation in the sense that it seeks to identify the event in the accident process from the initial stage to conclusion. The model identifies all the actors involved in an accident episode. These actors can either be persons or objects capable of action. The analysis of the accident involves documenting the actions of each actor from the beginning to the end of the episode. In this model, the event forms the basic unit and is defined as a single actor and a single action. The investigation proceeds by organising these events in time from the initial stage to the final injury with each actor described on a separate time line while maintaining the correct time ordering of events between actors. The results of such an investigation would yield a complete description of the state of each actor at every point in time.

To complete the picture of the accident, Benner (cited in Harvey, 1984) suggests that the conditions necessary for each event to occur can be indicated for each event. However, the model does not describe the conditions in the same manner that it describes the actual events. Instead, the model only refers to the conditions as situations that must have existed for the event to occur. Within the model, the existing conditions are not treated as causes of an accident but as a solution for accident prevention. Benner's model of error investigation is criticized for being vague in defining the enabling conditions. Furthermore, like other models described above, Benner's accident causation models falls short of strategies for accident management.

### **2.3.4 The Vincoli model of error causation (1994)**

The Vincoli model is based on the fact that some management error, omission or lack of efficiency causes a majority of conditions within which unsafe acts and conditions can occur. The model promotes accident prevention by focusing management on the cost effectiveness of good practice. The model is premised on a number of assumptions; including a view that virtually all aspects of daily living involve a degree of risk and that some events or actions may not yield the results originally intended. The author argues that unintended results may be termed

accidents and when such unintended results have a negative or adverse impact on the overall task, plan or event it is often referred to as a loss. In addition, the author argues that in profit dominated business operations, investigation of such an event becomes a critical component of loss control. Furthermore, the author asserts that due to the impact of accidents on profit margins of a business, the fundamental purpose of accident investigation is to identify causes and recommend corrective measures to preclude recurrence of similar events. Finally, the author suggests that in the event that injury and human suffering results from an accident, identifying causes and rectifying them becomes more essential so that no one else falls victim to the same circumstances (Vincoli, 1994).

Vincoli (1994) asserts that incidents that downgrade business performance are caused, they do not just happen. In his view, such causes can be determined and therefore controlled. He suggests that management needs to be able to examine five principle elements of organisations, which are sources of such events. These principle elements of an organisation include: the people, equipment, materials, procedures and work environment which must all interact together for a successful business operation. These five elements of business operation either individually or in combination produce the source of causes that contribute to a downgrading incident.

Vincoli (1994) suggests that in investigating an accident or incident, management must ensure proper consideration of the potential or involvement of all the principles of an organisation. With regards to the people in the organisation, he warns that proper accident investigation does not end with a simple causal determination of human error. Instead, factors that can affect human behaviour and performance such as education, motivation, and availability of tools to perform assigned duties must be examined and evaluated for causes. He argues that adverse events in the first element (people) can often interact with equipment (or vice versa) to result into a downgrading incident. In the workplace people follow procedures to operate equipment and in process materials to accomplish their assigned tasks. Thus, the working environment represents the source of causes of an adverse event. Vincoli describes this cause and effect relationship as the domino effect. Like dominos, when each phase experiences a problem of significant adversity it causes an effect on the next phase. As each phase affects the next, like dominos falling against one

another, the ultimate result could be a loss. This loss is described in terms of control, origins, immediate causes, contact and loss. To understand the domino effect each domino in the sequence is examined in turn.

With regards to control, Vincoli asserts that every professional manager has to plan, organize, lead and control in order to ensure that work is performed as required. Failure to do so creates certain basic flaws from which incidents arise. The lack of sufficient control by management is the first domino in the sequence of events that could lead to a downgrading incident and subsequent loss. Vincoli argues that by proper planning, organising, leading and controlling a proactive manager can take the appropriate corrective action before a potential loss occurs, rather than reacting after the loss event. However, unless the frontline supervisor is supported by senior management, the domino will fall regardless of the efforts of the frontline supervisor (Vincoli, 1994).

**Origins – basic causes:** Vincoli (1994) argues that lack of management control permits the existence of certain root causes of incidents that downgrade the business operations. He suggest that these causes are also referred to as root causes, indirect causes, underlying causes or real causes since the immediate cause (the third domino) is most closely associated with the incident and originates directly from these basic causes. The model classifies the basic causes into two groups; personnel factors and job factors. The model describes personnel factors as lack of understanding, lack of ability, poor motivation or personal problems that workers bring to workplaces. Job factors include poor work design or maintenance, poor quality, equipment and tools.

These factors are quite similar to, though expressed differently, from Heinrich's causes for unsafe acts of persons. Vincoli is of the view that those basic causes referred to as personnel factors explain why some people engage in substandard practices which then lead to accidents. To illustrate the point further Vincoli cites two examples. One example is poor quality work that may result from placement of a colour-blind person on a job where excellent color vision is mandatory and the other example is expecting an employee to use equipment for which he/she has not been trained. Other examples include poor maintenance of equipment that may result in inefficient operations thus presenting a hazard to people and property. In this regard

Vincoli warns that failure to properly identify these origins of loss at this early stage in the sequence of events permits the domino to fall, thereby initiating the possibility of a further chain reaction leading to the ultimate undesired occurrence or the loss.

**Immediate causes:** Vincoli (1994) asserts that when the basic causes of a downgrading incident exist, they provide opportunity for the occurrence of substandard practices and conditions often referred to as errors that could subsequently cause the third domino to fall, leading directly to a loss event. He argues that in organisational environments where the above mentioned dominoes are left unchecked accidents are prone to happen. Although Vincoli brings in the unsafe acts and conditions, unlike Heinrich, he argues that unsafe acts and conditions are symptoms or root causes which indicate the existence of lack of management or dominos one and two respectively.

**Contact incident:** Vincoli (1994) maintains that when unsafe acts and conditions are allowed to continue uncorrected, the opportunity for the recurrence of the incident that may or may not result in loss also exists. Regardless of the outcome, the incident will be undesired since it was not intended and the final results of its occurrence are difficult to predict and are frequently a matter of chance. In this regard, Vincoli defines an incident as any event which has the possibility of creating a loss and define loss event as an accident. He also notes that each accident, whether or not it results in loss, provides an opportunity to obtain information which could prevent or at least control a similar incident in future. Furthermore, he argues that when information obtained from the investigation of previous incident is not recorded, categorised, and evaluated, the likelihood of future loss cannot be prevented. Vincoli refers to the resultant potential loss as the fourth domino.

**People / property loss:** Vincoli (1994) suggests that once the entire sequence of events has taken place it gives rise to loss involving either people and/or property which cannot be predicted regarding how and or when it will occur. The extent and size of the problem associated with accidents and losses are not easily seen or determined on the surface and yet, like a tip of an iceberg they are there. Regardless of the nature of business undertaking, the loss incurred can either be minor, serious, major or catastrophic. The determining factors for rating the severity of an accident

loss can be either a degree of physical harm and or property damage, having either economic or humane consequences.

Proponents of the Domino Theory have applauded it as a most compelling causation model for several reasons; namely, the view that it is simple and easy to use as it assumes a logical view of causality and does not require an investigator to find many complicated interrelated causes. Furthermore, although conceptualised for use in safety science, proponents regard it as easy for use by non safety people such as management and ordinary workers. Furthermore, proponents hold a view that it also provides an easy fix to problems. According to the Domino Theory, if an incident is to be prevented, remove one of the metaphoric dominoes. Such a simple solution creates an impression that the recommendations generated from this model are easy to apply in any situation involving practice breakdown.

### **2.3.5 Reason's Swiss cheese model of organisational accidents**

Reason (2006) defines the human factor approach as a hybrid discipline that focuses on the human component within complex socio-technical systems. Although the model for error causation was originally developed for use in complex industrial systems, it has been adapted for medical settings. Based on the assumption that medical mishaps share many important causal similarities with the breakdown of socio technical systems, the model examines the chain of events that lead to accidents or adverse outcomes. The focus of the model is on three dynamic interacting systems: the actions of those involved in an accident or adverse events; the conditions in which the involved staff were working, and the organisational context in which the accident occurred. In addition, the model postulates that the human error problem can be viewed in two ways – the persons approach and the systems approach. Each of these approaches has its model of error causation and each model gives rise to different philosophies of error management. The author suggests that understanding these differences has an important practical implication for coping with the ever present risks or mishaps in clinical practice.

According to Reason (2006), the persons approach to error causation focuses on the unsafe acts, errors and procedural violation of people at the sharp end of care. These people, according to the author, include nurses, physicians, pharmacists and other health workers. The model views these unsafe acts as arising primarily from aberrant

mental processes such as forgetfulness, inattention, poor motivation, carelessness, and recklessness. Consequently, countermeasures are directed mainly at reducing unwanted variability in human behaviour. These methods include poster campaigns that appeal to people's sense of fear, writing procedure manuals, instituting disciplinary measures and litigation.

On the other hand, the systems approach to human error is premised on the assumption that human beings are fallible and that errors are to be expected even in the best of organisations. Within the systems approach, errors are seen as a consequence rather than a cause, having their origins not so much in the perversity of human nature as in factors affecting systems. These factors include recurrent error traps in the workplace and the organisational processes that give rise to them. As a consequence, when an adverse event occurs, the author argues that the important issue is not about who blundered, but why and how the defenses failed.

Reason (2006) asserts that though one cannot change the human condition, one can change the conditions under which humans work. To demonstrate the point, the author notes that high technology systems have many defensive layers: some are engineered (alarms, physical barriers automatic shutdowns) others rely on people (surgeons, anaesthetists, pilots) and yet others depend on procedure and administrative controls. Barriers and safeguards in relation to hazardous technologies occupy key positions in the systems approach as they are intended to protect potential victims and assets from local hazards. In an ideal world, each defensive layer would be intact. In reality they are more like slices of Swiss cheese which have many holes. However, unlike in the cheese these holes are continuously opening, shutting and shifting their location. The presence of a hole in any one "slice" does not normally cause a bad outcome. Usually this happen when the holes in many layers momentarily line up to permit a trajectory of accident opportunity. The hole in the defense arises for two reasons: active failures and latent conditions. The author argues that nearly all events involve a combination of these two sets of factors.

Active failures are defined as the unsafe acts committed by people who are in direct contact with the patient or systems. They take a variety of forms including slips, lapses, fumbles, mistakes, and procedural violation. Active failures have a direct and usually a short-lived impact on the integrity of the defense. Reason (2006) argues

that proponents of the persons approach to practice error often looks no further for the causes of an adverse event once they have identified the proximal causes of unsafe acts.

Latent conditions are those that may lie dormant within the system for many years before combining with active failures and local triggers to create an accident opportunity. Examples in this regard include ineffective communication, poor leadership, inadequate knowledge, stressful environment, rapid organisational change and lean staffing levels. The author further contends that unlike active failures whose specific forms are often hard to foresee, latent conditions can be identified and remedied before an adverse event occurs. He suggests that this approach to error can lead to proactive rather than reactive error management.

Reason (2006) contends that traditionally error management has focused on human error and thus tended to attribute blame to the individual, while the systemic approach focuses on the chain of events leading up to that incident. He further clarifies that while the systems approach to error is commonly used in other industries including aviation and nuclear energy, it is becoming increasingly talked about in health care settings as well.

Reason (2006) identifies a number of weaknesses in the persons approach to human error. Key to these is that focusing on the individual origins of error tends to isolate unsafe acts from their systems context. As a result, two important features of human error are overlooked. Firstly, it is often the best people who make the worst mistakes. Secondly, far from being random, mishaps tend to fall into a recurrent pattern. The same set of circumstances can provoke similar errors regardless of the people involved. Consequently, the pursuit of greater safety is seriously impeded by an approach that does not seek to remove the error provoking properties within the system at large.

The strength of Reason's model is in the consideration of error causation within a socio-technical environment thereby taking into consideration the interplay between individuals involved in error causation, the working conditions and the organisational factors contributing to practice breakdown. Furthermore Reason's model is the first error causation models to be applied in the medical field.



## **2.4 APPROACHES TO MANAGEMENT OF PRACTICE ERRORS IN NURSING**

Liang (2001) notes that patient safety has assumed a prominent role on the policy agenda since the release of the first report by the Institute of Medicine (IOM) entitled *To err is human: building a safer health system* (Kohn, Corrigan & Donaldson 2000). The report maintains that medical errors are the predominant mechanisms by which patients in the United States and around the world are injured. The report argues that it is not acceptable for patients to be harmed by health care systems that are supposed to offer healing and comfort. The report outlines a comprehensive strategy by which governments, health care providers, industry and consumers can reduce preventable medical errors. One of the key recommendations in the report relates to the role of the National Council of State Boards of Nursing. The authors recommend that Boards should develop and design standardised processes to better distinguish human error from willful negligence and intentional misconduct. This approach requires new leadership as well as collaborative initiatives that call on safety science, regulatory authorities and workplace redesign to create new models of patient safety and adequately address the issues surrounding the promotion of patient safety initiatives and the implementation of comprehensive methods for practice error resolution (Page, 2004).

### **2.4.1 The medical approach to error management**

Liang (2001) argues that without knowing where errors are occurring within the system and the inability to identify the actions and interventions necessary to reduce them, failures remain within the system, insidiously increasing the potential for the future occurrence of error. In this regard, the author asserts that the ability to determine where errors are occurring is the first and most fundamental step in error reduction. The author argues that in this manner, both active and latent failures within the system can be identified and be addressed. In addition the author observes that the medical professions use two types of approaches in reducing medical errors: the medical and the legal approach. Each of these approaches is described in turn.

The medical approach to reducing medical errors comprises three different strategies: shame and blame, risk management, and provider accreditation. The shame and blame approach, seeks to shame an individual into believing that a practice error is an indication of a lack of professionalism or incompetence and that it

deprives patients' rights to safe health care services. It does not recognize the systems based nature of error causation. Consequently, attempts to correct the error are reactive, and focus on preventing the error from being repeated by the same individual. In his view, this approach does not give any regard to root causes of practice error. As such, providers fear admitting mistakes thus key lessons that could be learnt from adverse events are lost (Liang, 2001). As a result, the author concludes that the shame and blame method traditionally used by the medical profession to reduce medical error, is most ineffective.

Risk management as an error reduction strategy became popular following the malpractice crisis of the 1970's (Liang, 2001). During this time risk management was adopted as a strategy for containing malpractice, specifically, the high financial losses associated with medical malpractice. Liang (2001) notes that the concept of risk management is premised on an assumption that by understanding clinical concepts and the requirement of the law, risk management strategies should theoretically also manage the risk of suit. The author further notes that typically, risk management activities include: self study of the legal system by the providers, risk management seminars and use of clinical practice guidelines. However, the author observes that while these activities were initially voluntary, accreditation, licensure, practice rights and malpractice insurance are now compulsory in the medical profession despite the lack of empirical evidence on the impact of these activities on patient outcomes. Instead, like in the shame and blame approach, the author notes that it is generally assumed that these methods are successful in reducing error and injury. Yet, studies from the United States of America and the United Kingdom regarding effectiveness of risk management indicate that these activities may not be effective in reducing patient injury.

Provider accreditation is the third strategy described by Liang (2001) as being used in the medical field for error management. The author notes that in 1995 the Joint Commission on Accreditation of Healthcare Organisations (JCAHO) adopted its sentinel event policy with several updates for all hospitals accredited by it. The policy requires that certain adverse events be reported to JCAHO. In this regard, hospitals are expected to perform a self-critical, systems based root cause analysis of events and submit these to JCAHO for review and approval. However, the JCAHO may disclose to the third party (including the lay press) that a particular hospital is under

sentinel event review. In the event that the root cause analysis is not acceptable to JCAHO, it may place the offending provider on accreditation watch and ultimately may revoke the provider's accreditation status. The author observed that the JCAHO's approach has raised legal concern which in the author's view is legitimate and has resulted in provider resistance to the policy. As a result the author notes that the policy has captured less than one percent of the errors associated with patient injury in hospitals.

#### **2.4.2 The legal approach to error management**

With regards to the legal approach for reducing medical errors, Liang (2001) asserts that the law of malpractice under the negligence rule represents a long standing socially based system of reducing medical error and patient injury in the health sector. In describing this approach, the author notes that the rule of negligence requires a pre-existing duty on the part of the provider as well as the breach of that duty that proximately causes the patient damages.

The author notes that a provider's duty arises from a provider patient relationship which requires the provider to render the level of care to the patient that a similar situated provider in good standing would have provided in similar clinical situations. Any provision of care below this level is regarded as a breach of that duty. Consequently, the causation necessary to sustain a medical malpractice claim, requires that any damage sustained by the patient to have been proximately caused by the breach of care (Liang, 2001).

### **2.5 FACTORS CONTRIBUTING TO PRACTICE ERRORS IN NURSING**

Literature on challenges confronting health workforce globally and locally and its cumulative effect on nursing practice abound (Habte, Dussault & Dovlo, 2004; WHO, 2006; Currie & Watterson, 2007). Habte et al. (2004) make a distinction between macro and micro level factors that impact negatively on health care in general and nursing practice in particular. The authors describe macro level factors as the broader socio cultural environment that impact on health, including poverty and urbanization which place an increased demand for nurse driven health care services. Micro factors are those factors that are health sector specific and include chronic shortage of staff both in numbers, skills and competencies required to manage

clients presenting with a complex disease profile compounded by the impact of HIV/AIDS. In a report related to National Health Initiative human resource requirements, Econex (2009) notes that in 2008 there were 116 nurses to every 100 000 people and that vacancies for professional nurse positions stood at 40.3%. An extra 150 000 nurses would be required to meet NHI service requirements. Palitza (2006) projected that by 2009, a total of 2 400 nurses would be required to run the national programme for treatment of HIV/ AIDS.

There is growing evidence albeit in first world countries which suggests that patient safety problems are a result of organisational failures rather than individual human failure. In a commentary on challenges in delivering safe patient care Currie and Watterson (2007) categorise challenges into safety problems arising from what they describe as blunt end of care, including institutional context, work environment and management and organisation of care. The authors note that nurses reported that the institutional culture in which they work often leaves them feeling disempowered and unable to challenge unsafe practice and poor decision making. Commenting on the working environment, nurses reported concerns around inappropriate workload levels and the effect this has on safety, morale, job satisfaction and stress levels. Regarding organisation and management of care, nurses in this study argued that all too often, for instance, medical patients with leg ulcers or urine infections get placed in surgical wards, giving rise to potential cross infection. Furthermore, lack of vision in terms of planning for the demographic changes in patient population, changing disease profile and the increase in number of patients going through the system all contribute to unsafe acts (Currie and Watterson, 2007).

Similarly a survey on the status of registered nurses workforce in the United States of America revealed that the majority of hospitals which employed registered nurses reported that a shortage of nurses had impacted negatively on the six areas defined as key in improving the quality of health care system by their organisation. More than 80% of nurses reported that shortages had often compromised patient centeredness, effectiveness and efficiency of care, and almost two thirds of nurses reported that shortages had negatively affected the safety of nursing care (Thungjaroenkul, Cummings & Embleton, 2007).

These findings are similar to those emanating from a study conducted by Vincent et al. (1998) who developed a framework for analysing risk factors in clinical medicine. Using critical incident and organisational analysis of individual cases, the study reveals the complexity of the chain of events that may lead to an adverse outcome. The study notes that the root causes of incidents may lie in several interlocking factors. The authors enumerate these factors as the use of locums, poor communication among the team, supervision problems, excessive workload and training deficiencies.

A study conducted by McBride-Henry and Foureur (2007) revealed that unsafe staffing levels gave rise to practice errors. Similarly, McKeon, Fogarty and Hegney (2006) conducted a study investigating the effects of organisational issues in the rural and remote environment on nurses' ability to follow procedure approved methods of medication administration. Using a questionnaire, data was collected from 627 nurses working in rural and remote areas in Queensland Australia to determine factors contributing to deviation from work procedures. Variables for inclusion in the questionnaire were identified from literature and consisted of the following: level of knowledge, reference materials, workload, expectation by the doctor and violation. The study results showed that a high level of knowledge was found to be associated with lower levels of violation. Conversely high workload and higher expectations by doctors were associated with higher incidents of violation. The study concludes that attempts to deal with deviations from work procedures through interventions such as re-training or disciplinary actions are likely to be ineffective when dealing with well qualified nurses.

In addition empirical literature on practice errors in nursing seems to have focused mainly on medication errors, impact of professional disciplinary processes on nurses' professional and personal lives, and the impact of 'whistle blowing' on the 'whistle blower'. Furthermore, medication errors have been the most studied variable in the attempt to understand practice breakdown in nursing. With regards to factors that contribute to medication errors, O'Shea (1999) reported that mathematical skills, knowledge of medication, length of nursing experience, length of nursing shift, workload and staffing levels, nursing care and medication delivery systems, policies and procedures, distraction and interruption and quality of prescription were the most commonly cited reasons and/or contributing factor to medication errors.

Etchells, Juurlink and Levinson (2008) argue that medication errors are unavoidable and that attention to safety principles during administration of medicine can reduce harm. According to these authors, although error is unavoidable; processes can be designed to reduce the possibility of error. These authors argue that alternatively processes can be designed so that errors are detected and corrected before harm occurs. Furthermore, the authors suggest strategies for reducing the possibility of error. These strategies include; simplification and standardization of procedures based on defined safety principles.

## **2.6 IMPACT OF PROFESSIONAL DISCIPLINE ON NURSES**

According to LaDuke (2000) there is very little written about professional discipline of nurses and even less about the impact of such on nurses. Yet, over 5 000 nurses are disciplined annually for unprofessional conduct in the United States of America. In this respect, LaDuke conducted a survey to examine the perceptions and experiences of 33 nurses in New York State who were disciplined for unprofessional conduct. Using the New York State Education Department's website as a source of information on nurses who had appeared for unprofessional conduct, 177 licensed and registered nurses were identified. They were requested to respond to a 50 item Likert scale covering such areas as rank, professional preparedness, relationship with superior, and the impact of the disciplinary process on the nurse professionally and personally. Although only 33 nurses (19%) responded, many of them followed up the contact with correspondence describing in detail their experiences. Respondents revealed information and opinion on a variety of variables. When asked about the impact of the disciplinary hearing on emotional and personal levels, 32 (97%) reported feelings of shame, 32 (97%) said their mental or physical health had suffered and 25 (76%) noted negative effects on their personal relationships. For the majority the discipline led to a loss of income or job opportunities, in that 28 (85%) reported financial hardships and 16 (48%) lost their jobs. The findings suggest that the consequences of discipline transcend the penalty imposed. The findings also suggest the need for strategies that can help nurses to reduce their chances of being accused of unprofessional conduct.

Similarly, McDonald and Ahern (2000) conducted a descriptive survey to examine the professional effect of reporting misconduct (whistle blowing) and not reporting

misconduct (non-whistle blowing in nursing). Ninety five respondents were included in the study – 75 were self identified as whistle blowers and 20 were self identified as non-whistle blowers. Results indicated that there were several professional reprisals if nurses reported misconduct but there were few consequences if they remained silent. The study concluded that when nurses identify and report misconduct in the workplace they may experience serious professional consequence such as losing their income if struck off the roll.

## **2.7 CONCEPTUAL FRAMEWORK GUIDING THE STUDY**

Polit and Beck (2008) suggest that conceptual models serve a number of objectives. These include: guiding the researcher's understanding of not only the "what" of the phenomenon but also the "why" of their occurrence, and stimulating research and the extension of knowledge by providing both direction and impetus for the study. Furthermore, the authors suggest that frameworks are efficient mechanisms for drawing together and summarising accumulated facts.

The authors also observe that many of the phenomena in which nurse researchers are interested involve concepts that are not unique to nursing. A conceptual model derived from safety science has been used to guide the present study. The model developed by Gillingham, Blanco and Lewko (1997) is depicted in Figure 1.

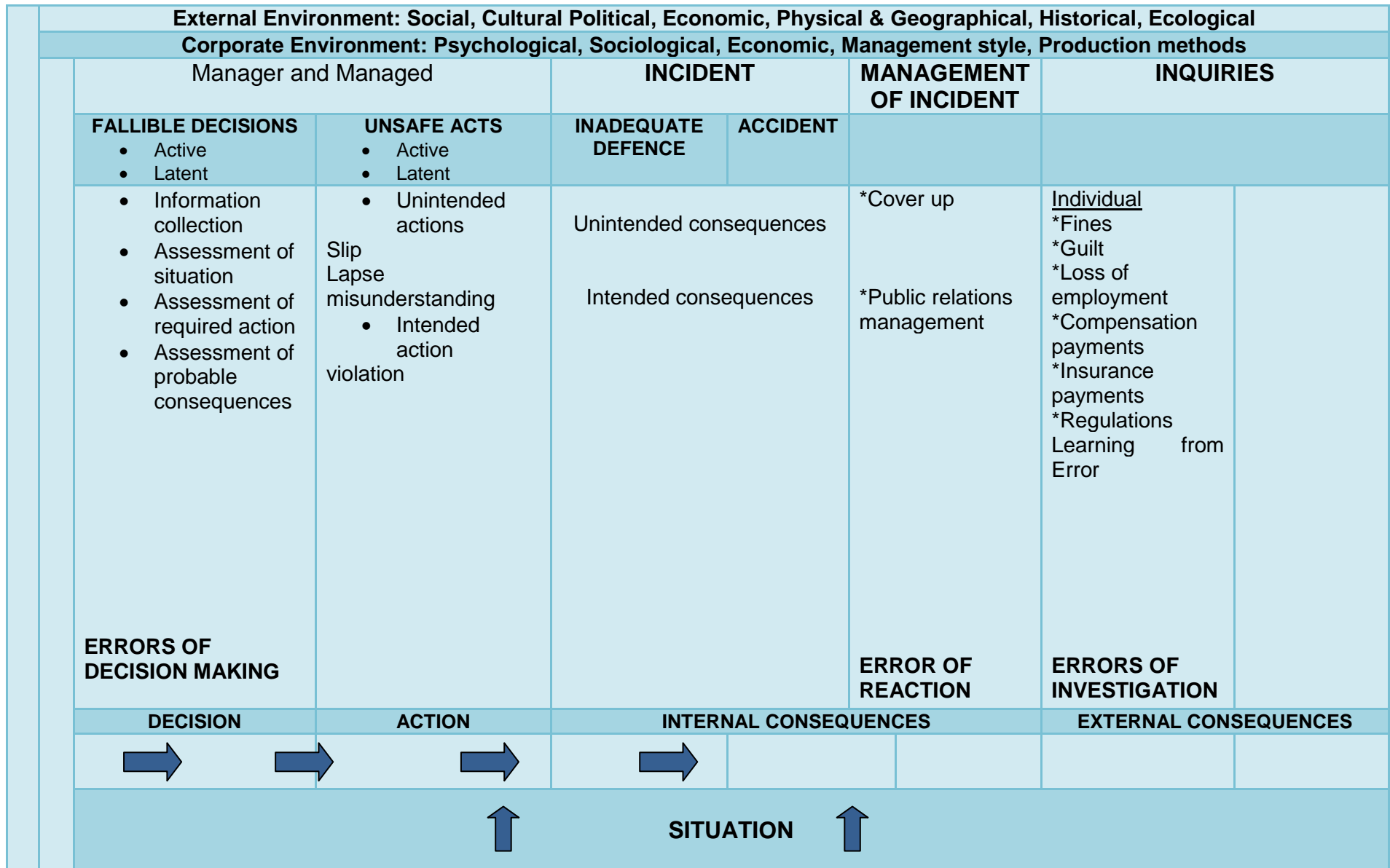


Figure 1: Integrated model of error management (Gillingham, Blanco and Lewko, 1997)



Building on Reason's model of error causation, Gillingham et al. (1997) developed an integrated model for error management. Similar to Reason's (1990) model, Gillingham's model focuses on the interplay between three elements:

- (a) the individuals involved in an accident;
- (b) the working conditions; and
- (c) organisational context in which the accident occurred.

In addition, the model expands to include consideration of the influence of the external environment on error, the level not covered in the Reason's model. Furthermore, the model goes beyond description of error causation to identification of elements regarded as key in error management. These include:

- (a) understanding the nature of human error;
- (b) designing management systems which recognize the existence of human error; and
- (c) reduction of human error through organisational learning.

These elements are consistent with the research objectives of this study as they provide insights into the nature, causes and current practices in the management of practice breakdown amongst nurses in South Africa.

Similar to other models of error causation, that of Gillingham et al. (1997) is premised on the assumption that human error is an inevitable part of all human endeavors. The central concepts of the model include: environment (external and corporate environments); the various causes of error; the incidents and management of errors, and the inquiry and organisational learning (Gillingham et al., 1997). The model postulates that both the external and the corporate environments may either create situations in which errors are more likely to be made or may put undue pressure on the organisation that leads to errors. With regards to the manager and the managed, the model postulates that the manager may commit errors of decision making and the managed may commit errors of action. These decisions and actions may cause incidents which could have either internal or external consequences. Internal consequences may cause error of reaction while external consequences may arise from error of investigation. Each of these elements are described in turn.

### **2.7.1 The environment**

The conceptual model identifies two types of dynamic interacting environments that may create situations in which errors are more likely to be made, the external and the corporate environments. The external environment comprises social, cultural, political, economic, physical, geographical and ecological factors, all having a bearing on error causation. The corporate environment comprises psychological, sociological, economic, management style and production methods. The corporate environment is similar to Reason's concept of organisational factors.

The model postulates that the external environment may either create situations in which errors are more likely to be made or may exert pressure on the organisation or provide poor safeguards such as inadequate safety legislation. On the other hand the corporate environment may lead to more errors by placing unrealistic expectations thus placing pressure on all involved or set incompatible goals such as conflict between financing mechanisms and demand for clinical care services.

### **2.7.2 Error causation**

The model postulates that there are two ways in which human decisions and actions contribute to nearly all accidents, namely, active failures and latent failures. The model defines active failures as the unsafe acts committed by the people who are in direct contact with the patient or systems. The model refers to these people as the managed. The model postulates that unsafe acts may arise from errors of actions of the managed which may either be unintended or intended. Unintended actions could take a variety of forms: including slips (actions in which there are recognition or selection failures), lapses (failure of memory or attention), and misunderstanding. Intended actions may include mistakes (incorrect choice of objects or incorrect processes to achieve it) and procedural violation (instances where rules of correct behavior are consciously ignored).

Latent failures are defined as arising from fallible decisions taken by the managers giving rise to errors of decision making. The model postulates that the type of decisions made about the type of information to be collected, the nature of assessment made in a given situation, the type of action required in a given situation and anticipation of probable consequences of the nature of decisions made can all

constitute errors of decision making. The model postulates that an accident sequence begins with the negative consequences of management decisions on organisational processes required for efficiency. The latent failures thus created are transmitted along the various organisational and departmental pathways to the workplace where they create local conditions that precipitate errors. The model presents the people who commit errors as inheritors rather than instigators of accidents within the corporate environment (Gillingham et al., 1997).

### **2.7.3 The incident**

The model postulates that adverse events are consequent to either inadequate defenses in the corporate environment or violation of practice standards. The model suggests that the inadequate defenses create latent conditions which upon precipitation by active failures give rise to accidents in the corporate environment. These accidents in turn yield unintended consequences to the corporate environment. On the other hand, incidents arising from intentional violation of practice standards often give rise to criminal acts and have adverse consequences to the corporate environment (Gillingham et al., 1997).

### **2.7.4 Incident management**

Gillingham et al. (1997) assert that incident management is an integral part of error management. The model shows a time sequence of events from the situation through decision making, actions taken and consequences thereof. The model enumerates two approaches used by management in the management of an incident. These include either covering up or conducting an inquiry. In management of incident by covering up, the authors argue that often management either conceals the incident or engages in a public relations exercise intended to reduce apparent consequences thus protecting the reputation of the organisation. The model suggests that this approach to incident management gives rise to errors of reaction.

According to the model the alternative way of error management involves conducting an inquiry following an incident. The model describes inquiry as the means for society and corporations to learn from past incidents. However, the author notes that such inquiry may be superficial and tends to make a determination after an individual has been found guilty. The model postulates that this approach to error management

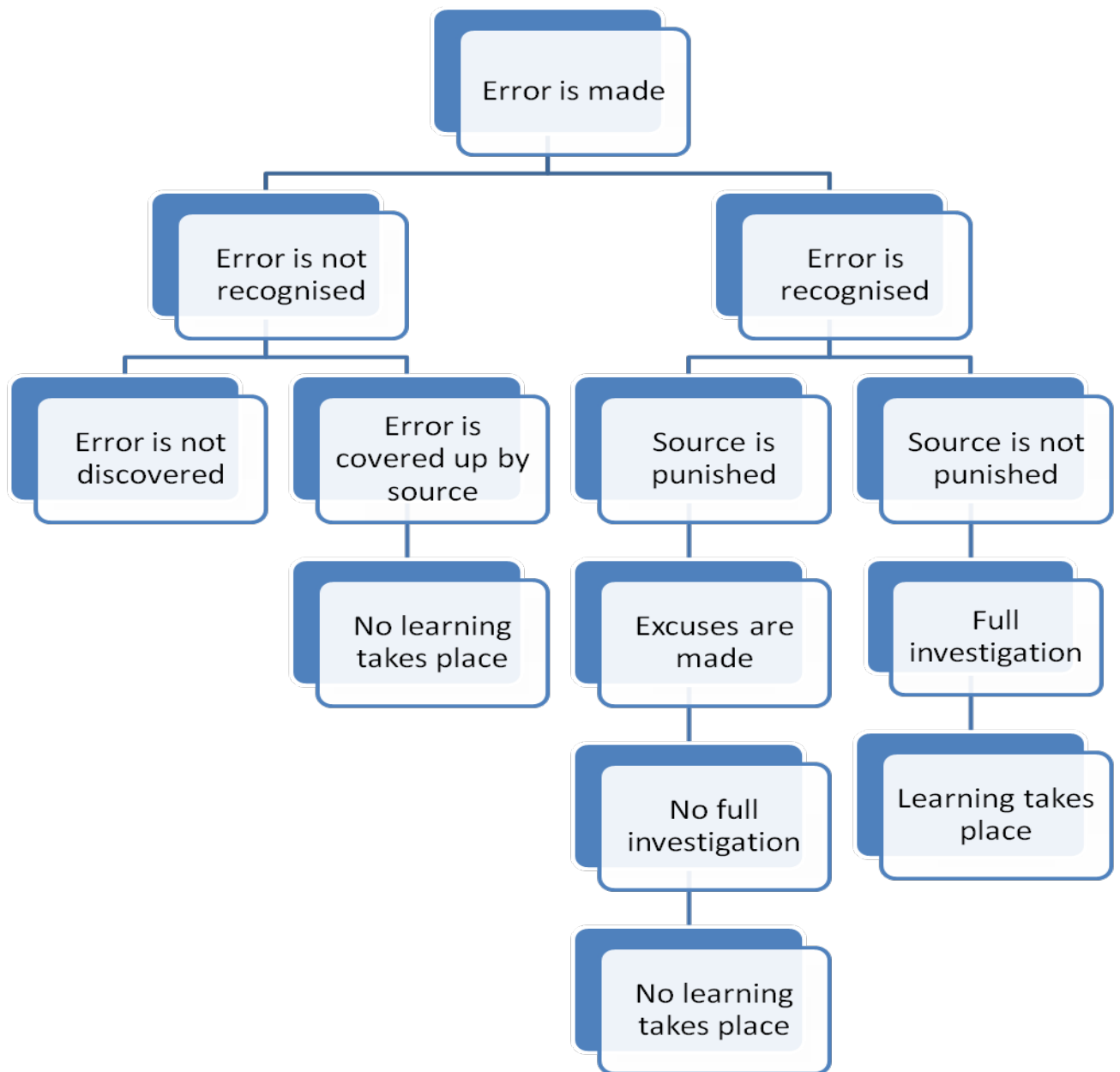
has direct consequences for an individual found guilty. Often the individual found guilty following an incident receives a sentence ranging from admission of guilt fines to dismissal depending on the severity of the offense. In addition the outcome of an inquiry could have consequences for the organisation. This could include payment of fines by the organisation, or compensation for loss incurred or negative publicity by the regulation body of the industry. When this approach to management of an incident is used, the model argues that errors of investigation are made.

### **2.7.5 Learning from errors**

Gillingham et al. (1997) argue that organisations fail to learn from errors by:

- (a) failing to carry out full investigations;
- (b) creating an organisational climate which encourages individuals to cover up incidents; and
- (c) failing to implement changes which will reduce error.

The authors warn that when senior managers engage in denial themselves, and punish those responsible for errors, they encourage a climate in which little organisational learning takes place. On the other hand, when errors are recognized within a positive climate, full investigation can lead to extensive organisational learning (Gillingham et al., 1997). Figure 2 depicts a summary of the consequences of current practices in the management of practice breakdown.



**Figure 2: A summary of consequences of current practices in the management of practice breakdown.**

# **CHAPTER THREE**

## **RESEARCH DESIGN AND METHODOLOGY**

### **3.1 INTRODUCTION**

In the previous chapter the overview, the background and the context of practice breakdown in the nursing profession was discussed. In this chapter the research design and methodology used in the study is presented and discussed. The chapter will also elaborate on the mixed mode approach and soft systems methodology (SSM) as a research methodology followed, inclusive of sampling, data gathering, data analysis and ethical consideration. The chapter concludes with discussions of the limitations encountered with the research design.

### **3.2 RESEARCH DESIGN**

In this study, a four-phase cross sectional sequential exploratory mixed method approach using a modified SSM as a research methodology was utilised in order to develop an operational framework for the integrated management of practice breakdown prevalent within nurse practice areas in health facilities in South African. Polit and Beck (2008) describe a cross sectional study as involving collection of data at one point in time to provide existing information and a focus on the future. The authors argue that a cross sectional study is appropriate for describing the status of the phenomenon at a fixed point in time.

#### **3.2.1 Mixed method approach**

Tashakkori and Teddlie (2003) define mixed method studies as those that combine or associate both qualitative and quantitative approaches by mixing both approaches in one study. In the mixed method studies, both the qualitative and quantitative approaches are used in tandem so that the overall strength of a study is greater than either qualitative or quantitative research. Creswell (2009:14) distinguishes between three types of mixed mode strategies, that is, concurrent, transformational and sequential mixed methods.

In the concurrent mixed methods, the researcher merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. In this approach, the researcher collects both forms of data at the same time and then integrates the information in the interpretation of the overall results.

In the transformational mixed method, the researcher uses a theoretical lens as an overarching perspective within a design that contains both qualitative and quantitative data.

In the sequential exploratory strategy, the researcher seeks to elaborate or expand on the findings of the one method with another method such as elaborating on the quantitative information using narratives. The author distinguishes between two types of sequential strategy, the sequential explanatory strategy and the sequential exploratory strategy. The sequential explanatory strategy is characterised by the collection and analysis of quantitative data in the first phase of the study followed by the data collection in a form of narratives and analysis thereof in the second phase that builds on the results of the initial quantitative results. In this strategy, weight typically is given to the quantitative data and mixing occurs when the initial quantitative results informs the secondary qualitative data collection (Creswell, 2009:211). In the sequential exploratory strategy the processes are reversed with quantitative data collection and analysis preceded by and building on the results of the first qualitative phase. Creswell (2009) suggests that the purpose of this strategy is to use quantitative data and its results to assist in the interpretation of qualitative findings. In addition, the author advises that this approach is appropriate to use when testing the elements of an emergent theory resulting from the qualitative phase. Finally, the sequential exploratory strategy is often discussed as a procedure of choice when the researcher needs to develop an instrument when the existing instruments are inadequate or not available. In this approach the author suggests the use of a three phased approach where qualitative data is collected and analysed (Phase 1) and the analysis is used to develop an instrument (Phase 2) which is subsequently administered to a sample of a population to be researched (Phase 3) (Creswell, 2009:212). This may involve beginning with qualitative interviews for exploratory purposes followed up with a quantitative survey method with a large sample so that the researcher can generalise results to the population.

Creswell (2009) notes that blending qualitative and quantitative data in a single study is emerging as a trend within the social and behavioural research. The author asserts that some areas of the enquiry can be enriched through the judicious blending of qualitative and quantitative data by undertaking what is referred to as multi method or mixed method research. It is also Creswell's view that qualitative and quantitative research constitutes alternative ways of viewing and interpreting the world to reflect and reveal different aspects of reality rather than depicting one or the other as correct or incorrect. Furthermore, it is acknowledged that although each type of method is relatively stronger than the other in certain respects (such as complementary strengths and non-overlapping weaknesses) – no one method is so perfect that even in its area of greatest strength it cannot benefit from corroboration with another method's findings.

The advantages of mixed methods include: (a) complementarity; (b) enhanced theoretical insight; (c) Incrementality; and (d) Enhanced validity (Creswell, 2009). Each of these advantages is discussed in turn.

Complementarity entails seeking elaboration, enhancement, illustration and clarification of the results from one method with results from the other methods thus allowing each research method to do what it does best, with the possibility of avoiding the limitations of single approach research. Qualitative and quantitative research approaches reflect and reveal different aspects of reality. In this regard, blending of quantitative and qualitative data in a single study can lead to insight on these multiple aspects that might be unattainable without such integration.

Incrementality is enumerated as another advantage of the mixed mode approach. It is premised on the understanding that evolution of a theory or problem area is rarely a linear and unidirectional process. The need for exploration and in-depth insight is rarely confined to the beginning of an area of research enquiry. More often than not subjective impressions may need to be checked for accuracy early and continuously.

The other advantage of a mixed method approach is that it enhances validity. The authors assert that when a researcher's hypothesis or model is supported by multiple and complementary data, the researcher can be much more confident about the validity of the results since evidence derived from different approaches can be persuasive. In the context of this investigation, the use of mixed methods is seen as



appropriate in enhancing the validity of the study as well as providing insight to the planned theoretical framework for systemic management of practice breakdown in nursing.

Creswell (2009:15) depicts qualitative research as “an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyses words, reports detailed views of informants and conducts the study in a natural setting”. The rationale to adopt the qualitative approach is that it is concerned with processes rather than outcomes. In this study, the sequential exploratory strategy was used. In the context of this study, the use of this research strategy was seen as appropriate for gaining the understanding of the nature and consequences of practice breakdown within the nursing profession. Specifically, the qualitative approach was used in the collection and analysis of data on the causes and the current practices in the management of practice breakdown in the nursing profession (Phase 1). The results of the qualitative component of the study were then used to develop a self administered questionnaire (Phase 2) which was used to test the elements of the emerging theory arising from the qualitative results (Phase 3). Finally, the results of the quantitative component of the study were then used to develop a framework for integrated management of practice errors (Phase 4) based on persuasive evidence derived from validated results.

### **3.2.2 The soft system methodology (SSM) design**

Soft systems methodology (SSM) is defined as a process oriented research design for channeling debate about situations characterized by messy ill structured problems with multiple perspectives. This methodology was developed by Peter Checkland of the Business School of Lancaster University in the 1970's as an alternative to the hard systems methodology which could not be used in instances where processes of the enquiry rather than the objectives of the enquiry were a point of departure. It is designed to shape interventions in the ill-structured problematic situations encountered in management, organisational and policy contexts where there are often complex situations which require pragmatic solutions. Though informed by systems engineering approaches, it differs from the systems approach in that it is more reflective of action research in its philosophy and approach (Checkland, 1991).

Checkland (1991) asserts that the SSM begins with the decision that a problem situation which could benefit from complex thinking exists. The author defines a problem as a condition characterized by a state of mismatch that eludes precise definition and may be expressed as a state of unease. The author suggests that the methodology comprises seven steps and two kinds of activity. Steps 1, 2, 5, 6, and 7 are regarded as “real world” activities involving people in the problem situation, and step 3 and 4, are described as systems thinking activities which may or may not involve those in the problem situation. The steps are the following:

- (a) Identifying a situation considered problematic and desire an intervention.
- (b) Researching the situation and building a “rich picture”.
- (c) Selecting perspectives and formulating a root definition.
- (d) Developing a conceptual model of the changes in a situation.
- (e) Comparing the model with the real world situation.
- (f) Defining the change to be implemented.
- (g) Taking action.

Checkland (1991) asserts that this SSM employs systems notions primarily to structure logical debate and increase common understanding amongst an inclusive group of participants about how the situation should be characterized and what should be done about it. The key output of the methodology is a changed situation and new learning rather than problem solving. However, the author warns that the seven steps process only reflect a chronological sequence used in describing the methodology rather than defining sequential steps in the use of methodology. In this regard, the author recommends backtracking and iteration as essential in the use of the methodology.

Lester (2008) notes that more recently a four stage representation of SSM has emerged that incorporate the above steps in an effort to improve on the presentation thereof. Each of these stages is described in turn below.

### **Stage 1: Finding out**

This stage entails learning as much as possible from unstructured problem situations taking into account diverse perspectives on the situation. Specifically, this stage aims to form a view of how the structures and processes relate to each other within the

situation being investigated. It is characterised by an analysis of the people-dimension of the situation by posing the following questions:

- (a) Who are the key players in the situation and what world view or perspectives do they bring to the situation?
- (b) What is the cultural environment of the situation? In particular what roles, norms, and values help shape the situation?
- (c) How is the situation affected by politics or power relations? What sources of power are important in the situation? How is power obtained, used, challenged or defended?

### **Stage 2: Modeling**

The second step focuses on blending insights of different key informants in an attempt to build up the richest possible picture about a problematic situation.

### **Stage 3: Dialogue**

The SSM suggests that during this stage key informants are expected to engage in a dialogue and debate their points of view rigorously in order to ensure that recommended changes make sense in terms of both a systematic logic and group culture (Lester, 2008).

### **Stage 4: Definition of change and taking action**

This stage entails developing the revised change model into a concrete plan and taking action to implement it. Lester (2008) suggests that at this point formal project management protocols may be useful or a less structured approach could be appropriate depending on the given situation. The author advises that it is more appropriate to think of SSM as cyclical in nature, where interventions are re-examined at the time of implementation and adjusted where necessary. Furthermore, the author advises that when effects of implementation are becoming apparent, it is possible to return to the earlier stages and reflect critically on how the rich picture has changed for the better.

In the context of the current study SSM was considered the most appropriate for answering questions relating to management of human subsystems. SSM was regarded as a suitable methodology for developing a framework that would facilitate management of practice breakdown in nursing in an integrated approach because of

its focus on arriving at a changed situation and new learning rather than merely problem solving.

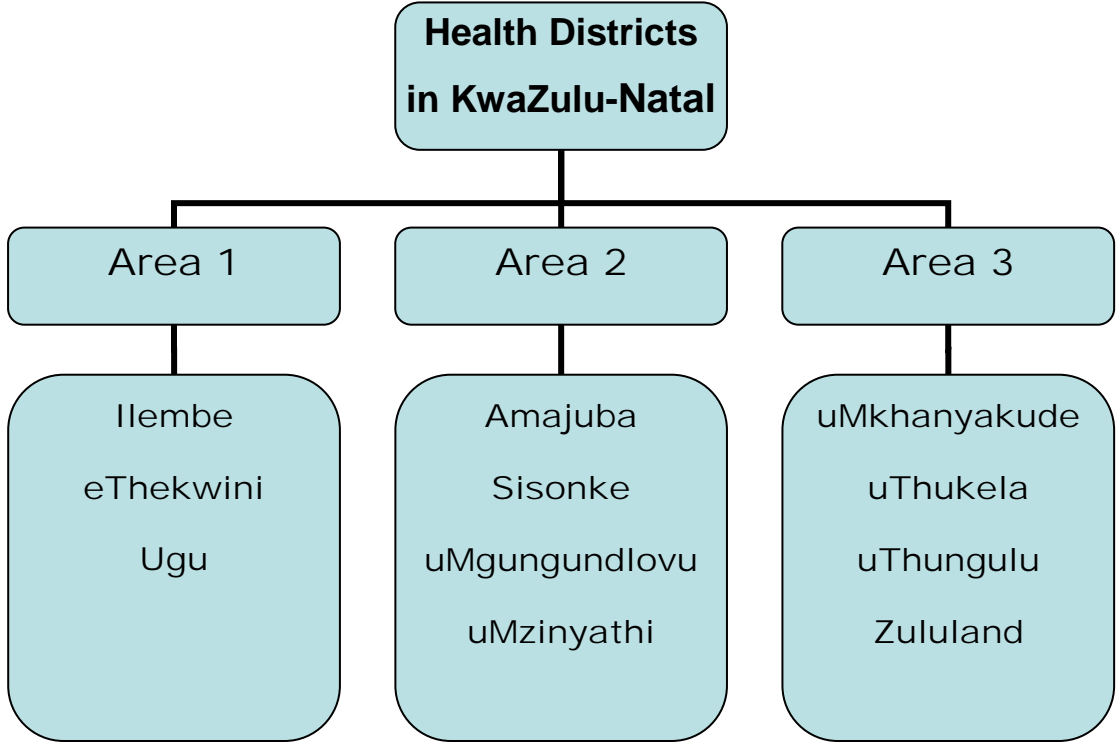
### **3.3 location of the study**

The study took place in selected districts in KwaZulu-Natal (KZN) to enable the researcher to undertake an in-depth study to understand the dimensions of practice breakdown within the province. KZN is one of the nine provinces in South Africa. It is home to 22% of the country's total population of 52 million. Seventy percent (70%) of the population of 10 million in KZN province reside in rural areas (Department of Health, KwaZulu- Natal, 2009). In line with District Health System (DHS); the Province is demarcated into 11 health districts. Namely Amajuba (DC 25); Ilembe (DC 29); Sisonke (DC 43); eThekweni; Ugu (DC 21); uMgungundlovu (DC 22); Uthukela (DC 23); Umkhanyakude (DC 27); Uthungulu (DC 28); Umzinyathi (DC 24); and Zululand (DC 26). The map showing health districts in KwaZulu-Natal is indicated in Figure 3 below (Statistics South Africa, 2011).



**Figure 3: KwaZulu-Natal Health Districts.**

In KZN for operational and functional reasons the districts are demarcated into three areas, namely, Area 1, 2 and 3 (see Figure 4).



**Figure 4: KwaZulu-Natal Operational and Functional areas.**

On the whole, the health facilities in KZN comprise 554 clinics; 17 Community Health Centres (CHC), 37 district hospitals, 18 specialised hospitals (including TB, mental health and chronic conditions hospitals), 13 regional hospitals, two tertiary hospitals and one central hospital. While all eleven districts in the province have clinics, community health centres, district and regional level health facilities, not all districts have specialised and tertiary health facilities. All the districts have at least one district hospitals (N = 37). All specialised hospitals are concentrated in six of the eleven districts. The regional hospitals are located in seven of the 11 districts and tertiary hospitals are located in two of the eleven districts (see Table 1).

**Table1: Health facilities in the KZN province (KZN: Department of Health, 2008).**

District	Number of District Health Facilities	Number of Regional Health Facilities	Number of Specialised Health Facilities	Number of Tertiary Health Facilities	Number of Central health Facilities
Amajuba	1	2	1	0	0
Ilembe	3	1	0	0	0
Ethekwini	2	5	3 TB 2 Chronic 1 Psych	1	1
Sisonke	4	0	1 Psych 1 TB	0	0
Ugu	3	1	1 TB	0	0
uMgungundlovu	2	1	2 TB 3 Psych		0
uMkhanyakude	5	0	0	0	0
uMzinyathi	4	0	0	0	0
uThukela	2	1	0	0	0
uThungulu	6	2	0	1	0
Zululand	5	0	1 Psych 1 TB	0	0
<b>Total</b>	<b>37</b>	<b>14</b>	<b>17</b>	<b>2</b>	<b>1</b>

### 3.4 METHODS AND TECHNIQUES

#### 3.4.1 Site selection

Although SANC records for the period under review reflected that Gauteng and KwaZulu-Natal (KZN) had the highest number of cases of nurses charged for unprofessional conduct, KwaZulu-Natal (KZN) was selected as the region within which to conduct the study for reasons of convenience. Purposive sampling was followed to select five districts for inclusion in the study. In each of the selected districts there was a variety of health facilities ranging from district to specialised

regional and tertiary hospitals. The selected five health districts together catered for all the levels of care as outlined in the study setting. These include a total of 14 district hospitals, 13 specialised hospitals (including TB, mental health, and chronic conditions hospitals), 11 regional hospitals and two tertiary hospitals (see Table 2). In all these selected districts patient flow was by referral from fixed or mobile clinics or community health centres.

**Table 2: Health facilities in sampled districts (KZN Department of Health, 2008).**

District	Number of District Health Facilities	Number of Regional Health Facilities	Number of Specialised Health Facilities	Number of Tertiary Health Facilities	Number of Central health Facilities
District A	1	2	1	0	0
District B	2	5	3 TB 2 Chronic 1 Psych	1	1
District C	3	1	1 TB	0	0
District D	2	1	2 TB 3 Psych		0
District E	6	2	0	1	0
<b>Total</b>	<b>14</b>	<b>11</b>	<b>13</b>	<b>2</b>	<b>1</b>

Accordingly, one district hospital per selected district was randomly selected for inclusion in the study, giving rise to a sample size of five district hospitals across the five selected districts. In addition, one regional hospital was randomly selected per district giving rise to a sample size of five regional hospitals. Furthermore, one specialised hospital (where available in a district) was purposively selected making certain that there was a TB and a psychiatric hospital in the group of specialised hospitals selected. In this category there were four specialised hospitals selected giving rise to a sample size of four hospitals. Finally, the two tertiary level hospitals located in the selected districts were included in the study. Table 3 shows the range of health facilities included in the study.



**Table 3: Sampled health facilities per sampled districts.**

DISTRICT	Number of District level Hospitals	Number of Regional level Hospitals	Number of Specialised level Hospitals	Number of Tertiary level hospitals	Total number of facilities selected per district
A	1	1	1		3
B	1	1	1	1	4
C	1	1	1		3
D	1	1		1	3
E	1	1	1		3
<b>TOTAL</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>16</b>

### ***Inclusion criteria***

Health districts were selected based on the following criteria:

- (a) A health district had to provide at least a district and a regional hospital;
- (b) Other hospitals in addition to these could be either a specialised level hospital or a tertiary hospital;
- (c) No health district was to provide more than four types of health facilities;
- (d) The health facilities kept patients for more than 24 hours;
- (e) The facilities attended to patients on the bases of a referral.

### ***Exclusion criteria***

- (a) All health facilities that do not keep patients for more than 24 hours (e.g. clinics mobile or fixed);
- (b) All facilities where patients are attended to on the basis of self referral, that is, walk-in health facilities.

### **3.4.2 Four phase modified SSM research methodology**

In order to develop a model for an integrated approach to the management of practice breakdown in nursing, a four phase cross sectional sequential exploratory mixed mode study using a modified SSM as the research methodology was conducted. This followed the four stages of enquiry as outlined in the SSM, namely:

- (a) finding out; (b) modeling; (c) dialogue; and (d) defining and taking action.

These stages made up the four phases of the current study as follows:

- (a) Phase 1: Data regarding causes and current practices in the management of practice breakdown in the nursing profession was gathered from key groups (qualitative). Data from operational nurse managers and organised labour was generated via focus groups, and from the PCC of SANC via individual phone calls;
- (b) Phase 2: Data from Phase 1 was analysed to develop emerging theories regarding practice breakdown. A survey instrument was developed to test elements of these theories;
- (c) Phase 3: A survey was conducted (quantitative). Survey participants were drawn from operational nurse managers, the PCC of SANC, organised labour and nurses who had been charged with unprofessional conduct between June 2003 and June 2008;
- (d) Phase 4: Data from Phase 3 was analysed and used to develop a framework for integrated management of practice errors.

Of the four phases of the current study only Phase 1 and Phase 3 involved study participants.

#### **3.4.2.1 Phase 1: finding out**

In the SSM, the first stage of the research process entailed learning as much as possible from unstructured problem situations taking into account diverse perspectives on the situation. Specifically, this stage aims to form a view on how the structures and processes relate to each other within the situation are being investigated. It is characterised by analysis of the people-dimension of the situation (Checkland, 1991). Accordingly, as this investigation was focused on an inadequately understood phenomenon of practice breakdown by the nursing profession the researcher had to remain “open” to ideas as they emerged so that a meaningful explorative process could be facilitated. The Finding Out stage as indicated by SSM was used in this study to gain insight into the nature of practice breakdown and challenges in the current approaches for the management of practice breakdown in nursing.

### **3.4.2.1.1 Population**

Polit and Beck (2008) define a research population as the entire aggregate of elements which are of interest to the researcher. These elements could be either persons, objects or a portion of the universe. The authors further make a distinction between target and accessible population. The target population comprises the total number of elements about which the researcher would like to make a generalisation. The accessible population is defined as the aggregate of cases that conform to designated criteria which the researcher intends studying and are accessible for the study. Often the researcher draws the sample from the accessible population and then generalises to the target population. The target population might not be manageable due to size, location, distribution and other practical consideration. In this instance, the accessible population represented the section of the population from which the researcher obtained a sample.

There were three targeted populations for Phase 1 of this study. These were:

- (a) Operational nurse managers;
- (b) Members of the PCC who were responsible for dealing with nurses reported to SANC for unprofessional conduct during the period June 2003 - June 2008; and
- (c) Representatives of the organised labour.

Nurses who had faced unprofessional conduct charges were originally included as a target, but the first 15 who were approached declined so the study protocol was revised to exclude them from Phase 1. They were however, included in Phase 2.

Only those operational managers working in these five health districts were seen as accessible for inclusion in the study. With regard to representatives of organised labour as the target population, the accessible population comprised the four nurses' labour organisations that existed in South Africa at the time of data collection, namely:

- (a) Democratic Nurses Union of South Africa (DENOSA);
- (b) South African Democratic Nurses Union (SADNU);
- (c) National Education Health and Allied Workers' Union (NEHAWU); and
- (d) Health and Other Service Personnel Trade Union of South Africa HOSPERSA.

Each of these organisations has a labour relations portfolio responsible for

representation of nurses during professional conduct hearings of SANC. Each of the four labour organisations employed two managers who represented nurses during professional conduct hearings.

### ***Democratic Nursing Organisation of South Africa (DENOSA)***

DENOSA is a voluntary organisation for South African nursing and midwifery professionals with a total membership of up to 76000 nurses; 13000 of which reside in the province of KZN. DENOSA's aims are to safeguard and promote the dignity, rights and socio-economic status of its membership. It is the only labour organisation for nurses with both professional affairs and union component (DENOSA, 2008). DENOSA is affiliated to the International Council of Nurses (ICN), an umbrella body for nurses worldwide ([www.icn.ch](http://www.icn.ch)).

### ***Health and Other Service Personnel Trade Union of South Africa (HOSPERSA)***

HOSPERSA is a trade union for employees in the public service and in the private sector. The union also has members in non-governmental organisations and parastatals. Membership is not limited to nurses but includes all other health professionals and people working in the health sector (HOSPERSA newsletter, 2008).

### ***National Health and Allied Workers' Union (NEHAWU)***

NEHAWU membership is open to nurses and general workers. Nurses comprise 15% of memberships for this organisation ([www.cosatu.org.za](http://www.cosatu.org.za)).

### ***South African Democratic Nurses Union (SADNU)***

SADNU has a total membership of 9300 nurses. In KZN there were 1350 nurses who were members of SADNU ([www.cosatu.org.za](http://www.cosatu.org.za)) during the data collection phase of this study.

Table 4 provides a graphic representation of the target and accessible populations.

**Table 4: Target and accessible populations.**

STUDY POPULATION	
TARGET POPULATION	ACCESSIBLE POPULATION
Health Facilities in 11 health districts	<ul style="list-style-type: none"> <li>• Health facilities in selected districts in KZN.</li> </ul>
Nurses	<ul style="list-style-type: none"> <li>• Operations managers working in KZN health facilities within the selected districts</li> <li>• Nurses who were serving as members of Professional conduct committee of Council in June 2003- June 2008</li> </ul>
Representatives of organised labour	<ul style="list-style-type: none"> <li>• Democratic Nurses Union of South Africa (DENOSA).</li> <li>• South African Democratic Nurses Union (SADNU) National Education</li> <li>• Health and Allied Workers' Union (NEHAWU)</li> <li>• Health and Other Service Personnel Trade Union of South Africa (HOSPERSA).</li> </ul>

### 3.4.2.1.2 Sample and sampling technique

According to Tashakkori and Teddlie (2003) sampling is a process during which decisions are made on what and how to select participants in a study. Sampling techniques are approaches through which a sample is selected. A sample is a subset of the accessible population selected to participate in the study. In research, there are two types of sampling techniques, namely probability and non-probability sampling techniques. Probability sampling techniques are used to select elements randomly where each element in the population has an equal and independent chance of being selected and is used in quantitative research. Tashakkori and Teddlie (2003:277) advise that probability sampling, though typically associated with quantitative research could be applicable to qualitative studies and has relevance to mixed methods studies. On the other hand, in the non-probability sampling technique, sampling focuses on intentionally selecting specific participants who would provide the most information regarding the question under study. The main

reason for choosing the convenience sampling method was to gain more insight into the subject of inquiry, not to generalise the results to the entire population.

In the SSM design participants who have experience in considering the question under study in a systematic way are recruited. In selecting participants the methodology suggests that the researcher should establish which players are regarded as key in the situation and aim to determine the world view or perspectives that they bring to the situation (Checkland, 1991). Noting the diversity of the groups involved in the area of practice breakdown and also the type of sampling advocated by the methodology, a sampling technique deemed appropriate for each of the types of identified populations was used.

Using staff establishment records of the KZN provincial Department of Health as a sampling frame, Operational Nursing Managers were grouped according to the various areas of specialisation and number of years experience as operational manager. In each of the selected facilities per level of care Operational Nursing Managers who had more than one year experience working as operational manager were purposively selected for inclusion in the study after informed consent was obtained. A total of 299 Operational Nursing Managers were invited to participate in the study.

***Inclusion criteria***

- (a) Operational Nursing Managers employed in the selected health facilities in the selected districts;
- (b) Operational Nursing Managers willing to participate;
- (c) Operational Nursing Managers who had more than one year experience as an operations manager in an area of specialty.

***Exclusion criteria***

- (a) Operational Nursing Managers employed outside the selected districts;
- (b) Operational Nursing Managers unwilling to participate;
- (c) Operational Nursing Managers who were less than one year in managerial positions.

Noting that most cases of unprofessional conduct were in the areas of either medical and surgical nursing, midwifery or psychiatric nursing, in addition to the chairperson

and the deputy chairperson of the PCC, members of the PCC with clinical qualifications in these areas of nursing specialty, (n = 4) were purposively sampled for inclusion in the study. In addition, the chairperson and deputy chairperson were selected for inclusion in the focus group. Thus, a total of six members of the June 2003 – June 2008 PCC cohort were included.

The original intention of the study was to include nurses who had faced unprofessional conduct charges, but the first 15 who were approached declined so the study protocol was revised to exclude them from Phase 1. They were included in Phase 2.

All four labour organisations that represented nurses during professional conduct hearings of SANC were selected to participate in Phase 1 of the study. Specifically, two representatives from each labour organisation whose portfolio involved representing nurses during professional conduct hearings (n = 8) were conveniently sampled for participation in a focus group arranged for the representatives of organised labour.

#### **3.4.2.1.3 Data collection**

The preparation for data collection entailed designing a data collection tool, preparing the study participants and the venues for data collection. With regards to the data collection tool, the major concepts of the theoretical framework guiding the study were used to formulate research questions which were then used to develop a semi structured open-ended interview guide (see Annexure 4). The interview schedule was used to solicit participants' views on the causes of and current practices in the management of practice breakdown in nursing. In addition, the interview guide solicited suggestions from the study participants on how in their opinion practice breakdown could be managed differently by the nursing profession. A pilot study was conducted prior to the main study on a limited number of participants from the same study population who were not participating in the final study. The purpose of this was to assess the comprehension of the questions posed and also the duration it would take to complete the focus group sessions/interviews. Accordingly, the interview guide was refined following this exercise.

Data collection from Operational Nursing Managers and representatives of organised labour was collected by means of focus group discussions. Creswell (2009) suggests that it is best for qualitative researchers to collect data in the field at the site where participants experience the issue or problem under study. According to the author gathering information by actually talking directly to people and seeing them behave and act within their context is a major characteristic of qualitative research. Accordingly, focus group discussions conducted with Operational Nursing Managers were held within their workplace either in a board room or a small hall conducive to privacy and interaction with participants. Focus group discussions with representatives of organised labour were held in a board room of one of the head office premises of one of the unions.

In conducting focus group discussions, it is important that the environment is conducive to this form of data collection. In this regard, in preparation of the Operational Nursing Managers, a plan for the focus group was discussed with the head of nursing in each of the selected health facilities. In addition, copies of both a permission letter obtained from the provincial department of health and a copy of a letter of support obtained from the district manager were shared with the manager of each of the health facilities where focus group discussions were to be conducted (copies of letters of permission are attached in Annexures 1 and 2)

Accordingly, for Operational Nursing Managers, convenient dates and times for each of the focus group discussions were determined by facility management and confirmed with the researcher beforehand. With regards to representatives of organised labour, each of the unions' leadership was approached telephonically first, to introduce the idea of the study and request their participation. This was followed by a written request. The two representatives from each of the four unions were then contacted telephonically to set a common date and time for the focus group discussion.

All focus group discussions were conducted by the researcher after participants signed an informed consent (see Annexure 3). The researcher opened the focus group sessions with brief comments about how the interview would be conducted and encouraged interaction among participants. In this introduction, the researcher indicated to participants that their contributions were valued and urged them to



express themselves without fear. Since the objective of the focus group interviews was to promote discussion, the participants were seated around the table to ensure maximum opportunity for eye contact with the interviewer. In order to regulate smooth interaction of participants in a non-directive manner, the interviewer and participants set ground rules for participation during the introduction.

Permission to use a digital audio recorder was obtained from all groups of participants (Operational Nursing Managers and representatives of Organised Labour). It was explained to participants that no personal identification would be made during the course of the interview so that they could feel free to describe their experiences. The digital audio recorder automatically created a file with date and time and duration of the focus group discussion. All focus group discussions were conducted in English and were recorded in a digital audio recorder in order to capture the rich data as described by the participants. Open ended questions were asked. Each session lasted more or less one hour and thirty minutes. The interactive facilitative techniques used by the researcher involved questioning, probing, reflecting, clarifying and summarising and becoming aware of each participant's participation and contribution. A non-judgemental attitude was maintained throughout the interview. Because of the sensitivity of the topic, participants were given the opportunity to raise questions which would be dealt with without being recorded if so requested.

For Operational Nursing Managers data was collected in each level of care within the same health districts until saturation was reached before moving to the next level of care within the same district. Progression to the next health district was done upon reaching data saturation in all levels of care in selected health districts. A total of 16 focus groups discussions comprising of an average of 10 participants drawn from the various areas of specialisation within the health facility were conducted.

Data collection from members of the PCC was by means of individual interviews. Interviewees were informed that the researcher would have a speaker phone to enable her to audio tape the interview. The telephonic interviews were conducted in English and were recorded in a digital audio recorder in order to capture the rich data as described by the participants. The session lasted 45 minutes on average. Data collection continued until data obtained from telephonic interviews was saturated.

### **3.4.2.2 Phase 2: modelling**

Checkland (1991) describes the second phase of SSM as modeling which entails blending insight gained from different participants in an attempt to build the richest possible picture about a phenomenon under study. Polit and Beck's approach (2008) is to subject inductively generated theories from qualitative data to more controlled confirmation through quantitative research. They propose that the participants' input become a starting point from which the researcher begins to conceptualise, seeking to explain patterns, commonalities and relationship emerging from the researcher-participant interaction.

Accordingly, the Phase 2 of the current study entailed analysis of data obtained from Phase 1 in order to form concepts and generate meaning units for use in the development of an instrument for data collection in Phase 3.

Polit and Beck (2008) suggest that understanding the population for whom the scale is intended is critical for developing good items. In this study, the views of study participants on how practice breakdown could be managed differently in the nursing profession were used to develop the survey instrument.

According to Polit and Beck (2008:353), Qualitative results can assist the researcher to understand the dimensions of the question under study and can also provide actual words for the items. Accordingly, emerging themes and meaning units were used to design a 63 item self-administered questionnaire with each item taking the form of a 5-point Likert scale (see Annexure 7). The questionnaire was grounded on the views of study participants on how practice breakdown could be managed differently in nursing. Specifically, the following categories constituted the questionnaire: (a) external environment (9 items); (b) the corporate/internal environment (48 items); and (c) desired outcomes (6 items).

The internal environment items were further disaggregated into: (a) institutional policies (9 items); (b) infrastructure and physical space (5 items); (c) management and decision making (13 items); (d) staff capabilities (9 items); and (e) active management of practice breakdown.

### 3.4.2.2 1 Reliability and validity of the Instrument

Reliability of the self-administered questionnaire was achieved through utilising Cronbach's alpha statistics to determine internal constancy as a measure of reliability of questionnaires. An instrument is regarded as being reliable if scores for the elements within the instrument fall from the range of  $r = .82$  to  $r = .95$ . Cronbach's alpha statistics pertaining to each of the categories of the study questionnaire appears in Table 5. (See Annexure 8 for correlation results.)

**Table 5: Reliability scores for the Questionnaire categories.**

CATEGORIES	No. OF ITEMS	CRONBACH'S ALPHA
External Environment	9	.87
Institutional Policies	9	.90
Infrastructure and Internal Policies	5	.95
Management Decision Making	13	.95
Staff Capabilities	9	.92
Active Management of Practice Breakdown	12	.82
Desired Outcomes	6	.92

Construct validity was ensured by checking the instrument against the themes that emerged from this study as well as from engaging in a discussion with a small group of experts in the field of nursing management and professional conduct.

### 3.4.2.3 Phase 3: Dialogue

The SSM methodology suggest that during this stage participants are expected to debate the results rigorously in order to ensure that recommended changes make sense in terms of both systemic logic and the group culture (Lester, 2008). In the current study, the method was modified so that instead of engaging the study participants in a debate as suggested by the SSM, a survey was conducted using an instrument developed in Phase 2.

Phase 3 involved distribution and collection of a descriptive survey to determine the views of Operational Nursing Managers, representatives of organised labour,

members of the PCC of SANC and nurses charged with unprofessional conduct during the period under review, on how practice breakdown could be managed differently by the nursing profession. In essence, this was a processes aimed at gaining participants' validation of the themes and categories emerging from Phase 1 interview data.

#### **3.4.2.3.1 Population**

In addition to the study populations outlined in the first phase of this study namely; Operational Nursing Managers, representatives of the organised labour, and members of the PCC of SANC, nurses who were charged for unprofessional conduct by the council also formed part of the accessible population for this phase of the study. There were three categories of nurses listed in SANC's register and rolls at the time of data collection. These were the registered nurses (RN), enrolled nurses (EN) and enrolled nursing assistants (ENA). SANC records indicated that between June 2003 and June 2008 a total of 843 nurses were charged with unprofessional conduct. Of these nurses 75% (n=629) were registered nurses, 15% (n=123) were enrolled nurses, 9% (n=74) were enrolled nursing assistants and 0.2% (n=17) were nurses still in training (SANC, 2008). Although this list is kept by SANC this record is in the public domain.

#### **3.4.2.3.2 Sample and sampling method**

All the Phase 1 groups of participants were invited to participate in Phase 3 of this study. Hence, a total of 299 Operational Nursing Managers, eight representatives of organised labour and 12 members of the PCC were included. Additionally, nurses who had been charged with unprofessional conduct between June 2003 and June 2008 and could be reached were included in the study.

Records of SANC were used as a sampling frame from which a sample of nurses who were charged with unprofessional conduct between June 20 03 and June 2008 was drawn. A stratified random sampling technique, by category, was used to select the nurses. Noting that 20% of the total population is deemed adequate in statistical terms, proportional representation of each of the categories of nurses was sought, resulting in 75% of RNs (n=471), 15% of ENs (n=18) and 9% of ENAs were selected giving a total of 496 i.e. 59% of the total population. The larger percentage selection

allowed for some leeway in anticipation of the low return rate normally associated with mailed questionnaires.

***Inclusion criteria***

- (a) Willingness to participate in the study;
- (b) Cases of unprofessional conduct that were finalised in the period under review.

***Exclusion criteria***

- (a) Any part heard matter;
- (b) Cases taken on review;
- (c) Unwillingness to participate in the study; and
- (d) Nurses who were charged for unprofessional conduct who were not working in health facilities located in the KZN province at the time of being charged for such conduct.

**3.4.2.3.3 Sample realisation**

A total number of 871 questionnaires were mailed to the four groupings. With regards to the victim group a total of 496 questionnaires were mailed. Of these 210 were returned as unclaimed and 27 were unusable. In addition, a total of 299 questionnaires were mailed to Operational Nursing Managers. Furthermore 10 and 12 questionnaires were mailed to organised labour and members of PCC respectively. A total of 272 questionnaires were usable. Thereby providing an overall response rate of 31%

As reflected in Table 6 below, of the 272 respondents majority of respondents were operations managers comprise 76.5% (n =2 08). 3.7% (n = 10) were members of the PCC of SANC. On the other hand 2.9% (n = 8) were representatives of organised labour. In addition, nurses who were brought before PCC comprised 16.9% (n = 46) of the respondents.

**Table 6: Total number of participants by group.**

SECTOR	TOTAL MAILED	TOTAL RETURNED	%
PCC	12	10	3.7
Unions	10	8	2.9
Victims	496	46	16.9
Managers	299	208	76.5
<b>Total</b>	<b>871</b>	<b>272</b>	<b>100.0</b>

#### **3.4.2.3.4 Data collection**

Self-administered questionnaires with a self-addressed envelope for mailing responses back to the researcher, were mailed to all members of the PCC (n = 12), officials of the four nurse's labour organisations (n = 8) and nurses who had been charged with unprofessional conduct by the Council between June 2003 and June 2008 (n = 496) as per the sampling procedures detailed above.

For Operational Nursing Managers, although these were addressed individually based on the mailing list generated during the first phase of the study, these were collectively hand delivered to each to the facility manager of the selected facilities with a request for her/him to distribute them to the Operational Nursing Managers working in their facilities. Operational Nursing Managers were given up to three weeks to respond to the survey. After three weeks the offices of the nursing managers were contacted telephonically by the researcher and reminded to mail back all responses using the self-addressed envelope which was provided to them. All other respondents were allowed a period of four weeks after which reminders were posted.

The self-administered questionnaire included closed ended questions which elicited participants' views on the conditions requisite for integrated management of practice breakdown based on data arising from Phase 1. Each question was accompanied by a Likert scale where respondents were asked to indicate the extent to which they strongly agreed; agreed; disagreed; or strongly disagreed with the statements

presented. In addition, an option was allowed for respondents to indicate that they did not know if the statement was agreeable or not agreeable to them.

#### **3.4.2.4 Phase 4: model development.**

According to SSM, this stage entails defining a change model in concrete terms and taking action to implement the required change. Lester (2008) suggests that at this point formal project management protocols may be useful or a less structured approach could be appropriate depending on the given situation. In addition the author advises that it is more appropriate to think of SSM as cyclical in nature where interventions are reexamined at the time of implementation and adjusted if necessary. Furthermore, the author advises that when the effects of implementation are becoming apparent, it is possible to return to the earlier stages and reflect critically on how the rich picture has changed for the better.

However, implementation of the required action as advocated by the model was not done. The researcher was of the view that model implementation is a research project in its own right. This study did develop a model, but implementation is recommended as a separate exercise. Within the context of this study, Phase 4 entailed model development based on the data obtained from the quantitative results of Phase 3. Chinn and Kramer (2004) argue that, like theories, conceptual frameworks, models and descriptions also require well developed conceptual meaning as well as sufficient structure to be able to present relationships within their scope adequately. The authors further assert that there are two processes involved in explaining and restructuring empirical phenomena. These include, creating conceptual meaning and structuring and contextualising theory (Chinn and Kramer, 2004).

Accordingly, the processes suggested by SSM were used in developing a conceptual framework model for integrated management of practice breakdown in nursing (see Chapter 6). The process of creating conceptual meaning was based on the assumption that conceptual meaning does not exist as an “out there” reality to be objectively discovered. Instead, it is deliberately created from experiences which are often common and shared (Chinn and Kramer, 2004). The author’s note that such experience can also be unique based on the individual’s own subjective experience. Accordingly, ideas expressed individually by study participants from each of the

sectors during Phase 3 of the current study were used to identify and define common concepts and inherent assumptions to be used as a foundation for determination of theoretical meaning of concepts central to management of practice breakdown in nursing practice. In addition, logical relationships between the common concepts established were used to form a coherent structure of a conceptual model.

Chinn and Kramer (2004) suggest that theoretical relationships must be placed within a context if the theory is to be useful for practice. Accordingly, systematic linkages between and among the concepts were used in the structuring and contextualisation of a model for integrated management of practice breakdown in nursing practice within the South African context.

A summary of the data collection methods and techniques utilised in the study is presented in Table 7.



**Table 7: Summary of data collection methods and techniques.**

STUDY OBJECTIVE	DATA SOURCE	TECHNIQUE	QUESTIONS
To determine the nature of practice breakdown in nursing.	Operational Nursing Managers	Focus group discussions	What is the nature of practice breakdown in nursing practice
	Members of PCC	Telephonic interviews	
	Representatives of organised labour	Focus group discussions	
To identify latent conditions and active failures involved in practice breakdown.	Operational Nursing Managers	Focus group discussions	What are the causes of practice breakdown in nursing
	Members of PCC	Telephonic interviews	
	Representatives of organised labour	Focus group discussions	
To determine the consequences of the current strategies for managing practice breakdown.	Operational Nursing Managers	Focus group discussions	What are the consequences of the current strategies for managing practice breakdown
	Members of PCC	Telephonic interviews	
	Representatives of organised labour	Focus group discussions	
To determine the conditions requisite for effective management of practice breakdown.	Operational Nursing Managers Members of PCC Representatives of organised labour Nurses who were charged with unprofessional conduct	Focus group discussions Questionnaire	

### **3.4.3 Data analysis**

In line with sequential exploratory strategy for mixed methodology, the current study analysed and reported on qualitative data before collection and analysis of quantitative data. Accordingly, qualitative data obtained from focus group discussions and interviews conducted in the Phase 1 of the study was analysed concurrently with data collection. Qualitative data was transcribed from the tape recorder into a written format. In this way the process of making meaning, which is highly interpretive, was preceded by a more technical process – the conversion of spoken to written language. The researcher then read through all the data to get a sense of the information and to reflect on the overall meaning. The researcher sought to understand the general ideas and tone expressed by participants as well as the overall depth of the information provided.

At the beginning of the coding process, all ideas were identified and coded into broad categories. These were then further analysed under the major categories using the substantial concepts of the conceptual framework guiding the study. In the coding process, each significant feature of every interview was analysed and formulated into a statement that expressed the implicit and explicit meaning of the statements. All new statements were clustered together to formulate common themes which reflected the totality of the picture. All emerging themes were organised into categories. Thematic analysis initially structured by the theoretical framework and the study objectives was used to analyse the qualitative data.

Quantitative data obtained from the Phase 3 of this study was analysed by means of measures of central tendency and variability. Specifically, mean scores and standard deviations were computed for each of the category as well as each items within categories. In addition, ANOVA was used to determine differences between groups on their views regarding conditions requisite for integrated management of practice breakdown. Furthermore, analysis of data by individual items was carried out in instances where significant differences between groups were found on overall mean scores. This involved analysis of variance on group mean scores per individual item constituting particular subscale using Bonferroni post hoc test. Finally, Pearson's correlation coefficient was used to measure the relationship between conditions in

the external environment, the corporate environment, active management of practice breakdown and the desired outcomes of integrated management of practice breakdown.

### **3.5 MEASURES TO ENSURE TRUSTWORTHINESS AND INTEGRITY IN QUALITATIVE RESEARCH**

Since this study used sequential exploratory mixed methods approach, measures applicable to both qualitative and quantitative research were used. With regards to qualitative research Lincoln and Guba (cited in Polit & Beck, 2008) suggest that trustworthiness encompasses several dimensions – credibility, conformability, transferability and dependability. While credibility enhances confidence in the truth of the data and the researcher’s interpretation, dependability refers to evidence that is consistently stable over time. Conformability, similar to objectivity, reflects the degree to which study results are derived from characteristics of participants and the study context and not from the researcher’s biases. Transferability refers to the extent to which findings from the data can be replicated in other settings or groups.

#### **3.5.1 Credibility**

Polit and Beck (2012:858) suggest that credibility involves two aspects, first conducting the study in a manner that enhances believability of the findings, and second, taking steps to demonstrate credibility in the research report. The authors advise that in qualitative research, researchers must strive to establish confidence in the truth of the findings of the research. This study applied the following criteria to ensure credibility:

- (a) Prolonged engagement:** to ensure credibility in the data collected the researcher had to be familiar with the data. This was accomplished through prolonged engagement with the data. Accordingly, the researcher invested a lot of time in a preliminary review of detailed records of cases of unprofessional conduct kept by SANC to get a sense of the perspectives on professional conduct hearings conducted by the council. During focus group discussions, the researcher invested time to establish rapport with the study participants and encouraging them to share their experiences which in turn allowed for collection of rich and accurate information. In addition, the

researcher's engagement with data during data analysis in Phase 1 of the study, and again during the development of the questionnaire in Phase 2, as well as data analysis in Phase 3, allowed the researcher time to work with data, increasing understanding of the issues under study. During data analysis, tape recordings were listened to over and over again, transcripts were written and rewritten, read and re-read to understand the data contained therein. Themes, categories and subcategories were outlined.

**(b) Data and method triangulation:** According to Polit and Beck (2012:590) triangulation refers to use of multiple referents to draw conclusion about what constitutes the truth. The aim of triangulation is to overcome the intrinsic bias associated with the use of a single method. Triangulation in qualitative research is achieved through triangulation of data, method, investigator and theory triangulation. This strategy was used to capture a more complete and contextualised portrait of key practice breakdown in the nursing profession. In this study, special attention was paid to data and method triangulation. The authors distinguish between three types of data triangulation: time, space and person.

**(c) Time triangulation** involved collection of data on the same phenomenon multiple times. Accordingly qualitative data was collected from Operational Nursing Managers who worked in the selected health facilities, members of the PCC and representatives of organised labour over a period eight months. During this phase, data was collected from each group until data saturation was reached before moving on to the next target group. In this manner, the researcher was able to assess congruence of the phenomenon across time.

**(d) Space triangulation** involved collecting data on the same phenomenon in multiple sites to test for cross site consistency (Polit & Beck, 2012:590). Accordingly, qualitative data on the nature and the consequences of the current practices in the management of practice breakdown was collected from multiple sites, including health facilities, personal offices within workplaces and head office building where the office of one the representative of organised labour was located.

- (e) Person triangulation** involves collecting data from different types or levels of people including individuals groups and collectives with the aim of validating data through multiple perspectives on the phenomenon (Polit & Beck, 2012:590). Accordingly, data was collected from individual members of the PCC, groups of Operational Nursing Managers and four different groups of organised labour.
- (f) Method triangulation** consists of using more than one method to collect data on the same phenomenon (Polit & Beck, 2008). Consequently, method triangulation was achieved by adopting a mixed mode research approach. Accordingly, a variety of data collection techniques including telephonic interviews focus group discussions and a survey were used to collect qualitative and quantitative data respectively.
- (g) Member checking** is considered as being the most important technique for establishing the credibility of qualitative data. It involves asking the study participants to review and react to study data and emerging themes. In this way data is evaluated and validated throughout the study (Polit & Beck, 2012:599). Participants were given an opportunity to review the data collected and themes and subthemes were identified to ensure that the research interviews and findings were a true reflection of their experiences. Accordingly, data obtained from focus group discussions held with Operational Nursing Managers was evaluated and validated in the subsequent focus group discussions. In addition, data obtained from telephonic interviews with members of the PCC was submitted to them for review. The study was supervised by a senior researcher who periodically reviewed the process followed and verified the rigor of the study.
- (h) Peer debriefing:** In order to increase credibility, peer debriefing of participants about the purpose and objectives of the study and explanation of the study throughout was applied to ensure credibility. During focus group discussions participants supported each other and continued with the discussions to the end. Debriefing by the promoter continued at regular intervals during the course of the study, providing guidance to the researcher to maintain focus in the study.

**(i) Authority of the researcher:** According to Polit and Beck (2012:596) in qualitative studies, researchers are the data collecting instruments as well as creator of analytic process. In this study, the researcher had a wealth of experience in the regulation of the nursing profession in South Africa. At the preparation for and at the commencement of focus group discussions the researcher declared her professional interest in the subject by declaring her portfolio within the South African nursing regulatory body, SANC. In addition after each of the focus group discussions, participants were offered an opportunity to engage the researcher in her capacity as the President of the Council on matters relating to education, practice or registration with SANC. This aspect of information sharing did not form part of the current study. Therefore, the researcher's qualifications, experience and reflexivity were relevant in establishing confidence in the findings.

### **3.5.2 Transferability**

According to Polit and Beck (2012: 595) transferability is concerned with the extent to which findings from the data can be transferred to other settings or groups. This is achieved by providing an audit trail and sufficient thick description about the research context, the people who participated in the study and the experience and processes observed during the enquiry. During this study a detailed description of the purpose, objectives, methodology and outcome of the study was established in writing so that anyone interested in transferability has a solid framework of information.

### **3.5.3 Consistency**

Polit and Beck (2012:599) state that consistency determines whether findings would be similar if the study was replicated in a similar context. This can be measured against the strategy of dependability.

**(a) Dependability** refers to the stability of data over time and over conditions. Polit and Beck (2012) state that given the variety of experiences within the qualitative study, dependability can be ensured as long as the variability can be tracked.

To ensure dependability, the method of data collection, the context of the focus group discussions and telephonic interviews, data analysis and interpretation have been

discussed in detail in this study. The data was contextual, exploratory and descriptive in nature to determine and understand the various perspectives of practice breakdown in order to develop framework for integrated management of practice breakdown in the nursing profession.

### **3.5.4 Neutrality**

Polit and Beck (2012:599) define neutrality as the freedom from bias in the research procedures and results. Neutrality refers to the degree to which the findings are a function of the participants and conditions of the research and not of other processes, motivation and perspectives. Neutrality can be measured against the strategy of conformability.

**(a) Conformability** refers to the objectivity or neutrality of data which allows for agreement between two or more independent persons about the accuracy relevance or meaning of the data (Polit & Beck, 2012: 599). According to the authors conformability can be ensured through audit trail and code re-code procedures.

**(b) Audit trail** is a systematic collection of materials and documentation that would allow an independent auditor to come to the same conclusion. The authors suggest that there are six classes of records which are useful in creating an adequate audit trail. These include:

- i. Raw data (field notes, interview transcripts);
- ii. Data reduction and analysis products (condensed notes);
- iii. Process notes (methodological notes and notes from member check sessions);
- iv. Materials relating to the researcher's intentions and disposition (personal notes on intentions);
- v. Instrument development information; and
- vi. Data reconstruction products.

Accordingly, the researcher has kept an audit trail of documents that would allow an independent auditor to come to the same conclusion about the data. Specifically, the researcher has kept a paper trail of interview transcripts, data analysis products and instrument development information.

**(c) Code re-code procedures:** The study's general methods and procedures were described explicitly and in detail. Information obtained from focus group discussions, telephonic interviews and the survey were verified through literature review to determine whether similar experiences had been identified by other studies. Consensus with regards to the themes and sub-themes was reached between the researcher, promoter and study participants.

### **3.6 ETHICAL CONSIDERATIONS**

In the current study the major ethical principles and rights of participants were protected. Specifically, permission to conduct the study was sought from the Department of Health in the KZN province (see Annexure 1). In addition, letters of support for conducting the study in the selected health facilities were obtained from the district managers of the selected districts (see Annexure 2). Furthermore, individual informed and written consent were sought from all study participants before commencement of data collection (see Annexure 5). However, the first fifteen nurses who were charged with unprofessional conduct, expressed unwillingness to participate in any form of interviews. Accordingly, a revised study protocol which excluded them for the qualitative phase of the study and only included them in the third phase of the study where complete anonymity was guaranteed was submitted and approved by the ethics committee of the university.

All study participants were informed in detail about the aim of the study, the process that led to their selection for participation in the study and on how the findings of the study would be reported. Debriefing sessions were held with the interviewees to support them at the end of the interview and to attend to any questions that they may have had outside the scope of the research. In addition, the study participants were informed of the right to withdraw from the study at anytime or stage of the study regardless of the consent signed. The following section describes how ethical issues were addressed by the current study.

**(a) Personal introduction of the researcher.** The researcher introduced herself to the study participants and informed them of the nature and extent of the research prior to commencement. The questionnaire used for the survey had explicit information on who the researcher was, the purpose of the research and the rights of the respondents.



**(b) Informed consent.** Informed consent was obtained from all participants prior to data collection.

**(c) Voluntary participation.** The researcher ensured that none of the study participants were coerced into participating in research. Participants were informed that participation was voluntary.

**(d) Risk of harm.** In this research study the researcher guaranteed the participants that no participants would be put in a situation where they might be harmed as a result of their participation. Debriefing sessions were arranged for those needing such.

**(e) Statement of confidentiality and anonymity.** The researcher ensured confidentiality and anonymity of the participants. All data collection devices, that is, audiotapes, and transcripts were confined to the researcher and where people's names appeared, these were promptly deleted. Questionnaires bore no names or any form of individual identity. The researcher also clarified that the participants' names were not to be used for any other purposes other than to develop a mailing list for sending the self-administered questionnaires and that the envelop which had been used to send this correspondence must be destroyed after the contents were retrieved. The contents were copies of a questionnaire, a self-addressed envelope with a mailing stamp for response to the researcher. The questionnaire was to bear no name of the respondent. For Operational Nursing Managers the completed questionnaire was to be dropped in a box which was kept at a designated place in the facility.

### **3.7 STUDY LIMITATIONS**

A number of limitations were identified at the various stages of the research process. However, the research design used in this study yielded useful study results despite the study limitations identified. These limitations related to:

(a) Due to budgetary constraints the study had to be limited to one of the two provinces which had the highest number of nurses who had been sentenced for committing acts of unprofessional conduct. As a result potential province specific insights into the antecedents and consequences of practices in the error management were lost

- (b) While focus group discussion is ideal for collecting qualitative data, due to sensitivity of the subject under study, there were a number of instances where useful information was provided during the debriefing sessions held with individuals after the formal sessions. However, despite such information being useful it could not be included in the study, to corroborate literature on some of the areas of the study. Thus limiting the richness of data useful for the study to the information provided during focus group discussion only.
- (c) The reluctance to participate encountered with nurses who had been charged with unprofessional conduct which led to their exclusion in the qualitative data collection phase and the poor response rate obtained from the same target group in the second phase of the study, yet they were regarded to be a critical study population. This also posed a limitation into deeper insight into the voices of those nurses who had personal experience with professional disciplinary procedures following acts of unprofessional conduct.

# **CHAPTER FOUR**

## **PRESENTATION OF THE RESULTS**

### **4.1 INTRODUCTION**

This chapter presents the results of the study. Qualitative approach was used to explore and generate themes about sources, antecedents and consequences of error management using focus group discussions and telephonic interviews for data collection. Qualitative data was collected from three of the four groups regarded as key in the process of unprofessional conduct within the nursing profession. The conceptual framework that guided the study was used as a framework for organising the results. A summary of these results is presented schematically at the end of the section.

The qualitative research results are then followed by presentation of quantitative research results obtained from all four groups involved in unprofessional conduct issues in nursing using a self-administered questionnaire developed from the results of the qualitative phase to determine conditions requisite for effective management of practice errors in nursing.

The guiding model postulates that adverse events usually originate in a variety of systemic features operating at different levels within an organisation and that factors external and internal to the organisation create conditions that are favourable to occurrence of adverse events. It explores sources, types and management of incidents within the organisation. The central concepts of the model include: (a) two levels of the environment (external and corporate environments); (b) the manager and the managed; (c) the incident and its management; and (d) the inquiry and organisational learning.

These are used to describe the nature of practice errors in nursing, including the sources, types, and consequences of error management by the nursing profession. Furthermore the model provides an outline of the type of error that could happen at

each of the levels within the system and concludes by suggesting organisational learning as means of integrated approach in error management.

## **4.2 THE DETERMINANTS OF PRACTICE BREAKDOWN**

In line with the conceptual framework guiding the study, data obtained from the participants revealed that practice errors are as a result of a wide variety of definable factors giving rise to either latent conditions or active failures taking place within the health system. Data indicated that latent conditions were a product of both the environmental factors (external and internal) as well as fallible managerial decisions that threatened defenses within the health care system. In addition, data revealed a range of active failures emanating from unsafe acts committed by nurses as frontline service providers. Furthermore, data was explicit about types of errors including consequences of error management arising from each of the sources identified. Results relating to each of these situations are presented in turn.

### **4.2.1 The external environment**

Focus group discussions conducted with Operational Nursing Managers and the representative of organised labour and individual interviews conducted with members of the PCC revealed a range of factors emanating from the external environment which either on their own or in combination with others played a significant role in both provoking and shaping unsafe conditions that give rise to latent failures. It would seem like these conditions exert undue pressure on the health system thus creating conditions that lead to latent failures within the health care system thus contributing to practice breakdown. These factors include: (a) the social factors; (b) nursing educational factors; and (c) nature of incentive schemes.

#### **(a) Social factors**

Social changes were frequently cited by the respondents as one of the major factors in practice breakdown. Operational Nursing Managers cited changes in characteristics of patients presenting to health care facilities as one of the factors contributing to practice errors. Related themes mentioned included the changing disease profile and the increase in the long term type of illnesses prevailing in our society. In their view, these changes demanded different managerial decisions and

competencies from nurses and had created conditions for latent failures within the health system. The interviewees reflected this belief by stating:

*“There is lack of sensitivity in terms of changing needs or changing of profile of the clients that we are nursing. We were nursing patients that were different eight years ago; and yet systems in place pretend that the profile of the patients is still the same.”* (Operational Nursing Manager.)

*“The disease profile has changed a great deal and it demands different management skills, different competencies; in terms of making sure that nurses that deal with psychiatric patients are able to cope and still offer safe nursing practice.”* (Operational Nursing Manager.)

#### **(b) Nursing educational factors**

Operational Nursing Managers perceived changing trends in the nursing profession as creating conditions for latent failures within the health system. In their view, these trends individually or in combination with others increased the risk of active errors amongst nurses thus committing errors of actions. Related subthemes mentioned included:

- i. flexibility in the entry requirements set by the various providers;
- ii. curriculum relevance or irrelevance;
- iii. duration of nurse training programmes; and
- iv. the role of SANC in the regulation of nursing practice.

In addition, Operational Nursing Managers lamented the varying entry requirements into nursing education programmes. Their perceptions were that while these different entry requirements promote access to nursing education, they have also introduced some laxity in the requirements for accessing the various levels of nurse training. These perceptions were evident in the following quotes:

*“You know people who are joining the nursing profession are very young and most of them follow an enrolled nursing programme and have been absorbed by services to do more than what a nurse who*

*spent many years of training would do. The system is really setting them up for failure.” (Operational Nursing Manager.)*

*“You know, a nurse can now move from an enrolled nursing assistant programme to being a registered nurse in a very short time with no experience at all and they really become a hazard. Their skills are poor and level of professionalism leaves a lot to be desired.”*  
(Operational Nursing Manager.)

During focus group discussions there was a perceived mismatch between nursing curriculum and the disease profile of patient presenting to health facilities amongst Operational Nursing Managers. In their view, the changes in the disease profile had placed an increased demand for ongoing skills development for nurses. Yet, participants felt that, nursing competencies are still not driven by patient’s needs. One of the representatives of a labour organisation mentioned that:

*“People are sick... with HIV/AIDS now many people are sick yet the nursing curriculum is still the same as it was before the AIDS epidemic and the employer expects nurses to be able to nurse all these sick patients without giving them training opportunities.”*  
(Organised Labour.)

*“Service based nurses are not prioritised for any skills development instead the employer focus on mass production of nurses with very limited skills required to manage the new demands in hospitals.”*  
(Organized Labour.)

Education and training programmes are designed to provide nurse practitioners with professional skills and competencies required for the various job assignments within a professional category. It was evident that changes in the nurse training programmes had created dissatisfaction among practitioners about clinical competencies of nurse practitioners. The structure and the duration of the current programmes were cited by Operational Nursing Managers as dominant factors affecting clinical competence of the new practitioners. The duration of training, especially as this relates to midwifery training, was perceived by the Operational Nursing Managers to be accelerated and did not give student midwives requisite

competencies thereby creating conditions for active failures as expressed in the following excerpts:

*“We are experiencing problems with people who have undergone midwifery training for six months, you can’t trust them in conducting simple deliveries yet they get counted as professional nurses. Their training, in terms of duration, does not give them full exposure to the competencies they require to be competent midwives. Yet, when they are allocated to labour wards they are expected to work like properly trained midwives and that is where the system is failing them...”* (Operational Nursing Manager.)

*“The problem with the midwives is that the training period is far too short, they need at least a year because I feel very sorry for them, they are not getting the grounding and they certainly are not getting the experience they need.”* (Operational Nursing Manager.)

*“When you look at some of the colleagues...., it is frustrating to work with incompetent colleagues. When at face value you have the same qualification yet their level of competency and skills in terms of their practice levels are worrying.”* (Operational Nursing Manager.)

Furthermore, representatives of organised labour perceived the Council to compound latent failures by not demanding that employers ensure that nurses are given the correct tools and an environment that is conducive to the execution of safe nursing care. In their view, this attitude breeds conditions conducive to latent failures which place nurses at risk of practice errors. The following excerpts capture their views:

*“We do not understand why the Council only ensures quality of education and training programmes and not for nursing practice. As much as the Council can close down nursing schools that do not meet their standards, it should do the same with the employer.”* (Organised Labour.)

*“Although some of us do challenge the employer regarding the state of conditions under which nurses’ work, the Council is very silent on these issues.”* (Organised Labour.)

### **(c) The nature of incentive schemes**

While the health care sector has introduced a number of incentives as a strategy for staff retention in the face of high staff turnover, its implementation seems to have yielded different results, particularly as this relates to allocation of occupation specific dispensation (OSD) which is intended to retain staff with specialised skills in areas of greatest need. There was a strong perception that these benefits have been poorly determined. Consequently, there was a perception that nurses have become reluctant to work as generalists in cases of shortage and remained in their specialised areas even if there were no patients requiring specialised care, inadvertently placing other patients at risk for unsafe nursing care due to poor staffing or inappropriate staffing. They expressed this by stating:

*“People are focusing on their specialty; forgetting that all patients need basic care first before any specialized care. People don’t want to work in the general wards because they won’t be paid for their specialty; forgetting that they are general nurses first before being a specialist.”* (Operational Nursing Manager.)

*If you are the only advanced midwife you’ll refuse to go to labour ward, you say I’m allocated to the lying in ward and there’s only one person working in the labour ward who should conduct all the deliveries. This really places mothers at risk.”* (Operational Nursing Manager.)

#### **4.2.2 The corporate environment**

The corporate environment provides the platform for interplay between the three key elements of practice breakdown. Of significance are factors relating to the organisational context of care, managerial decisions and nurses as frontline providers of patient care. It would seem like the organisational context of care and the work processes in the internal environment of health facilities create conditions for latent failures thus limiting safe nursing practice. Each of these factors is presented in turn.



#### **4.2.2.1 Organisational context for care**

Ideally, health facilities set the goals for the entire health service after due consideration of factors from both internal and external environment. It also directs, at a strategic level, the means by which these goals are to be achieved. In addition, health facilities provide resources requisite for rendering health services which often are finite. These resources comprise finance, people, equipment and time, all directed at strengthening health care service delivery. In this study, a number of factors relating to organisation of services within the internal environment emerged as recurrent themes perceived to be creating conditions for latent failures within the health system, including: (a) physical spacing and infrastructural design resourcing of the health sector; (b) work conditions; (c) work environment demand; (d) workplace safety culture; and (e) managerial support.

##### **(a) Physical spacing and infrastructural design**

Physical environment includes those aspects of the workplace such as design, lights, aesthetics and sound. Basic workplace design features were cited as creating conditions which increased the probability of practice breakdown. Delivery rooms, children's wards and wards where patients with mental illness were admitted emerged as creating latent conditions that lead to adverse events. Specifically, delivery rooms and children's wards which were partitioned into cubicles in poorly staffed health care facilities were cited as one of the factors contributing to high rates of adverse events in these settings.

*"All midwives on duty were busy in their cubicles and could not see what was happening outside their cubicles.... the patient delivered on her own, a doctor who was passing by saw a baby out with the cord around the neck, the baby was swimming in liquid, we lost that baby."*  
(Operational Nursing Manager.)

*"The paediatric ward consisted of nine separate rooms with two beds each. The ward was full with 18 patients – mostly babies. There is no full view of all cubicles. You can only see the patients if you go into the cubicle."* (Operational Nursing Manager.)

*“I was on night duty, working in antenatal/post natal wards. There are only two units in the ward with 36 beds, shared by antenatal patients and postnatal mothers with their babies. Just before we start our morning routine, we always inform mothers not to sit with their babies on the beds. The baby is given to the mother to feed and she must give the baby back when finished. While we were busy, just before the routine starts, the baby’s mother fell asleep, we heard a loud sound, as we went there, the baby had fallen and the X ray revealed a slight fracture of the skull.”* (Operational Nursing Manager.)

In addition Operational Nursing Managers gave an accounts of how physical characteristics such as illumination could create conditions for active failures:

*“The patient was sedated by the time she went into the storeroom. The door of the storeroom was not locked. It was equipped with a gadget at the top of the door which allowed for automatic closure after entry. The light was not working, there was no globe in the storeroom. The nurse could not see that the patient had walked in and the patient got locked in and died in a store room.”* (Operational Nursing Manager.)

*“When they arrived in the room, it was dark. Only the light from the passage was shining into the room. The father was the first to go into the room. He found the baby lying with his head at the foot end of the bed. He walked around the cot and found that the oxygen tent was open. He saw the drip tubing around the baby’s neck and shouted for his wife to call the sister. When he picked the child up, the child was lifeless and his face was blue. He started unwinding the drip tubing around his neck. The tube was two and a half times around the neck of the baby.”* (Operational Nursing Manager.)

With regards to patients with mental illnesses, it was noted that district level hospitals were not designed for patients with mental illness. However, the recent policy developments have led to upgrading of these facilities from district to regional level. Consequently, a large number of patients with mental illnesses are admitted to wards designated for medical patients. However, it would appear that security barriers have

fallen short in intercepting active failures thus placing a threat to the patients' safety. These observations were evident in the following quotes:

*"Our wards are not designed for patients with mental illness. Often they break window panes, and cut themselves with broken glass. They are a real danger to both nurses and themselves."* (Operational Nursing Manager.)

*"Our wards are not designed for long term psychiatric patients. Most of them abscond from hospital. We had an unfortunate incident where a patient absconded and was run over by a car and died."* (Operational Nursing Manager.)

### **(b) Conditions of work**

Operational Nursing Managers felt that overall staff shortages of nursing health personnel coupled with deteriorating conditions of work contributed to practice breakdown. Data indicated that physical and emotional strain affected nurses' mental wellbeing. Specifically, physical fatigue, exhaustion and emotional strain from overwork and nursing patients with poor health outcome associated with AIDS related illnesses.

*"You are facing a situation where you have to work on an empty stomach; and you've got no energy and you are mentally exhausted so productivity definitely decreases and mistakes do happen."* (Operational Nursing Manager.)

*"Death is most distressing, when four people die at the same time, you just feel for nurses because what could be done for these nurses because almost all the time they are working, hoping that they do better for their patients but patients are dying in large numbers."* (Organised Labour.)

*"When it's time for allocation, there is a big fever which starts; nurses become aggressive because they start asking themselves who will be allocated to that department where almost all patients in the ward are dying of AIDS."* (Operational Nursing Manager.)

In addition, Operational Nursing Managers lamented multiple demands placed on them as facility managers. These demands were perceived to be limiting their ability to plan safe patient care interventions as illustrated in the following quote:

*“Multiple responsibilities also cause unsafe care. As managers we are expected to supervise patient care, make sure the environment is conducive to safe patient care, ensure that everybody in the ward is competent, the student gets the clinical learning experience that is also required and all of these are making demands upon a nursing sister who is also accountable for all of this, at times these other demands take priority over patient care”.* (Operational Nursing Manager.)

Furthermore, representatives of organised labour felt that when conducting professional hearings SANC does not take into consideration the circumstances under which nurses work as expressed in the following quote:

*“Nurses are struck off the roll or given suspended sentences by SANC because they did not have the luxury of time to decide on the best option for patient care, in this way patient safety gets compromised and the nurse is reprimanded.”* (Organised Labour.)

### **(c) Work environment demands**

Data revealed a mismatch between the demands for services and institutional capacity. Such a mismatch emerged as a dominant subtheme perceived to be creating conditions that gave rise to practice breakdown. It was apparent that the demands on nurses for high level of acuity within an environment fraught with chronic staff shortages exacerbated the risk for practice breakdown. The following quotes illustrated their views:

*“In fact, the principle of ‘you never leave the patient alone in labour’ does not work here; you do leave them alone because the demand for services is far above the normal nurse patient ratio. We really cannot cope, so while you are busy with one patient the other delivers alone. So all of these consequences at the end of the day,*

*you have to face them because you are being allocated for this specific patient.” (Operational Nursing Manager.)*

*“Sometimes mothers deliver on the chairs while waiting to be attended to. All the midwives were in the cubicles, the patient delivered, the doctor was passing by and she noticed the baby already out with cord around the neck, the baby was swimming in liquor, and we lost that baby. We were just lucky that the mother just accepted that her baby had died and did not do anything about it.” (Operational Nursing Manager.)*

In addition, the Operational Nursing Managers felt that changes in the patient referral pathways has seen an increase in the number of patients admitted with consequent overcrowding of the next level of care. This view is expressed in the following quote:

*“We have a lot of referral clinics that send patients to us and we are not coping. Often, our beds are full and sometimes patients would come from referral clinic with foetal distress. Sometimes I’m not able to check the CTG because there is no bed to put the patient. Patients could be left without being monitored for a long time, at times complications do happen.” (Operational Nursing Manager.)*

Furthermore, the upgrading of district health facilities to a regional level without concomitant increase in resourcing for these facilities to enable them to cope with patients requiring specialised nursing care has led to an increase in the number of patients with mental illness admitted to these facilities. The following excerpts from the focus group discussions held with the Operational Nursing Managers support these observations:

*“Initially, it was going to be a 72 hours observation unit, after 72 hours patients were to be referred to mental health care institutions but it does not happen; we end up with these patients staying with us for two weeks, or even a month At times they are kept in the same ward as patients with medical or surgical conditions.” (Operational Nursing Manager.)*

*“On this day one of the patients tried to reach the trolley and help himself to medication while the nurse was attending to this other patient. The nurse quickly closed the medicine trolley hitting the patient’s arm who was almost reaching for medication. The patient sustained a cut and started hitting the nurse back. We had to call security and the patient was restrained. ....We really have problems with the psychiatric patients that stay in medical wards more than 72 hours.”* (Operational Nursing Manager.)

The following statement from an Operational Nursing Manager explains the issues relating to admission of patients with mental illness to hospitals recently upgraded from district to regional status:

*“Although the hospital is designed to be a district hospital, it has been extended to offer both district level and regional level care and with that decision it meant that we can now admit patients with mental illnesses now that the hospital is upgraded. There was no infrastructure, like suitable wards for the mentally ill. There was no consideration of human resources necessary to nurse patients with mental illnesses. We have serious problems.”* (Operational Nursing Manager.)

#### **(d) Workplace culture regarding safety**

It was noted that the workplace culture regarding safety was to look for an individual to be blamed in instances of reported adverse events. Respondents from all three groups agreed that when errors did occur they were usually attributed to either individual carelessness or incompetence. Consequently, these were often judged very harshly and often lead to public humiliation. This culture of blaming and humiliating the individual was perceived to be a factor causing fear of reporting any incidents irrespective of severity, invariably creating conditions for recurrence of practice errors. The following excerpts from the Operational Nursing Managers illustrate this point:

*“We have been socialised into viewing incidents as individual fault rather than systems flaws and when events happen where an*

*incident nearly happens these events are not viewed as useful experiences going forward.” (Operational Nursing Manager.)*

*“When minor things happens one just thank your lucky stars that the patient was not harmed. But you dare not report in case you are accused of carelessness anyway.” (Operational Nursing Manager.)*

*“No matter what effort you put, working in an environment where there is not enough resources, you go all the way to make ends meet, at the end of the day no one appreciates. Instead little mistakes like doing procedures but not charting gets blown out of proportion. Not that it should be condoned.” (Operational Nursing Manager.)*

#### **(e) Management support**

Operational Nursing Managers perceived management as not sensitive to work pressures under which the frontline nurses have to work. Their views were captured in the following statements:

*“Maybe I’m also sick, so it becomes a situation where a patient is treating another patient. At times there is not even a chance for you to report your own sickness to the matron in charge.” (Operational Nursing Manager.)*

*“The way nurses work hard, under pressure, we admit it’s part of our duty. You know before, we used to have some sugar and tea bags on duty so that if you miss your tea break because of problems of staff shortage, one was able to have a cup of tea on duty and continue with work, but now, you can come on duty, mostly at seven o’clock and be busy till late afternoon without any break and management is not doing anything about it.” (Operational Nursing Manager.)*

*“No matter how much one puts, working in an environment where there is not enough resources, you go all the way to make ends*

*meet, at the end of the day no one appreciates.”* (Operational Nursing Manager.)

*“You know, previously the employer used to provide a sick parade for nurses within the institution, but now if you are sick you have to consult your own doctor in most times outside your place of work.”*  
(Operational Nursing Manager.)

#### **4.2.2.2 Organisation and management of care**

In addition to organisation of services data suggested that the primary systemic origins of latent failures are the decisions taken by line management in their quest for executing their managerial functions. However, it became apparent that in some instances managers experienced interference from executive management in the way they should manage their staff, specifically on instances relating to transfer of staff, staff rotation and promotions. Invariably, fallible decisions which created weaknesses in the health system were made which gave rise to latent failures. Each of these factors is presented in turn.

##### **(a) Workforce organisation of care plans**

Decisions relating to workforce organisation of care plans emerged as the main theme regarding the degree to which managerial decisions contribute to latent failures. These include: (a) resources allocation; (b) staffing patterns and workload management; (c) management of patient flow; teamwork work processes; and (d) procurement and maintenance of equipment. Each of these subcategories is described in turn.

##### **(i) Resources allocation**

During focus group discussions Operational Nursing Managers and representatives of organised labour cited poor resourcing of the health sector as a primary precursor for latent failures that compromise quality of care provided by the nurses. These managers cited poor financing of the health sector with subsequent poor staffing, inadequate equipment and lack of staff development opportunities for nurses as the dominant blunt end factors that acted as antecedents for latent failures within the health system. Their views were evident in the following quotes:



*“You find that the department freezes vacant posts simply because there is no budget for filling these posts. As a result, nurses are overloaded with work and therefore are not able to perform their work well and land up being subjected to disciplinary action by the Council.”* (Organised Labour.)

*“Even if you motivate for staff in line with guidelines the process is so cumbersome. You have to motivate for existing posts because now province talks about filling in critical positions only.”* (Operational Nursing Manager.)

*“We had to close some theatres and turn patients back to the wards because we do not have basic things such as lifesaving oxygen and surgical gloves and the suppliers refuse to process any new orders until long outstanding payment is made.”* (Operational Nursing Manager.)

## **(ii) Staffing patterns and workload management**

Workload management is guided by certain principles including the volume of work assigned to an individual and the professional skills required for the particular task amongst others. Excessive workload allocated to individual nurses coupled with increased demand for nursing care in high demand nursing environments emerged as a major subtheme as is evident from the following lamentations:

*“If you go to one department, you can discover that there is no nurse patient ratio, standard norms, patient ratio, cannot really cope, so you end up with this one, this one delivers alone. There are no standard norms – like in our labour ward, one midwife can be responsible for more than four patients at a time, of which you don’t know what is happening behind you.”* (Operational Nursing Manager.)

*“Nursing can be unsafe when you are expected to perform the duties, maybe of five people and you are the only one then it can become unsafe. Because you can’t be competent performing the work of so many people and you are the only one.”* (Operational Nursing Manager.)

In addition shift patterns were yet another subtheme emanating from managerial decisions that created latent failures contributing to practice breakdown. For instance, a practice like staff rotation which was intended to ensure continuous competencies in all areas was perceived to be a risk factor in times of chronic staff shortages. Operational Nursing Managers felt that knowledge based errors could occur easily when a nurse is floated to units with patients who have conditions that are unfamiliar to a nurse. In their view, keeping nurses in one place could be one way of dealing with staff shortages because working in one area nurses would be able to contain the demands of a specific area and improve patient safety. This view was well articulated in the following excerpt:

*“You know staff rotation is making the problem worse because although you try to teach people some of the skills that they do not have, by the time they master the new skill they are moved to other wards.”* (Operational Nursing Manager.)

### **(iii) Management of patient flow**

Operational Nursing Managers viewed the system for management of patient flow as problematic. Data indicated that in a mixed-division ward such as a ward containing patients belonging to different divisions, rule-based errors happened more frequently than in a single-division ward as expressed in the following excerpt:

*“You are nursing a TB patient together with sick children in cases of lawsuit; and when the parents or relatives of children sue the hospital for cross infection, it is the nurse who did not observe aseptic technique rather than mixing patients with TB with children.”* (Operational Nursing Manager.)

In addition, one of the managers gave an account of how overcrowding had given rise to a situation where patient admission was determined by availability of space rather than the nature of presenting illnesses. This view was expressed in the following quote:

*“The bed state as we all know is 25. Sometimes we end up with 47 or 50 patients, so there’s no total nursing care to that patient, cross infection is high, and you end up not knowing your patients. For*

*instance we do not know all the patients whether they are mentally ill or have a medical problem because of overcrowding and mixing of patients.” (Operational Nursing Manager.)*

#### **(iv) Teamwork processes**

Teamwork processes was yet another subtheme that featured prominently during the interviews which emanated from managerial decisions and was seen to be affecting continuity of care adversely. Lack of cooperation between the health care team, low staff morale and resistance to change were identified as related subthemes. The following statements capture these views.

*“Often you find that people are not prepared to cooperate, they don’t want the change; they want things to remain the same and you have to motivate why things should be changed for betterment of patient care. It’s quite difficult and you have to keep on explaining.” (Operational Nursing Manager.)*

*“We are all aware of infection control, nurses take hygiene seriously; the doctors get away with unsafe working acts. They know all about infection control policies but they are not interested. Instead they show a very passive attitude towards infection control. As a result they end up mixing TB patients with cold medical cases or even with orthopaedic patients and you get cross infection and poor nursing outcomes.” (Operational Nursing Manager.)*

*“You get a prescription with no signature, no dosage, how does one move forward with an illegible prescription. When you raise it with the senior doctor he said oh shame my colleagues must have been drowsy after a long night.” (Operational Nursing Manager.)*

#### **(v) Procurement and maintenance of equipment**

With regards to the procurement and maintenance of equipment Operational Nursing Managers lamented institutional bottlenecks to procurement procedures for acquisition and repairs of material resources required for safe patient care. In their

view the process was perceived to be cumbersome and inefficient. All these factors were perceived as creating conditions for latent failures within the health system.

*“Even the whole maintenance procedure in terms of turn-around time is slow and when the maintenance staff finally comes, some of them are not competent to do what is expected of them. One patient fell out through the broken window and fractured a hip. Yet the requisition for fixing the broken windows was done a long time ago with no response from maintenance.”* (Operational Nursing Manager.)

*“Often we do not have the necessary tools like equipment necessary for monitoring patients who are in labour. There was a time where only one fetoscope was used to monitor foetal heart rate because tachographs were not available the order was placed with the district office for a long time.”* (Operational Nursing Manager.)

*“Doing operations where the air conditioner is out of order, working in operating theatres and there was a situation where the air-conditioning system was not working for quite some time. Slates of booked cases had to be cancelled. This compromised patient care.”* (Operational Nursing Manager.)

### **(b) Nurses as frontline providers of patient care**

Nurses described as ‘the managed’ by the model represents the third element of the factors in the corporate environment regarded as key in error causation. ‘Human factor’ relates to the involvement of a human being in error causation. Nurse practitioners emerged as a main human factor playing a key role in the area of error causation. Data revealed that the human factor directly or indirectly influenced the way nurses behaved, responded, reacted and performed within the health setting. It was apparent that what nurses did or failed to do gave rise to a range of unsafe acts that led to active failures.

Consequent outcomes of unintended actions could either be slips associated with paying insufficient attention or lapses which are related to memory failure. It was apparent that slips and or lapses resulted from failure in execution regardless of

whether or not the plan which guided them was adequate or not in the achievement of the objectives. On the other hand all mistakes were rule based or emanated from lack of knowledge of a relevant rule resulting in action or lack of action. Yet, violations were seen to be related to deliberate transgression of practice standards and ethical codes for nurses. Each of these is presented in turn.

### **(i) Unintended acts committed by nurses as frontline providers of patient care**

A range of factors that influence the execution of both clinical and administrative tasks emerged as affecting nurses as individuals involved in direct patient care. Including:

- (i) knowledge, skills and competencies required for the task;
- (ii) ability to make clinical judgments;
- (iii) failure to provide adequate basic nursing care to patients;
- (iv) communication between health professionals; and
- (v) inadequate patient safety measures.

### ***Knowledge skills and competencies***

Data indicated that both knowledge-based and skills-based related errors were dominant causes of practice breakdown. Frontline nurse's inability to apply basic rules while executing basic nursing procedures emerged as recurrent subthemes that gave rise to practice breakdown as evident in the following excerpts:

*"I know of a case where a nurse accidentally burnt a baby, she did not check the temperature of water. She just placed the baby in the basin and the baby sustained extensive burns."* (Operational Nursing Manager.)

*"Events are common in theatre where patients will come without proper consent, not operated but turned back to the ward until people know exactly what side requires operation."* (Operational Nursing Manager.)

Knowledge based errors were common. It was apparent that these errors were more frequent in instances where newly qualified nurses or inexperienced nurses were

allocated to high-pressured wards. This perception is captured in the following excerpt:

*“Nursing becomes unsafe when you don’t have knowledge, skill or competency required of that category. Like somebody who is not trained to give injection and uses the wrong site for injection.”*  
(Operational Nursing Manager.)

Furthermore, lack of experience and doing tasks beyond one’s scope of practice also emerged as a subtheme that contributed to knowledge based mistakes as some of them lamented:

*In a clinic situation an enrolled nurse did an ear syringe to a patient, the patient later experienced pains, only to find later that it was pierced eardrum and then when it came to management, the nurse was charged because she was not trained to do that and person in charge of the clinic (Registered Nurse) was also charged because she did not do direct supervision. Both got suspended sentence though I’m not sure for how long.”* (Operational Nursing Manager.)

### ***Ability to make clinical judgments***

In clinical care there are activities in which the degree of professional proficiency is very high and the potential consequences for deviation from high standards becomes a major determinant of health outcomes for the patient. Failure to do nursing assessment and evaluation of patient status emerged as a subtheme responsible for knowledge based errors that gave rise to active failures committed by nurse. Such failures were perceived to be a major factor in the determination of patient outcomes. The following excerpts depicted their views:

*“The sister examined the patient, took the vital signs, tested the urine and listened to the foetal heart. She did not hear the foetal heart and thought it was because the foetus was lying in a position which was not easy for her to hear the foetal heart. The patient had profuse vaginal discharge. There were no contractions. She didn’t record. The patient told her that she was having labour pains. The sister told the patient that the pains were because of the infection – it*

*was not labour pains. In her view patient appeared to be normal and was not walking as if she had any pain. The patient was sent home and ended up delivering at a taxi rank.” (Operational Nursing Manager.)*

*“One morning during bed bath time. The patient was noticed by the nurse that she has not had a bath and had wet herself. She was instructed to take a bath. She walked to the bathroom reluctantly and she said she was feeling weak. The nurse did not realise that the patient had just had a dose of her medication for depression. The patient was discovered by the general assistant in a bath with face and body under hot running water and the legs hanging over across the bath already dead.” (Operational Nursing Manager.)*

It was evident that in instances where principles of patient safety during medication administration were not observed, practice errors became rife as evident from the following excerpts:

*“When the patient was discharged, the pharmacist dispensed wrong medication and the nurse in the ward just dispensed the treatment to the patient without double checking. The patient was recovering very well in the ward; and at home the patient’s condition deteriorated and the relatives were clever enough to detect why she is now deteriorating while she was doing well in the hospital. They checked the medication, they went back to the hospital, they checked medication and compared; it was somebody else’s treatment.” (Operational Nursing Manager.)*

### **Failure to provide adequate basic nursing care to patients**

Unprofessional conduct involving failure to provide basic nursing care to patients in their care emerged as a common type of unintended act committed by nurses. The study observed that this was common, particularly in situations where there is high demand for nursing care. Omission of prescribed treatments or observation of vital signs regarded as critical in the determination of patient outcomes were the main issues here, as is evident in the following quotes:

*“A baby lost a limb following a drip that infiltrated into the tissues. The IV apparently was inserted into the tissues and nobody noticed until the mother brought it to the attention of a nurse. The baby ended up losing a limb. So it became a court case and the family wanted compensation of about seven million rands.”* (PCC member.)

### **Communication patterns between health professionals**

Inadequate communication between health professionals emerged as a dominant subtheme that gave rise to active failures. Specifically, communication as it related to handing over patient’s care plan from one health professional to the other. Participants felt that paucity of communication patterns both verbal and written created conditions for active failures. The following quotes illustrate their views:

*“Upon handing over the nurses were not informed that there was a missing patient. Two days later the relatives came to visit the patient. Nurses thought the patient was discharged. Relatives confirmed that she was not at home. That patient was never found.”* (Operational Nursing Manager.)

Written communication entails documentation of all nursing assessments and interventions timely and accurately. Data revealed a number of lapses emanating from inadequate documentation following interventions made by nurses. This included incomplete recording of patient reports on routine observations, or treatments administered not documented in patient charts. In addition nurses’ inability to cope with the increased demand in high pressure areas emerged as a direct precursor for lapses to occur. The following except illustrates this point.

*“The night sister confirmed that the patient called for help from the toilet as he could not walk. Yet nothing was documented. Patient continues complaining of severe pain. Subsequent X ray revealed fractured hip.”* (Operational Nursing Manager.)

*“Sometimes it becomes very busy in ward. Some of the patients are being neglected because you cannot reach all patients. Omission of treatments happens. It’s either you don’t give medication because you are busy or you give medication but you don’t record. Report*



*writing – you write a report and leave the critical things that were happening in the ward.” (Operational Nursing Manager.)*

*“After the operation she counted her instruments and noticed that a forceps was missing. However, she thought she would give a report and make sure that the tray was marked that one of the forceps were missing. In the haste of things the next morning she went off without noting that the tray was incomplete. A few months later a patient had an acute abdomen and when he was opened a small forceps was found in his abdomen.” (Operational Nursing Manager.)*

Furthermore, incorrect patient identification also emerged as a common subtheme limiting communication between health care professionals thus giving rise to lapses as causes of errors. This was evident in the following quotes:

*“I know of incidences, where upon discharge, a nurse wrote female baby instead of a boy in the patient discharge card. When this person tried to access child support grant, they discovered that the child’s gender was recorded as male instead of a female. The parent was accused of stealing a patient card that belong to someone else.” (Operational Nursing Manager.)*

*“Two patients both with the same surname, one was T and one was J. One was booked for urology procedure and the other one was booked for maxilla facial procedure. The urology patient was placed on the theatre table and put under anaesthesia and as the surgeon was about to start to operate, he noticed that there was nothing wrong with the patient’s teeth.” (Operational Nursing Manager.)*

### ***Inadequate precautionary measures to ensure patient safety***

Competency in nursing also involves protecting patients from any harm. Nurses are expected to anticipate sources of patient injury and implement measures to prevent them. In instances where a nurse failed to take necessary precautionary measures to ensure patient safety, active failures became a common occurrence. It would appear that elderly patients, psychiatric patients, young children and patients who had sustained fractures were more prone to suffer consequences of active failures committed by nurses. This observation is evident from the following accounts given by some of the participants:

*“Apparently a patient with a fractured arm asked if he could use a bedpan, the nurse reminded the patient that he had a fracture in the arm and not the leg and therefore should be able to go to the toilet. As he was trying to get out of bed to go to the toilet, he fell down and sustained a fracture on the ankle.”* (Organised Labour.)

*“I was on night duty, working in antenatal/post natal wards, there are only two units in the ward with 36 beds, shared by mothers and babies, antenatal patients, postnatal mothers and babies. Just before we start our morning routine, we always inform mothers not to sit with baby on the bed. The baby was given to the mother to feed and must give the baby back. While we were busy, just before the routine starts, mother fell asleep, we heard a loud sound, as we went there, and the baby had fallen.”* (Operational Nursing Manager.)

*“Following an eye operation the patient fell out of bed and sustained a fracture of the arm while trying to get out of bed to go take a morning bath.”* (Operational Nursing Manager.)

It is common practice to ensure that bedside rails are in place, in cases where there is danger of patients falling out of bed. The following instance illustrates how failure to ensure patient safety in such case can lead to injury to patients.

*Following an eye operation, the patient fell out of bed and sustained a fracture of the arm while trying to get out of bed to go to take a morning bath.” (Operational Nursing Manager.)*

Slipping from the bathroom floors was yet another common incident that emanated from failure to ensure patient safety cited by the Operational Nursing Managers. The slips were often associated with the age of the patient with elderly patients being more prone to slipping on bathroom floors. In addition patients with mental illnesses were also at risk as highlighted in the following incident:

*“An elderly male patient went to take a bath on his own. He was discharged and was getting ready to go home. While getting out of the bath tub he slipped and lied on the floor helplessly. He was seen by the cleaner who called the nurses. The patient could not walk and had severe pain. He had sustained a fracture on the hip.” (Operational Nursing Manager.)*

In addition, drowning in hot water was yet another common incident amongst elderly patients. Burns were common amongst very young and while patients with mental illnesses were prone to abscond. The following incident demonstrates this view.

*“I know of a case where a nurse accidentally burnt a baby, she did not check the temperature of water. She just placed the baby in the basin and the baby was burnt.” (PCC member.)*

In a particular instance, in a mental health facility, using utensils at meal times proved to be a source of harm to others as indicated in the following quote:

*“I am thinking about a particular incident that occurred, where a psychiatric patient cut herself deeply and was bleeding but not due to negligence of the nursing staff because of the environment; all the correct nursing measures had been taken. That was not reported, they were not directly involved and was not reported. The nursing staff were not negligent but at the end of the day the patient’s safety was compromised; but no report.” (Operational Nursing Manager.)*

## **(ii) Intentional acts committed by nurses**

Violation of practice standards relates to deliberate deviation from defined rules for safe and approved method of performing a particular task and is associated with intended causes of practice errors. Data revealed that this type of error arose in instances where procedures and standards of care are deliberately ignored thus exposing patients to unsafe nursing care.

Ex members of the PCC of the previous SANC gave accounts of the nature and type of violation committed by nurses in the line of duty. They described a typical case as a critical incident that was subjected to a professional conduct enquiry during their term of office including SANCTIONS given following a determination made by the members of the PCC. These fell into two broad categories, namely:

- (i) fraud and forgery; and
- (ii) abusive behavior towards patients.

### ***Fraud and forgery***

The results of this study reveal that charges of fraud forgery were associated with alteration of patients' records in order to use therapeutic interventions prescribed for patients for personal gain.

*“A registered nurse was disciplined for falsifying blood request slips by labeling specimen with fictitious patient numbers and recording in patient specimen book.” (PCC member.)*

*“A nurse has a mother who was diabetic and insulin dependent. She was working in a medical ward and her mother had run out of her insulin supply. Out of good will she used the chart of a patient who was on the same insulin to forge a doctor's signature and collected the insulin for her mother. She then left the chart with false doctor's signature in the duty room only to be found by the doctor herself.” (PCC member.)*

*“While feeling sorry for the baby who had extensive burns the nurse decided to give the baby a muscle relaxant without doctor's prescription to help the baby relax while the nurse was dressing her*

*burns, before doing dressing, although it was no longer in the prescription.” (PCC member.)*

*“in another case of a Registered Nurse, who was charging patient for a service like termination of unwanted pregnancy, a service which is offered free of charge in public health facilities.” (Operational Nursing Manager.)*

### **Abusive behavior towards patients**

According to this study physical and sexual assault of patients were the common forms of violation of patients' rights committed by nurses as highlighted in the following quotes.

*“A registered male nurse assaulted a psychiatric patient following a fight for cigarettes. The patient sustained injury in the eye (PCC member.)*

*“There was a case of sexual assault of a young girl with down's syndrome by a male nurse. Apparently it was witnessed by a female patient who reported the matter to the night nurse. The doctor was called and sexual assault was confirmed on examination.” (PCC member.)*

*“A very serious one. It was abuse between patient and staff. I was in charge of the hospital at that stage and I just followed the policy, of the institution on dealing with sexual abuse. I followed the policy and just called in the matron. She managed the whole incident and we called the police, got evidence that she was sexually abused and the police picked up the perpetrator and the child went for forensic investigations and things. We did all the documents, J88 was filled and the perpetrator was found guilty and charged. The perpetrator was a nurse. The patient was counseled and had to get a lot of psychological assistance. Because of the seriousness of abuse SANC was informed and the nurse was also found guilty by the Council who removed his name from the roll.” (PCC member.)*

### **4.3 CURRENT PRACTICES IN THE MANAGEMENT OF PRACTICE BREAKDOWN**

Error management relates to responses to adverse events including error identification, reporting or disclosure within the health system. Data revealed a number of strategies used in response to practice errors. Practices identified from data included: (a) covering up; (b) management by conducting an internal enquiry; and (c) management by conducting an enquiry through an external agency. Each of the error management strategies and consequences are presented in turn.

#### **4.3.1 Error management by covering up**

Management of error through covering up the incident emerged as a common approach to management of errors that did not give rise to harm to patients. When asked about how the incidents were managed, it became apparent that although nurses are encouraged to report all incidents there was a tendency not to report incidents that did not give rise to physical harm to the patient as reflected in the following excerpts:

*“Another incident we had is misidentification of patients. Two patients with same surname, one was T and one was J. One was for urology procedure and the other one was a maxilla facial. The urology patient was placed on the theatre table and put under anaesthesia and as the surgeon was starting to operate, he noticed that there was nothing wrong with the patient’s teeth. The paper work at the ward level was correct but it was a wrong patient. They checked the records and not the patient. Nothing was done because there was no major event. We were lucky because the surgeon said, ‘hang on, these teeth are too good to need any operation’. The anaesthetist had to reverse the patient and the patient was taken back to the ward.”* (Operational Nursing Manager.)

Operational managers gave accounts of how the reported incidents were managed. These accounts reflected that in instances where adverse events were not reported, latent causes of practice breakdown were never discovered. Thus opportunities for learning were missed.

*“There was a patient that was to be done caesarean section, out of 3 one of them had to go to theatre, so there were two left, there was a patient who came in fully dilated and we were busy delivering these two and she delivered in the toilet, in the pan. Fortunately the baby was ok, so there was no major incident.”* (Operational Nursing Manager.)

*“A patient delivered alone in the toilet. She insisted on going to the toilet although she was quite advanced. As I was busy in the cubicle I was called by another patient who told me that someone had delivered in the toilet. I rushed there cut the cord took the baby for suctioning and gave her oxygen. The doctor was informed and she ordered X ray for the baby. Thank God the baby was ok. And nothing was done.”* (Operational Nursing Manager.)

*“A common occurrence is when patient get burnt while trying to take a bath. In these cases statements are taken from nurses on duty and the matter is reported to management. I’m not aware of nurse getting charged for that.”* (Operational Nursing Manager.)

In addition, data revealed that patients’ level of awareness of their rights was also a determinant on how incidents were managed. Incidents not recognised by patients as errors were likely to be covered up by the nurse instead of being reported as reflected in the following statements:

*“Sometimes they do deliver on the chairs because while waiting for free bed.... all midwives were busy in the cubicles, the patient delivered on her own, the doctor was passing by and she noticed the baby already out with cord around the neck, the baby was swimming in liquid; we lost that baby. We were just lucky that the mother just accepted that her baby had died and did not do anything about it.”* (Operational Nursing Manager.)

*“Patients developing bedsores while in our care. It’s a very common occurrence though it’s a reflection on the type of nursing care that is*

*being provided it is not addressed as an adverse event because nothing is done about it.” (Operational Nursing Manager.)*

Furthermore, it would appear that line managers who are not confident with taking disciplinary measures where indicated, tended to sweep adverse events under the carpet. Yet those who have difficulty in engaging the unions on matters of practice breakdown tended to have role conflict as reflected in the following quotes:

*“When you are a manager you are in a dilemma because this is the patient and then this is the nurse and maybe if the nurse is disciplined or you report a case to the Council, this person will be exposed and we don’t want that embarrassment to happen to the nurse because you feel for her but again it is the patient’s right that’s been infringed so you are just in a dilemma trying to make the patient understand on one hand and protecting the integrity of a good nurse on the other hand.” (Operational Nursing Manager.)*

*“There are about four unions, you find yourself dealing with cases from different unions, if you ask a nurse to write a statement following an incident she would have to consult and get an opinion of her union rep. This happens so often with the various union reps in our institution that you find yourself having to manage relations with the unions instead of patient care. You know nurses are paying for these unions and expect protection from them even if they deserve to be disciplined.” (Operational Nursing Manager.)*

*“The unions do not look at the act of the nurse as you are actually doing the service they support the nurse even if she has done the wrong thing. That is where we get lost as managers and this is why there is always tension between managers and the unions.” (Operational Nursing Manager.)*



### **4.3.2 Error Management by conducting internal enquiries**

Following a reported incident data revealed that management would take one of two courses of action. Either conduct an internal investigation or report the matter to an external agency such as SANC or the Commission for Conciliation Mediation and Arbitration (CCMA). However, it was noted that the institutions followed similar protocol in managing reported incidents. Specifically, all incidents that affecting smooth running of the hospital and could have a detrimental effects to patients are to be reported to the departmental supervisor. The various routes for managing reported incidents are presented.

#### **(a) Superficial investigations**

Data revealed that conducting superficial investigations was regarded as a dominant approach for managing adverse events internally. It was apparent that in instances where investigations were conducted following reported cases of adverse events, interventions instituted were directed at an individual nurse with no regard to contextual factors contributing to practice breakdown. Consequently the underlying environment that gave rise to the problem remained unchanged. In this regard, data revealed a variety of interventions that were instituted following reported cases of adverse events. These included punishing nurses found guilty and /or running in-service training sessions for nurses involved in adverse events thereby bridging identified skills gaps. This was evident in the following quotes:

*“There is a system for managing adverse events internally. It starts at a ward level. It depends on the severity of the offence. We sit down with the person, discuss the issue, and make her aware of the offence. If it reflects lack of skill or incompetency, in service training is given and corrective measures that had been taken are recorded.”*  
(Operational Nursing Manager.)

*“...Everyone should know what has happened so that they appreciate the need to be competent on all procedures common in your ward. It is a common practice. We keep a record of all in service training done in the ward. After sometime we review whether the nurse is*

*performing better/whether the student nurse is able to do intake and output. The situation is monitored.” (Operational Nursing Manager.)*

*“There was one registered nurse working and she was in charge of three wards. No she was in charge of one ward but she had to oversee two other wards during the night. A patient on ARV’s didn’t get the medication, during the night she was alone, working with the ENA. The patient reported her to the day staff and the nurse was asked to fill in a misconduct form.” (Operational Nursing Manager.)*

It would seem like in instances where a patient was harmed following an adverse event, reporting the nurse to SANC was a dominant strategy for management of adverse events as illustrated in the following quotes:

*“While the night staff was trying to put the patient back to bed, the patient started gasping. The doctor was called for resuscitation with failure. The patient died. Apparently the sister had not called the doctor despite the patient being admitted during the afternoon as an emergency. The nurse was dismissed by the employer and the matter was reported to SANC.” (Operational Nursing Manager.)*

*“I know of a case where a child was burnt in the pediatric ward, it was a staff nurse who did not check the temperature of the water before putting the baby in the bath. I know the matter was reported to Council and she was suspended for two years so she had to stay at home.” (Operational Nursing Manager.)*

In addition, reporting the matter to police emerged as a dominant strategy for dealing with deaths following an adverse event. This was evident in the following excerpts:

*“A patient went missing in the ward during the night and was found hanging on a tree in the morning. The matter was reported to the police.” (Operational Nursing Manager.)*

*“One morning during bed bath time. The patient was noticed by the nurse that she has not had a bath and had wet herself. The patient was instructed to take a bath. She walked to the bathroom reluctantly*

*and told the nurse that she was feeling weak. The patient was discovered by the general assistant in a bath with her face and body under hot running water and the already dead. All nurses that were on duty were asked to write a statement and the matter was reported to the police and relatives were informed.”* (Operational Nursing Manager.)

*“My other experience was when a patient fell from the third floor through the window. Nurses who were on duty had to write statements and the case was treated like any deaths that become a police cases.”* (Operational Nursing Manager.)

### **(b) Full investigation**

In addition, it was noted that in some selected sections like in paediatric and psychiatric departments full investigations were conducted. It would seem like conducting a full investigation provided management the opportunity to get to the root cause of the adverse event thereby allowing management to draw critical lessons from the incident for use in management of or prevention of similar incidents as reflected in the following quotes:

*“We do clinical audits. Normally the sister that is on duty, we do have a format that we use in psychiatry, quite in depth, clinical audit team is made of a multi disciplinary team. Each incident is discussed and we look at whether management at that time was correct; the correct protocol was followed; the alternatives explored and correct measures taken. At times it is implemented often a lot of corrective measures are those that management supposed to take, we have no control over that. From the nursing point of view; if there are corrective measures from our field, it is done.”* (Operational Nursing Manager.)

*“In O&G we have perinatal meetings where some of these cases are discussed so that we can identify gaps where appropriate and develop plans for managing those problems.”* (Operational Nursing Manager.)

*The nurse was asked to fill in an incident form. The case was then analysed by the committee and it became clear that the root cause of failure to give prescribed medication was due to poor staffing as she was the only Registered Nurse doing the night shift. Though the short term solution was to place a relief nurse in the ward, follow up on unfilled post was also done.” (Operational Nursing Manager.)*

Figure 5 is a schematic representation of the causes and consequences of practice breakdown, arising from the data and analysis of this study.



**4.4 CONDITIONS NECESSARY FOR EFFECTIVE MANAGEMENT OF PRACTICE BREAKDOWN**

This section of the results focused on identifying conditions requisite for the integrated management of practice breakdown in nursing. Specifically, conditions in both the external and the corporate environments. In addition, strategies for active management of practice breakdown and the desired outcome of an integrated approach in the management of practice breakdown are presented.

**4.4.1 The external environment**

The external environment domain of the questionnaire consisted of nine items. On the whole, respondents agreed that certain aspects of the external environment as measured in this study were necessary conditions with respect to ensuring effective management of practice breakdown in nursing. Mean scores for the external environment items were high, ranging from 4.55 (SD = .44) to 5.00 (SD = .00); with the total mean score at 4.60 (SD = .45). This data appears in Table 8 below.

**Table 8: Overall mean scores on the conditions in the External Environment.**

GROUP	N	Mean	Std. Deviation
PCC	10	4.88	.27
Unions	8	5.00	.00
Victims	46	4.67	.52
Managers	208	4.55	.44
<b>Total</b>	<b>272</b>	<b>4.60</b>	<b>.45</b>

Between group differences on total mean scores were significant at  $F = 4.84, p < .05$ . See Table 9. Post hoc analysis using the Bonferroni test revealed that these differences existed only between unions and managers. See Annexure 7.

**Table 9: Variations between groups - External Environment.**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.845	3	.948	4.844	.003
Within Groups	52.471	268	.196		
Total	55.316	271			

Data on analysis of variance in the mean scores between groups on the individual items that constituted the measure for conditions within the external environment regarded as necessary for effective management of practice breakdown appears in Table 10 below. Significant differences between groups were found on four items, that is: (a) need for adequate resources for health ( $F = 2.80$ ;  $p < .05$ ); (b) need for an expanded SANC role on matters of patient safety to include work environment issues ( $F = 5.17$ ,  $p < .05$ ); (c) need for SANC to provide leadership and advocacy for management of practice errors ( $F = 4.27$ ,  $p < .05$ ); and (d) need for congruency between national retention incentive schemes and nursing workplace demands ( $F = 3.53$ ,  $p < .05$ ).

**Table 10: Variations between groups on - External Environment.**

Necessary Conditions	Groups	Mean	Std Deviation	Df	F	Sig
Adequate resources for health services.	PCC	4.70	4.83	3	2.80	.041
	Unions	5.00	.00			
	Victims	4.59	.86			
	Managers	4.29	1.00			
An expanded SANC role on matters of patient safety to include work environment issues.	PCC	4.80	.42	3	5.17	.002
	Unions	5.00	.00			
	Victims	4.67	.60			
	Managers	4.38	.70			
SANC to provide leadership and advocacy for management of	PCC	5.00	.00	3	4.27	.006
	Unions	5.00	.00			

practice errors.	Victims	4.65	.71			
	Managers	4.49	.61			
SANC to set up programmes for ensuring continuous competency for nurses.	PCC	4.90	.32	3	1.30	.276
	Unions	5.00	.00			
	Victims	4.63	.65			
	Managers	4.67	.63			
Nursing curriculum to address the disease profile of patients presenting to health care facilities.	PCC	4.90	.32	3	2.17	.092
	Unions	5.00	.00			
	Victims	4.70	.51			
	Managers	4.63	.53			
Alignment of the structure and the duration of pre-licensing professional nurse training programmes to clinical skills required for professional practice.	PCC	4.90	.32	3	2.30	.078
	Unions	5.00	.00			
	Victims	4.57	.83			
	Managers	4.52	.65			
Nursing programmes should prepare nurses adequately to cope with changing disease profile.	PCC	4.90	.32	3	1.41	.240
	Unions	5.00	.00			
	Victims	4.76	.57			
	Managers	4.71	.48			
Production of skilled and knowledgeable nursing workforce with appropriate skills mix and required. numbers for optimal patient care.	PCC	4.90	.32	3	1.11	.347
	Unions	5.00	.00			
	Victims	4.74	.58			
	Managers	4.71	.54			
Congruency between national retention incentive schemes and nursing workplace demands	PCC	4.90	.32	3	3.53	.015
	Unions	5.00	.00			
	Victims	4.73	.54			
	Managers	4.52	.66			

\* The mean difference is significant at the .05 level.

However, post hoc analysis using the Bonferroni test only yielded significant differences on the item relating to the need for an expanded SANC role on matters of



patient safety to include work environment issues. Differences on this item were significant ( $p < .05$ ) between managers and unions, with unions largely agreeing with the need for SANC to assume a much more expanded role on matters of patient safety compared to managers. Annexure 8 shows the Bonferroni analysis results on the external conditions necessary for effective management of practice breakdown.

**4.4.2 The corporate environment**

The scale for the internal environment had four dependent variables. These include: institutional policies and practices; (b) design and management of infrastructure and physical space; (c) management style and nature of decision making; and (d) staff capabilities. Each of these variables had a number of items relating to factors in the corporate environment requisite for effective management of practice breakdown in nursing.

**(a) Institutional policies and practices**

Institutional policies and practices variable had nine items. Overall there was consensus amongst the four groups that key policies and institutional systems are amongst the key predictors of effective management of practice breakdown (see Table 11). Mean scores for institutional policies and practices were high ranging from 4.40 (SD = 48) to 4.99 (SD = 04); with a total mean score at 4.47 (SD = 51).

**Table 11: Overall mean scores on institutional policies and practices requisite for effective management of practice breakdown.**

GROUP	N	Mean	Std. Deviation
PCC	10	4.86	.33
Unions	8	4.99	.04
Victims	46	4.59	.56
Managers	208	4.40	.49
<b>Total</b>	<b>272</b>	<b>4.47</b>	<b>.51</b>

Between groups differences on total mean scores were significant at  $F = 7.240$ , ( $p < 0.001$ ) (See Table 12). Post hoc analysis by means of Bonferroni showed that these differences were between the scores for managers and PCC and managers and

unions. Compared to the PCC group, and unions, the overall mean scores for managers on institutional policies and practices, although generally high, were low. The results of the Bonferroni analysis appear in Annexure 9.

**Table 12: Variations between groups on overall mean scores on institutional policies and practices.**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.228	3	1.743	7.240	.000
Within Groups	64.506	268	.241		
Total	69.733	271			

Data on analysis of variance between groups on individual items measuring the institutional policies and practices necessary for effective management of practice errors within the internal corporate environment are presented in Table 13. Significant difference between groups were found on all items except the item on the need to understand how nurses work and how practice errors happen ( $F = 2.53$ ;  $p < 0.058$ ).

However, post hoc analysis using the Bonferroni statistical test for multiple comparisons yielded significant differences only between groups on acknowledgement that practice errors arise from preventable situations prevailing within the internal environment (Annexure 10). These differences lay between managers and PCC and between managers and unions and between managers and the victims. Managers recorded the lowest mean scores compared to all the other groups on this item although still high at 4.17 (SD = 76).

**Table 13: Variations between groups - institutional policies and practices within the Corporate Environment.**

Necessary conditions	Groups	Mean	SD	Df	F	Sig
Acknowledgement that practice errors arise from preventable situations	PCC	4.80	.422	3	6.131	.000
	Unions	5.00	.000			
	Victims	4.46	.862			
	Managers	4.17	.764			
Visible and active leadership in patient safety issues.	PCC	4.90	.316	3	3.690	.012
	Unions	5.00	.000			
	Victims	4.63	.532			
	Managers	4.50	.591			
Determination of a unified system for reporting and analysis of practice errors.	PCC	4.80	.422	3	4.403	.005
	Unions	5.00	.000			
	Victims	4.68	.518			
	Managers	4.46	.605			
A system for proactive management and regulation of risk factors inherent in health care is in place.	PCC	4.80	.422	3	2.799	.041
	Unions	4.88	.354			
	Victims	4.54	.659			
	Managers	4.40	.670			
Inter-professional learning from errors is encouraged.	PCC	4.80	.422	3	4.101	.007
	Unions	5.00	.000			
	Victims	4.56	.659			
	Managers	4.37	.682			
A culture in which incidents or systems failures can be reported and discussed openly.	PCC	4.90	.316	3	3.494	.016
	Unions	5.00	.000			
	Victims	4.61	.659			
	Managers	4.45	.682			

Necessary conditions	Groups	Mean	SD	Df	F	Sig
A culture where practice errors are seen as consequence of systems issues and not just an individual mistake.	PCC	4.90	316	3	5.763	.001
	Unions	5.00	.000			
	Victims	4.63				
	Managers	4.31				
A culture where nurses are encouraged to report their mistakes without fear of punishment.	PCC	4.90	316	3	2.917	.035
	Unions	5.00	.000			
	Victims	4.63	.741			
	Managers	4.45	.778			
Understanding of how nurses work and how practice errors happen.	PCC	4.90	316	3	2.526	.058
	Unions	5.00	.000			
	Victims	4.59	.805			
	Managers	4.51	.645			

\* The mean difference is significant at the .05 level.

### **(b) Infrastructure and physical space**

With regards to infrastructure and physical spacing four items were measured, including: (a) resource allocation; (b) practices for procurement and maintenance of equipment; (c) physical layout in line with health conditions; and (d) disease profile of patients admitted in a same ward. Overall there was consensus amongst the four groups that infrastructure and physical space were amongst the key factors in effective management of practice breakdown with a total mean score at 4.51 (SD = .69) (see Table 14).

**Table 14: Mean scores on infrastructure and physical space by group.**

GROUP	N	Mean	Std. Deviation
PCC	10	4.38	.56
Unions	8	5.00	.00
Victims	46	4.70	.57
Managers	208	4.45	.72
<b>Total</b>	<b>272</b>	<b>4.51</b>	<b>.69</b>

Between groups differences on total mean scores were significant at  $F = 3.220$ , ( $p < 0.05$ ) (see Table 15). However, after Bonferroni adjustment (Annexure 11), no significant differences were found between groups on overall group means on the variable infrastructure and physical space.

**Table 15: Variations between groups on overall mean scores on infrastructure and physical space.**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.541	3	1.514	3.220	.023
Within Groups	125.987	268	.470		
<b>Total</b>	<b>130.528</b>	<b>271</b>			

Data on the analysis of variance of the mean scores between groups on the four items constituting the infrastructure and physical space necessary for effective management of practice errors in the corporate environment is presented in Table 16 below.

Significant differences between groups were found on three of the five items comprising the infrastructure and physical space subscale. No significant differences were found between groups on two items:

- (a) the role of well-maintained and reliable equipment ( $F = 1.98$ ;  $p > 0.05$ ); and
- (b) choice of wards for admitting patients in line with presenting illness of the patient ( $F = 2.05$ ;  $p > 0.05$ ).

**Table 16: Variation between groups - infrastructure and physical design.**

Condition necessary	Groups	Mean	Std	Df	F	Sig
<b>Efficient systems and processes for resource allocation.</b>	PCC	4.20	.632	3	2.242	.023
	Unions	5.000	.000			
	Victims	4.76	.668			
	Managers	4.41	.797			
<b>Efficient processes for procurement of equipment.</b>	PCC	4.30	.657	3	3.110	.027
	Unions	5.000	.000			
	Victims	4.70	.591			
	Managers	4.40	.836			
<b>Well maintained and reliable equipment.</b>	PCC	4.30	.675	3	1.986	.116
	Unions	5.000	.000			
	Victims	4.70	.662			
	Managers	4.51	.801			
<b>Appropriate ward/facility design for specific groups/types of patients.</b>	PCC	4.60	.516	3	3.663	.013
	Unions	5.000	.000			
	Victims	4.76	.524			
	Managers	4.44	.796			
<b>Patients admitted to wards/units designed for specific patient needs and/or health conditions.</b>	PCC	4.50	.707	3	2.052	.107
	Unions	5.000	.000			
	Victims	4.70	.553			
	Managers	4.50	.750			

However, after Bonferroni adjustment for multiple comparisons significant differences were found on the need for appropriate ward and/or facility design for specific groups of patients. These differences were between managers and victims.

### (c) Management decisions

Overall there was agreement between groups on the importance of the nature of management decision making in effective management of practice breakdown. Mean scores for this variable were high ranging from 4.47 (SD = .47) to 4.98 (SD = .05); with the total mean score at 4.53 (SD = .49). This data is presented in Table 17.

**Table 17: Mean scores on management decisions.**

GROUP	N	Mean	Std. Deviation
PCC	10	4.89	.25
Unions	8	4.98	.05
Victims	45	4.67	.53
Managers	207	4.47	.48
<b>Total</b>	<b>270</b>	<b>4.53</b>	<b>.49</b>

Between group differences on total mean scores were significant at  $F = 6.65$ ,  $p < .05$ . (see Table 18 below). Post hoc data analysis using Bonferroni yielded significant differences between the PCC and managers as well as between managers and unions.

**Table: 18: Variations between groups on overall mean scores on management decisions.**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.492	3	1.497	6.655	.000
Within Groups	59.847	266	.225		
<b>Total</b>	<b>64.339</b>	<b>269</b>			

The management and decision making variable consisted of 13 items. Data emanating from the analysis of variance between groups on the 13 items used to measure management and decision making as necessary conditions for effective management of practice errors is presented on Table 19 below. Perusal of this data

would reveal that significant differences between groups were found on all items except for the item relating to nurse/patient ratio in line with the demand for nursing.

**Table 19: Variation between groups - the nature of management decisions.**

Necessary conditions	Groups	Mean	Std Devia tion	Df	F	Sig
Ensure that patient safety efforts are on an equal footing with finance and resource allocation.	PCC	5.00	.000	3	4.781	.003
	Unions	5.00	.000			
	Victims	4.60	.720			
	Managers	4,38	.743			
Clear performance guidelines relevant to the area of nursing practice.	PCC	4,90	.000	3	4.330	.005
	Unions	5.00	.000			
	Victims	4.67	.522			
	Managers	4.50	.565			
Work allocation aligned with nurses ability to perform.	PCC	5.00	.000	3	3.962	.009
	Unions	5.00	.000			
	Victims	4.69	.596			
	Managers	4.56	.563			
Patient/nurse ratio in line with the demand for nursing care.	PCC	4.90	.316	3	2.038	.109
	Unions	5.00	.000			
	Victims	4.69	.733			
	Managers	4.47	.973			
Employee assistance policies and programmes are in place.	PCC	4.80	.422	3	3.121	.027
	Unions	5.00	.000			
	Victims	4.60	.654			
	Managers	4.49	.565			
Appointment of safety champions for every section of the institution.	PCC	4.80	.422	3	5.184	.002
	Unions	5.00	.000			
	Victims	4.64	.613			
	Managers	4.36	.683			



Necessary conditions	Groups	Mean	Std Devia tion	Df	F	Sig
Reviewing, updating and disseminating clinical policies and procedures to promote and support best practices.	PCC	4.80	.422	3	3.656	.013
	Unions	5.00	.000			
	Victims	4.71	.506			
	Managers	4.55	.508			
Establish an adverse events committee consisting of both senior officials and practitioners.	PCC	4.90	.316	3	3.268	.022
	Unions	5.00	.000			
	Victims	4.64	.645			
	Managers	4.51	.599			
Development of systems and monitoring processes for ensuring that in instances where lessons are identified, the necessary changes are put into practice.	PCC	4.90	.316	3	5.218	.002
	Unions	5.00	.000			
	Victims	4.69	.514			
	Managers	4.43	.603			
Incident reviews to focus on how the incident occurred rather than who is responsible.	PCC	4.90	.316	3	3.966	.009
	Unions	4.88	.354			
	Victims	4.69	.514			
	Managers	4.43	.603			
Analysis of the frequency, type and levels of severity of all incidents and the lessons learned.	PCC	4.90	.316	3	5.190	.002
	Unions	4.88	.354			
	Victims	4.76	.570			
	Managers	4.50	.638			
Ensuring that lessons are shared within and across organisations.	PCC	4.90	.316	3	6.033	.001
	Unions	5.00	.000			
	Victims	4.64	.570			
	Managers	4.45	.580			

Necessary conditions	Groups	Mean	Std Deviation	Df	F	Sig
Allocation of resources that will ensure that corrective actions are taken where gaps are identified.	PCC	4.90	.316	3	3.190	.024
	Unions	5.00	.000			
	Victims	4.69	.557			
	Managers	4.44	.588			

\* The mean difference is significant at the .05 level.

However, post hoc analysis using the Bonferroni test for multiple comparisons yielded significant differences on five of the 13 items; including:

- (i) ensuring that patient safety efforts are on equal footing with finance and resources allocation;
- (ii) appointment of safety champions for every section of the institution;
- (iii) development of systems and monitoring processes for ensuring that in instances where lessons are identified the necessary changes are put into practice;
- (iv) analysis of the frequency, types and levels of severity of all incidents and lessons learned; and
- (v) ensuring that lessons learned are shared across the organisation.

Managers and unions significantly disagreed on the need for:

- (i) appointment of safety champions;
- (ii) analysis of frequency, type and levels of severity of all incidents and lessons learned; and
- (iii) ensuring that lessons are shared within and across the organisation.

Furthermore, differences on the remaining two items were significant between the PCC and managers and between victims and managers. The PCC largely agreed that placing patient safety efforts on an equal footing with finance and resources allocation is a necessary condition for effective management of practice errors, compared to managers. Victims largely agreed with development of systems and monitoring processes for ensuring that in instances where lessons are identified the necessary changes are put into practice, compared to managers.

#### (d) Nurses capabilities

Overall all groups were in agreement that the level of competency of staff involved in clinical care of patients is a factor in the management of practice breakdown. Mean scores on staff capabilities were high for all groups, ranging from 4.66 (SD = .38) to 4.89 (SD = .24); with a total mean score at 4.70 (SD = .38). See Table 20 below.

**Table: 20 Overall mean scores for nurses capabilities.**

GROUP	Mean	N	Std. Deviation
PCC	4.89	10	.24
Unions	4.84	7	.37
Victims	4.80	46	.34
Managers	4.66	208	.39
<b>Total</b>	<b>4.70</b>	<b>271</b>	<b>.38</b>

Although overall the respondents agreed that the level of competency of staff involved in clinical care for patients was a necessary condition in the management of practice breakdown, between group differences on total means scores were significant at  $F = 2.904$ ,  $p < .05$  on ANOVA (see Table 21 below). Nevertheless, post hoc tests showed no significant differences between groups on this variable.

**Table 21: Variations between groups on overall mean scores on nurse capabilities.**

	Sum Squares	of	df	Mean Square	F	Sig.
Between Groups	1.235		3	.412	2.904	.035
Within Groups	37.840		267	.142		
Total	39.074		270			

The subscale measuring staff capabilities consisted of nine items. Data on analysis of variance for individual items on staff capabilities regarded as key in the integrated management of practice breakdown appears in Table 22 below. Significant differences between groups were found on two out of the nine items; namely, the

need for nurses to be skilled in the procedure to be followed when reporting critical incidents ( $F = 3.98$ ;  $p < .05$ ) and the need for continuing professional development on skills and competencies specific to the current job ( $F = 3.69$ ;  $p < .05$ ).

**Table 22: Variation between groups - nurses capabilities.**

Necessary conditions	Groups	Mean	Std Deviation	Df	F	Sig
Nurses are trained in the processes. .and procedure for reporting critical incidents.	PCC	4.90	.316	3	3.987	.008
	Unions	4.71	.488			
	Victims	4.76	.480			
	Managers	4.50	.590			
Continuing professional development in specific job related skills and knowledge.	PCC	4.90	.316	3	3.694	.012
	Unions	4.86	.378			
	Victims	4.78	.417			
	Managers	4.55	.588			
Possess adequate knowledge and skills for patient care responsibilities.	PCC	4.80	.422	3	.421	.738
	Unions	4.86	.378			
	Victims	4.83	.383			
	Managers	4.76	.428			
Be able to make sound clinical judgment.	PCC	4.90	.316	3	.885	.450
	Unions	4.86	.378			
	Victims	4.80	.401			
	Managers	4.73	.455			
Have an understanding of own scope of practice.	PCC	4.90	.316	3	.889	.448
	Unions	4.86	.378			
	Victims	4.82	.387			
	Managers	4.74	.438			
Necessary conditions	Groups	Mean	Std Deviation	Df	F	Sig
Appreciate the	PCC	4.90	.316	3	2.573	.054

significance of continued application of measures designed to ensure patient safety.	Unions	4.86	.378			
	Victims	4.80	.401			
	Managers	4.64	.490			
Understand that accurate documentation following nursing interventions is an integral part of nursing practice.	PCC	4.90	.316	3	1.101	.349
	Unions	4.86	.378			
	Victims	4.85	.363			
	Managers	4.75	.434			
Report all adverse events irrespective of severity.	PCC	4.90	.316	3	1.953	.121
	Unions	4.86	.378			
	Victims	4.78	.417			
	Managers	4.64	.529			
Appreciate the significance of collecting, analysing and learning from all kinds of adverse events.	PCC	4.90	.316	3	2.067	.105
	Unions	5.00	.000			
	Victims	4.72	.502			
	Managers	4.63	.504			

\* The mean difference is significant at the .05 level.

However, post hoc analysis using the Bonferroni statistic test for multiple comparisons showed that there were significant differences between victims and managers on the need to ensure that nurses are trained in the processes and procedures for reporting critical incidents; with managers tending to rate this item lower compared to victims.

#### 4.5 ACTIVE MANAGEMENT OF PRACTICE BREAKDOWN

On the whole respondents in the four groups agreed on the range of strategies, processes and actions requisite for active management of practice breakdown. For all groups, mean scores were high ranging from 4.24 (SD = .33) and 4.55 (SD = .14). This data appears in Table 23.

**Table 23: Active management of practice breakdown mean.**

GROUP	N	Mean	Std. Deviation
PCC	5	104.5	.14
Unions	8	4.45	.19
Victims	46	4.24	.33
Managers	208	4.30	.41
<b>Total</b>	<b>272</b>	<b>4.30</b>	<b>.39</b>

There were no significant differences between groups in terms of the active management score (see Table 24 below). This would indicate that there was general consensus amongst groups on the significance of: (a) drawing a distinction between human error and reckless behaviour and criminal acts; (b) developing process maps for managing all types of incidents irrespective of severity; (c) creation of opportunities for sharing and learning from incidents for the whole institution; (d) following a procedure for reporting the incident to SANC in instances where the Nursing Act has been violated; (e) reporting the incident to both the police and SANC where a criminal act has been committed; (f) if it is a minor incident, the matter be concealed to protect the nurse from undue punishment; (g) that press statements are released to provide the public with as accurate information as possible; (h) and that press statements are made in order to protect the image of the institution.

**Table 24: Variations between groups on overall mean scores on active management of practice breakdown mean scores.**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.000	3	.333	2.251	.083
Within Groups	39.702	268	.148		
Total	40.702	271			

**4.6 DESIRED OUTCOMES OF PRACTICE BREAKDOWN**

The variable desired outcomes consisted of six items. Group mean scores for this variable were high ranging from 4.57 (SD = .45) to 5.00 (SD = .00). Overall, respondents agreed on a range of indices for the desired outcome of integrated management of practice breakdown; with a total mean score of 4.65 (SD = .43) (see Table 25).

**Table 25: Mean scores on desired outcomes for integrated management of practice breakdown.**

GROUP	N	Mean	Std. Deviation
PCC	10	5.00	.00
Unions	8	5.00	.00
Victims	46	4.89	.24
Managers	206	4.57	.45
Total	<b>270</b>	<b>4.65</b>	<b>.43</b>

Between groups differences on the total mean scores were significant at F12.66, p < .001 (see Table 26). This data remained significantly different after post hoc Bonferroni analysis (Annexure 13). Significant differences were shown to be between managers and all other groups.

**Table 26: Variations between groups on overall mean scores on desired outcomes.**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.221	3	2.074	12.664	.000
Within Groups	43.558	266	.164		
Total	49.779	269			

Data on analysis of variance in the mean scores between groups on the six items that were used to measure desired outcomes for effective management of practice breakdown appears in Table 27 below. Significant differences between groups were found on all six items.

Post hoc analysis using the Bonferroni statistic test yielded significant differences between groups on all items in this scale. Differences on these items were significant between managers and all other groups with PCC, unions and victims largely agreeing with the desired outcome for effective management of practice breakdown. It should be noted, however, that these groups differ on the extent to which they agree on the desired outcomes and not on whether these outcomes are desired or not. Perusal of data appearing in Table 26 would reveal that mean scores for all items in this subscale were high ranging from 4.50 (SD = .55) to 5.00.



**Table 27: Variation between groups - desired outcome for integrated management of practice breakdown.**

Necessary conditions	Groups	Mean	Std Deviation	Df	F	Sig
Lessons for preventing similar accidents happening again.	PCC	5.00	.000	3	8.83	.00
	Unions	5.00	.000			
	Victims	4.91	.285			
	Managers	4.59	.521			
A non-threatening environment conducive to error reporting.	PCC	5.00	.000	3	8.74	.00
	Unions	5.00	.000			
	Victims	4.87	.341			
	Managers	4.55	.546			
Open discussion of practice errors to enhance learning.	PCC	5.00	.000	3	8.69	.00
	Unions	5.00	.000			
	Victims	4.87	.344			
	Managers	4.55	.537			
Corrective systemic measures.	PCC	5.00	.000	3	9.32	.00
	Unions	5.00	.000			
	Victims	4.89	.318			
	Managers	4.56	.527			
Enhanced image of the institution.	PCC	5.00	.000	3	9.27	.00
	Unions	5.00	.000			
	Victims	4.83	.383			
	Managers	4.50	.549			
Overall improvement of patient safety.	PCC	5.00	.000	3	7.75	.00
	Unions	5.00	.000			
	Victims	4.83	.383			
	Managers	4.50	.549			

## **4.7 THE RELATIONSHIP BETWEEN EXTERNAL ENVIRONMENT, CORPORATE ENVIRONMENT VARIABLES, ACTIVE MANAGEMENT AND DESIRED OUTCOMES**

Analysis of the relationship among the variables under study was carried out using the Pearson Product Moment. The aim was to ascertain if there was any relationship, among the external environment, the corporate environment variables (institutional policies and practices, infrastructure and physical space, management decision making and nurses' capabilities), active management of practice breakdown and desired outcomes.

Highest, but moderate and positive correlations were found between infrastructure and physical space and institutional policies and practices ( $r = .64$ ) and management decision making and infrastructure and physical space ( $r = .60$ ). Furthermore, moderate and positive correlations were found between the external environment and all the corporate environment variables except for nursing staff capabilities. The correlation between external environment and nurses' capabilities was weak, but positive ( $r = .35$ ).

There seemed to be very little relationship between active management and the external environment and the corporate environment variables except for nurses' capabilities. The relationship between active management of practice breakdown and nurses' capabilities was moderate and positive at  $r = .55$ . Unexpectedly, there were very weak, albeit positive correlations between desired outcomes and all the variables under study except for institutional policies and active management ( $r = .46$ ) and desired outcomes and institutional policies and practices ( $r = .48$ ). All correlations were significant at  $p < .01$ . These results appear in Table 28 below.

**Table 28: Pearson Product Moment correlation between external environment, corporate environment variables, active management and desired outcomes.**

		External Environment	Institutional Policies and Practices	Infrastructure and Physical Space	Management and Decision Making	Staff Capabilities	Active Management	Desired Outcomes
External Environment	Pearson Correlation	1	.54**	.43**	.46**	.35**	.25**	.26**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	272	272	272	272	272	272	272
Institutional Policies and Practices	Pearson Correlation	.54**	1	.64**	.58**	.36**	.39**	.48**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	272	272	272	272	272	272	272
Infrastructure and Physical Space	Pearson Correlation	.43**	.64**	1	.60**	.43**	.34**	.35**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	272	272	272	272	272	272	272
Management and Decision Making	Pearson Correlation	.46**	.58**	.60**	1	.39**	.32**	.30**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	272	272	272	272	272	272	272

**Table 28 – Continued: Pearson Product Moment Correlation Between, External Environment, Corporate Environment Variables, Active Management and Desired Outcomes.**

		External Environment	Institutional Policies and Practices	Infrastructure and Physical Space	Management and Decision Making	Staff Capabilities	Active Management	Desired Outcomes
Nurse's Capabilities	Pearson Correlation	.35**	.36**	.43**	.39**	1	.55**	.26**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	272	272	272	272	272	272	272
Active Management	Pearson Correlation	.25**	.39**	.34**	.32**	.55**	1	.46**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	272	272	272	272	272	272	272
Desired Outcome	Pearson Correlation	.26**	.48**	.35**	.30**	.26**	.46**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	272	272	272	272	272	272	272

**\*\* . Correlation is significant at the 0.01 level (2-tailed).**

# **CHAPTER FIVE**

## **DISCUSSION OF RESULTS**

### **5.1 INTRODUCTION**

In this chapter the researcher discusses the results presented in the previous chapter. Firstly, results obtained from the interviews are discussed. This is followed by a discussion of results obtained from the research survey. Gillingham et.al.'s (1997) integrated model of error management guiding the study was used as an organising framework for the discussion.

### **5.2 UNDERSTANDING THE NATURE OF HUMAN ERROR**

This study noted that the causes of practice breakdown in nursing seemed to be a product of a wide variety of errors inherent in both the external environment and the business processes within the corporate environment. In addition, the results were explicit about the types of errors committed at each domain within the health system, including consequences of error management arising from each of the sources identified. Each of these is discussed in turn.

#### **5.2.1 The external environment**

The study observed that nursing takes place in a dynamic social, economic, political and technological environment. In the current study focus group discussions and individual interviews revealed a range of factors inherent in the external environment which either on their own or in combination with others, created situations in which practice errors were most likely to be made. Of those identified by the model, only socio-political and educational factors could be linked to the study results. The study observed that: (a) the burden of disease; (b) reforms in the education systems; and (c) the nature of incentives given to health workers, all exerted inappropriate pressure on the performance of the health system. This undue pressure seemed to have affected the ability of nurses to be sensitive, relevant and responsive to individual, community and societal health needs and their changing circumstances.

### **(a) The socio-political factors**

The study revealed that latent conditions created within the corporate environment were a product of a constellation of socio-political factors in the external environment which had a bearing on performance in the health system. Specific changes related to epidemiological trends and increase in nurse migration seemed to have had an effect on the health care system. In addition, it would seem that a move towards increasing the production of nurses as a strategy for mitigating the impact of chronic staff shortages on the staffing of health facilities yielded unintended consequences in terms of the caliber of the new nursing graduates.

The findings of the study revealed that the changes in the characteristics of patients presenting to health care facilities contributed to practice breakdown. In particular, the burden of disease together with changing disease profile and the increase in long term type of illnesses presenting to health care facilities, exerted undue pressure to health care services. HIV/AIDS was particularly singled out as a culprit in the unprecedented changes in the disease profile of patients seen in the public health sector. Yet, it would seem that the health system is not adapting to these new demands. Instead, it would seem that the health systems are struggling to keep up with the cumulative effects of the epidemiological transition. However, studies reporting a global perspective have maintained that these conditions affecting the delivery of health care are not peculiar to South Africa. The World Health Organisation report (WHO, 2006) noted that Sub Saharan Africa has 11% of the world's population, 25% of the global burden of disease, 3% of the world's health workers and less than 1% of the global health expenditure. Evidence indicates that health gains have been reversed by the reduced average life expectancy in some countries, which in Sub Saharan Africa is attributable to the HIV/AIDS pandemic (Frenk et al., 2010).

## **(b) Educational factors**

While there was a notable regard of the significance of the role of the country's education system in shaping the quality of frontline providers of nursing, the study revealed that there was overt reservations amongst the study participants about the ability of the South African nursing education system to produce service oriented and career focused nurses capable of contending with the complex disease profile of health care users. These reservations were perceived to be emanating from the reforms in the nursing education, particularly the introduction of numerous routes of entry into the pre-license nursing programme and the structure of a programme for midwifery.

Ideally, the purpose of education should be to ensure that those who graduate, in addition to attaining theoretical competency, are capable of applying their theoretical knowledge to the practice of nursing. However, in the context of this study, the route of entry into nursing education programmes for the enrolled nursing assistant to enrolled nurse to registered nurse was perceived as limiting opportunities for prospective practitioners to consolidate competencies acquired from one level of training to the next. While this approach to nursing education has enabled increased access to the nursing profession, it also seems to have not been able to provide the nursing graduates with the skills and competencies required for the various job professional assignments. In their study, Boychuk-Duchscher and Cowin (2004) noted that the professional practice standards and the anticipated professional relations that are brought to acute care environment by the new nurse graduate are constantly challenged by tension between the status of the differing passages from nursing student to professional practitioner.

Studies elsewhere suggest that all health professionals in all countries should be educated to mobilise knowledge and to engage in critical reasoning and ethical conduct, so that they are competent to participate in patient and population centred health systems as members of locally responsive and globally connected teams (Bossert, Barnighausen, Bowser, Mitchell, & Gedik, 2007; Frenk et al; 2010).

In South Africa, in terms of the Constitution (Republic of South Africa, 1996) all tertiary education, including nursing education, falls under a single co-ordinated higher education system. Presently, the responsibility for promotion and maintenance

of standards in nursing education rests with SANC which is the body responsible for quality assurance of nursing education and training. In the last 20 years, there has been a move to transform nursing education in line with the requirements set by the Department Education, now the Department of Higher Education and Training. This transformation has included changes within the nursing curricula, orientation towards outcomes based education with the intention of narrowing the gap between theory and practice. However, this study did not explore further the role of curriculum in shaping clinical competence amongst nurses.

In addition, the current study showed that the structure and duration of the midwifery programme was singled out as a typical programme that did not give student midwives sufficient time to master clinical competencies requisite for safe maternity and midwifery care. Yet, evidence elsewhere indicates that acquiring professional competence demands theoretical knowledge as well as regular, tailored, and supervised hands-on practice in a variety of clinical settings (UNFPA, 2011). However, once allocated to labour wards the new graduates are expected to take on full responsibility of managing women in the active stage of labour on their own with minimal support if any, from experienced nurses.

While SANC, in defining the competency framework for nurses directs that the education and training programmes for nurses are to be informed by the scope of practice and competencies required for nursing practice (SANC, 2004), Operational Nursing Managers seemed to not be aware of this directive. Insufficient collaboration between the health and education sectors as well as weak links between educational institutions and the health system which employs graduates often result in a mismatch between professional education and the realities of health service delivery (WHO, 2011). In June 2011 the National Department of Health, South Africa organised a nursing summit in South Africa under the theme: *Reconstructing and revitalising the nursing profession for a long and healthy life for all South Africans*. Some of the objectives of the summit were to examine how the midwifery programme can be improved to ensure attainment of clinical competence requisite for safe patient care (DOH2011)

While a programme on mentorship in nursing education is an integral part of students' clinical learning experiences and has a significant influence on the quality



of the learning experiences in clinical placements, constraints that hindered mentoring of newly qualified midwives were noted. It would seem that due to chronic poor staffing levels in the delivery rooms, experienced midwives are no longer able to mentor newly qualified midwives, if they are not confident in conducting deliveries on their own. These results were corroborated by the findings of the study conducted by Zwane (2010) in which many newly qualified registered nurses reported lack of support from senior staff members when allocated to the labour wards. Yet evidence elsewhere indicates that both clinical mentors and students viewed mentoring as a support and guidance strategy for students in clinical settings (UNFPA, 2011).

However, Boychuck-Duchscher and Cowin (2004) cautioned against blaming educational programmes for poor preparation of the new nursing graduates for the realities of nursing practice, where health care institutions may be at fault for their unsatisfactory commitment to the workplace orientation and mentoring programmes for new nursing graduates. Employers should make a conscious effort of bridging the service education gap. In this regard, in line with the provisions of the Skills Development Act (Act No 97 of 1998) employers of nurses should dedicate budgetary resources equal to a definite percentage of nursing payroll to support nursing staff in their ongoing acquisition and maintenance of knowledge, skills and competencies requisite for practice areas where nurses are allocated.

### **(c) The nature of incentives for nursing**

In 2008 the Department of Health in South Africa, achieved numerous milestones regarded as key in ensuring constant supply of adequately trained and appropriately remunerated health workforce. The introduction of occupation specific dispensation (OSD) in 2007 was one such milestone intended to attract and retain skilled health workforce in resource constrained areas. While the health care sector has introduced a number of incentives as a strategy for staff retention in the face of high staff turnover, the study revealed that its implementation seems to have yielded differential results; particularly as this relates to allocation of OSD now known as Occupation Specific Remuneration and Career Progression Dispensation. The 2006 World Health Report noted that today's policy makers, planners and managers are challenged to identify and apply a combination of financial and non-financial

incentives that are responsive and effective in meeting policy objectives related to recruitment and retention (WHO, 2006).

The current study revealed that there was a strong perception that these benefits have been poorly determined leaving some categories of nurses with a sense of being excluded from the benefit despite, in their view, meeting requirements for recognition. The experience of the study participants was that nurses have become reluctant to work in settings where general care is required as this compromised their OSD benefit which is linked to either a qualification or long service in defined areas of specialisation. According to them, this has had an adverse effect on staffing for general wards since nurses now insist on working in areas of specialised care even when there are no patients requiring specialised care, thereby inadvertently placing other patients at risk for unsafe nursing care due to poor staffing or inappropriate staffing. Yet, according to available evidence, incentive schemes are seen as a key determinant of performance and hence regarded as the most reliable means of improving motivation (ICN, 2006).

### **5.2.2 The corporate environment**

In the context of this study, the corporate environment provided an organisational context and a subsystem which illuminated the dynamic interplay between the context of work and the business processes within the corporate environment; namely, the working conditions, managerial decisions and actions of those involved in direct patient care. The study observed that in complex systems, such as those that deliver health care, practice breakdown is influenced by many factors. The researcher observed that within the corporate environment, errors and adverse events are usually associated with some combination of the care team activities and the types of decisions around management of resources requisite for patient care activities. The model guiding the study refers to these causes as emanating from the “sharp end” of the health system. The following is a discussion of the study results focusing on the corporate environment with specific focus on: (a) organisational context of care and; (b) organisation and management of care.

### **5.2.2.1 Organisational context of care**

The study observed that many times practice errors occurred as a result of a culmination of characteristics of systems of care that came about due to the way the systems were organised and how the systems operated. Literature, albeit in first world countries, suggests that practice breakdown is a product of poor systems design leading to organisational failures rather than individual human failures (Wakefield & Maddox, 2000; Rooney, Vanden Heuvel & Lorenzo, 2002).

The current study revealed a range of factors in the organisational design within a corporate environment which on their own or in combination with others led to latent failures within the health services, including physical layout and infrastructural design, work environment demand and workplace safety culture. Olden and McCaughrin (2007) note that literature on medical error and patient safety (MEPS) has evolved to the point that now most research on MEPS problems is thought to be the result of organisation system factors and deficiencies rather than failures of an individual. The current study illuminated an interaction between organisational factors, local circumstances and active failures in producing an adverse or potentially adverse event. Reason (2004) describes the relationship between the corporate environment and latent failures as often entwined with design and structures of complex systems. On the other hand, Currie and Watterson (2007) describe these factors as arising from the blunt end of care, namely, institutional context, work environment and management and organisation of care.

#### **(i) Physical space and infrastructural design**

It would seem that both the physical environment for patient care and individual characteristics of patients were key latent conditions that compromised patients' physical safety by exposing patients to accidents, trauma and injuries that threaten patient safety. In the current study, the physical environment, including basic workplace design, lights, aesthetics and sound seemed to be creating latent failures within the corporate environment.

Physical design, particularly in areas of high acuity of care, such as the delivery rooms, children's wards and high care units where patients with mental illness were admitted, was found to be creating latent conditions that led to adverse events. The

study noted that young children, the aged and the mentally ill patients were most vulnerable to these latent failures. Furthermore, the study observed that these latent conditions often lie dormant for years before combining with active failures thus leading to the occurrence of practice breakdown.

The study noted how the physical design of the delivery rooms and children's wards which were partitioned into cubicles in poorly staffed health care facilities contributed to high rate of adverse events in these settings. This type of physical layout particularly in paediatric wards, coupled with a limited number of staff on duty in a given shift, did not allow for proper monitoring of patients across cubicles, thus rendering paediatric patients vulnerable to practice errors. During focus group discussions Operational Nursing Managers gave examples of cases where infants were harmed by gadgets which were intended to offer therapeutic effects such as infusion set tubing. Yet, due to the physical design of the cubicles, nurses on duty were not able to notice that such gadgets were causing harm to the patient. These results were corroborated by a study by Rooney et al. (2002) who noted that many human errors in healthcare are caused by work environments that were not initially designed with an emphasis on human factor engineering principles.

In addition, managers gave account of how some of the physical characteristics such as illumination of the ward could create conditions of active failures. Such a risk was noted to be more common in instances where patients with impaired eyesight or those suffering from mental illness were admitted to wards with poor illumination. These results corroborated those reported by Hernandez (2009) who notes that adequate lighting along every path of nursing practice enhances patient safety and promotes positive practice environments. Another example from this current study was that of hot water in the bath rooms which was often boiling at all times with a potential to scald patients who are not supervised during a bath.

With regards to patient's individual characteristics, the study noted that some patients were at risk of harm and injury due to the nature of their ailments, in addition to being admitted to wards with substandard physical design. For instance, patients with compromised mobility, the mentally ill, the elderly and young children were more prone to suffer as consequences of a range of hazards inherent in physical patient care environment. Common amongst these were injuries, trauma and accidents

arising from the physical design of patient care environments and the nature of the patient.

The researcher observed that confused patients who were admitted to wards designed for patients with medical conditions were at risk of harm and injury. The study observed that these patients were prone to falls, for example a mentally ill patient was reported to have fallen through a window in the strong room from the fifth floor of a hospital block. Incidents of these patients wandering off to unsafe places or even leaving the hospital premises were reported during data collection. Sometimes these patients would leave the wards unnoticed and be run over by passing cars outside the hospital grounds. Although physical defenses required for patients with mental illness were non-existent at the time of data collection, the study observed that nurses tasked with patient care were held responsible for failure to provide a safe care environment for patients under their care.

In 2011 the National Department of Health released a document titled: The National Core Standards for Health Establishment in South Africa. In this document, health facilities and infrastructural design are listed as one of the domains regarded as core in improving quality of care for patients (Republic of South Africa, 2011). Implementation of these core standards entails setting up monitoring and reporting systems. Health facilities would benefit, if the sentiments of this document translate into concrete action plans with clear targets for addressing challenges that threaten patient care environments.

## **(ii) Institutional policies and practices**

With regard to policies and practices underpinning the organisation of health services, it would seem that the implications of how services are organised was most prominent in the delivery of mental health services. The study observed that the implementation of the Mental Health Care Act No. 17 of 2002, which is the policy framework for delivery of mental health services, has yielded mixed results. While significant progress had been made by the provincial Departments of Health in implementing the prescripts of the Act, the study noted that in the main, progress was limited to matters of compliance with the Act. Specifically, progress was noted in the organisation of services to allow for improved access to health services for persons who are mentally ill.

The study noted that in compliance with the Act, district level facilities were expected to admit mental health users for observation and assessment for a period not exceeding 72 hours. It was anticipated that after this period a determination regarding the mental health status of the patient would be made and that the patient would be transferred to an appropriate health establishment. However, the study observed a number of systemic factors that created latent conditions within the patient care environment.

Of note was a sudden increase in the number of patients with mental illnesses admitted to wards typically designed for medical patients. Often the care environment became a threat to patient safety for a number of reasons. Often these patients spent more than the mandatory period in medical wards where they were attended to by nurses who were not trained in the care for patients with mental illnesses. As their period of stay was extended, these patients were nursed in wards whose physical layout was not designed to accommodate the safety needs of patient with mental illnesses. These facilities did not have adequate barriers designed to intercept active failures thus posing a threat to patients' physical safety. In the current study the operations managers gave accounts of numerous incidents where more often than not, patients with mental illnesses became a danger to themselves and other patients and staff when admitted to medical wards not designed to cater for their special needs. Instances where patients wandered out of the wards and got run down by vehicles were a common example given by operations managers.

The researcher noted a commitment by government to scale up the training of health personnel working with patients with mental illnesses. However, the researcher noted that the focus of training provided was confined to teaching new protocols for guiding admission and referral of patients with mental illnesses with no attention to clinical competency required for nursing patients with special needs.

### **(iii) Conditions of work**

The current study observed that the environment in which nurses worked had become stressful and demanding and invariably created conditions for latent failures which often became precursors for active failures. The study reported that a number of pre-existing conditions within the corporate environment became a breeding

ground for error producing conditions in the health sector. The chronic shortages of appropriately skilled or experience staff coupled with deteriorating working conditions has adverse effects on the type of care provided to patients. It was apparent that the shortage of appropriately skilled staff in the wards at a time of an incident was a common occurrence. It would seem that staffing levels and the conditions under which nurses worked affected patient safety. These results are corroborated by Wakefield and Maddox (2000) who observed that once engaged in the day to day health care environment, nurses find themselves in systems of care where patient safety is compromised through error producing situations.

It would seem that the disease profile within the broader society also mirrors itself within care environments. The impact of HIV/AIDS pandemic has had a triple impact on nurses. The researcher observed that nurses were affected as frontline providers of care, as women who provided care to their families and as individuals infected with HIV. As frontline providers it became apparent that nursing patients with poor prognosis caused an added strain on nurses' mental wellbeing and their ability to provide safe patient care. Focus group interviews revealed that given a choice, nurses would not want to be allocated to medical wards where the death rate amongst patients suffering from AIDS is notably high. While the prevalence of HIV infections amongst practicing nurses in the KZN province had never been quantified, the study noted that often nurses reported for work even if it was obvious that they were not well. As a result, their ability to provide safe patient care was compromised. At the same time, a number of instances were reported where nurses had to be away from work taking care of members of their own families. As a result, the number of nurses on duty was adversely affected which in turn compromised the quality of care provided by those nurses who remained on duty.

The study noted that the poor quality of the environment in which nurses practice is widely recognised as being one of the major factors contributing to the challenges of staff retention in the nursing profession, a problem that has become a global phenomenon. In a similar study conducted by Rooney et al. (2002) it was reported that the majority of human errors (80-85%) result from the design of work operations such as the task, equipment and the work environment. Inadequate staffing and heavy workloads, excessive overtime, inflexible scheduling, lack of autonomy and lack of access to necessary supplies, medication and technology and ineffective

incentives were some of the many factors noted as impacting negatively on the quality of nursing care.

In addition, the current study revealed that physical and emotional strain arising from poor working conditions affected nurse's wellbeing adversely. Specifically, physical fatigue, exhaustion and emotional strain from excessive workload and nursing patients with a poor prognosis associated with AIDS related illnesses all impact negatively on nurses' well-being. Studies have noted that the impact of HIV/AIDS on the nursing workforce has been multi-faceted and complex. There is an indication that apart from an increase in the workload and high needs of acute care among HIV patients, the impact of HIV/AIDS has created a complex and self-reinforcing negative influence on the health workforce. Chief amongst these is burnout and frustration, fuelled by heavy workloads leading to increased absenteeism and significant illness and death amongst the nurses tasked with assisting the general population to fight the epidemic. There is evidence in the literature that the increase in the acuity of patients combined with inadequate staffing may lead to burnout amongst nurses, in turn interfering with the nurse vigilance system thus threatening patient safety (Shirey & Fisher, 2008).

In the context of this study, participants reported concerns around inappropriate workload levels and the effect this has on safety, morale, job satisfaction and stress levels. Furthermore, it was found that unhealthy work environments affected nurses' physical and psychological health through stress of heavy workloads, long hours, and a variety of workplace hazards. In their study, Boychuck-Duchscher and Cowin (2004) noted that often new nursing graduates are recruited into practice areas with unprecedented workload which often gives rise to stress among the new nursing graduates. Baumann (2007) warned that quite often institutional deficiencies in material and human resources, in supplies and suitable maintenance of equipment lead to progressive deterioration of health services and that this deterioration is most prominent in public health services. Under such conditions, it becomes apparent that latent failures are unrecognized and they often remain undiscovered and uncorrected in the system thus increasing the potential for future adverse events by predisposing the system to failure. Liang (2001:347) describes conditions like this as "accidents waiting to happen with the human operator set up to fail under these conditions".



Chronic understaffing within care settings was noted in this study as a factor in poor health outcomes of patients. Incidents of nurses performing duties beyond their scopes of practice were noted as a common occurrence. This was common amongst enrolled nurses who were placed in charge of more than one ward while on night duty. Invariably these nurses were expected to perform functions which otherwise would be done by registered nurses. This observation was supported by members of the PCC when describing some of the offences committed by nurses which were brought to their attention during professional conduct hearings. Yet, these nurses remain accountable for their acts and/or omissions irrespective of contextual circumstances in which they worked. These results are supported by a message from the ICN President and Chief Executive Officer who, in her biennial report, stated that evidence indicates that inadequate institutional staffing levels correlate with increase in adverse events such as patient falls and bed sores amongst others (Oulton, 2004-2006). It would also seem that in instances where nurses were performing non-nursing duties often these were done at the expense of patient care thus compromising patient care and giving rise to practice breakdown.

The study observed that these factors individually and or collectively tended to either influence staff performance adversely, or precipitated errors which then affected patient outcomes. A study conducted by Baumann (2007) to determine reasons for resigning from work amongst nurses, found that working conditions such as salaries, benefits, volume of activities, hours and shift work featured in all accounts given by nurses as reasons for resigning. In fact, Teasley, Sexton, Carroll, Cox, Riley and Ferriell (2007) warned that effectiveness of any organisation is contingent upon its ability to recruit and retain high quality staff. It became apparent that nurses who were stressed due to heavy workload and unsafe working conditions were challenged to provide high standard of care. In support of the impact of conditions of work in adverse events Liang (2001) argues that it is thus not the last person who touched the patient who is solely responsible for the outcome; but the entire system.

In addition, the study revealed that the upgrading of district health facilities to a regional level without concomitant increase in resources for these facilities had yielded unintended consequences. The new designation of health facilities had led to an increase in the number of patients requiring specialised care being admitted to wards designed for patients with general ailments. This re-organisation seemed to

have exerted undue challenges for nurses who were not prepared to care for patients requiring specialised nursing care. The study observed that, despite the increased acuity of critical care patients, compounded by the impact of HIV/AIDS on the health system, there was no concurrent increase in the staffing of health facilities to enable nurses to cope with the increased demand for care.

Page (2004) asserts that the factors associated with poor quality practice environments had been explored and discussed extensively in the literature regarded as landmark in issues of patient safety. Yet, efforts towards improving health care environment in South Africa are noted to still be at policy formulation phase (Republic of South Africa, 2011). However, Rooney et al. (2002) warn that such mismatch between performance shaping factors in the internal and external environments results in disruptive stress that degrades job performance.

In addition to poor working conditions the current study noted that the work environment demands seemed to have exacerbated the conditions of work for nurses. Ideally, the volume of work assigned to nurses should relate to the number of patients cared for during a work shift. While limited research has been conducted on the relationship between staffing ratios and adverse patient care outcomes, existing data suggest an important linkage (Wakefield & Maddox, 2000).

While there is a dire shortage, nursing personnel still represent the largest component of the health care workforce in the country and are often described as the backbone of the South African health care system. The records of SANC reflect that in 2010 there were 118 262 registered nurses and 55 408 enrolled nurses and 64 526 enrolled nursing assistants providing care in the various health care setting (SANC, 2011).

The study noted that monitoring patient health status, performing therapeutic treatments and integrating patient care to avoid health care gaps were nursing functions that directly affected patient safety. Accomplishment of these clinical care responsibilities require an appropriate number of nurses with skills mix requisite for safe patient care. Yet, in the current study Operational Nursing Managers reported instances of women who were in labour where observation of progress of labour

could not be done adequately due to staff shortage. In addition nurses' inability to cope with the increased demand in high pressure areas was noted as a direct precursor for lapses which occurred. Focus group discussions held with the Operational Nursing Managers revealed that in instances where there was a need to manage simultaneous demands while providing high quality care, practice errors became a common occurrence. In these cases, the study noted that aggravating factors included working in resource constrained areas where there was inadequate supply of material resources requisite for adequate nursing care. The study noted that under these conditions the ability of a nurse to reach and tend to all patients in a given shift was compromised and the risk for committing errors was increased.

The study also noted that in many instances of maternity related cases, failure to appropriately observe, examine, assess and monitor maternal and foetal condition were the most frequently cited form of negligence committed by nurses working in the delivery rooms. The study noted that the effects of chronic staff shortages both in terms of skills mix and numbers was most prominent in the delivery rooms. Incidents of patients delivering babies on their own without a midwife in attendance were common occurrences. As a result, members of the PCC also noted a proportionately high number of maternity/midwifery related cases that were brought to their attention. It could be inferred from these results that patients whose health outcomes depend on the ability of a nurse to monitor, interpret and execute requisite care are compromised in situations where nurses are not able to reach all patients. Yet, nurses remained individually accountable for the quality of care provided.

#### **(iv) Workplace safety culture**

It would seem that the workplace culture, in which nurses worked, had left them feeling disempowered and unable to challenge unsafe practices and poor decision making which they could see could trigger practice breakdown. Managers were also of the view that such feelings bred conditions for recurrence of practice errors since these remain unacknowledged and consequently unresolved.

While all health facilities value safety, it would seem that the organisational culture which existed at the time of data collection did not reflect organisational commitment to patient safety. The study revealed that it was common practice to look for an individual to be blamed in instances of practice breakdown. A tendency to attribute

practice breakdown to either individual carelessness or incompetence was also noted in the responses provided by members of the PCC during data collection. Consequently, these were often judged very harshly and often led to public humiliation. As a result, Operational Nursing Managers reported that there was a widespread tendency not to report any incidents irrespective of severity. These findings corroborate those emanating in a study conducted by Currie and Watterson (2007), in which nurses reported working in a culture where they would be blamed or ridiculed if they made mistakes. Some of the nurses in the same study reported feeling constrained by a bullying culture whilst others believed that negative media coverage about failures of health care helped shape the public's attitude to blame thus leading to a continuation of the need for a scapegoat in the form of the professionals who committed practice errors. Yet, Page (2004) advises that patient safety requires an organisational commitment to vigilance to prevent potential errors and to the detection, analysis and redress of errors when they occur, instead of attributing blame to practitioners.

In South Africa, with patient safety being one of the factors regarded as key for effective implementation of the proposed National Health Insurance (NHI) scheme, health care services would need to consider making a conscious effort to move away from targeting people, but to rather name and shame facilities or systems which fail within facilities. The Health sector has to look for ways to break the links in the chains of events that create the recurrence of adverse events and to begin to fully engage in the process of detecting and reporting high risk situations that threaten patient safety within workplaces.

In addition, in line with the recommendations of the report by the Institute of Medicine (IOM) (cited in Page, 2004) action is also needed from management in collaboration with the representatives of organised labour and SANC to initiate effective mechanisms which will ensure safe and positive working environments. To this end, the report makes the following recommendations (Page, 2004:15):

- (a) Specify short and long term safety objectives;
- (b) Continuously review successes in meeting these objectives and providing feedback at all levels;
- (c) Conduct annual confidential surveys of nursing and other health care workers to assess the extent to which a culture of safety exists;

- (d) Institute an anonymous and fair reporting system for errors and near misses;
- (e) Engage in ongoing employee training in error detection, analysis and reduction of error;
- (f) Introduce protocols and implement procedures for analysing errors and providing feedback to workers providing direct patient care; and
- (g) Institute rewards and incentives for error reduction.

**(v) *Management support***

Organised labour participants perceived management as not being sensitive to work pressures under which the frontline nurses have to work in. The study revealed that working in a stressful environment where there were strong perceptions about lack of acknowledgement of the physical and emotional toll exerted by nursing patients with poor prognosis was seen as a factor in practice breakdown. A study conducted by Best and Thurston (2004) revealed that when nurses have limited say in patient care they tend to feel as though their expertise is not valued. This control/lack of control over own practice was seen to be affected by environmental variables such as supportive leadership amongst others. In this regard, Kearney and Kenward (2010) advise that ongoing working relationship with staff in positions of influence, self confidence in negotiating on behalf of patients and families, diagnostic certainty about patients needs, creativity in perceiving solutions to patients needs and strong commitment to the good of the patient and the family all inspire the nurse to go an extra mile in their care.

Team processes were yet another factor that featured prominently during the interviews. The nurse's view of teamwork has shifted over time, from helping each other with workload to appreciation of shared values, commitment and smooth responses to patient needs (Kearney & Kenward, 2010). The study observed that nurses did not feel able to ask for assistance from Operational Nursing Managers or colleagues on the day of the incident. On the other hand, Operational Nursing Managers did not seem to know how their staff was coping. It became apparent that lack of cooperation between the health care team, low staff morale and resistance to change were compromising quality care thus creating conditions for latent failures. Yet Rafferty et al. (cited in ICN, 2006) advise that health services are improved when

health care professionals work together as teams. The authors argued that effective teamwork enhances staff motivation, job satisfaction and mental wellbeing.

### **5.2.2.2 Organisation and management of care**

In the model guiding the study, there are two groups of persons implicated in organisation and management of care as factors in error causation. The model described these persons as the manager and the managed. The model describes a manager as an individual who has authority to give orders and instructions to the managed about what needs to be done. Such authority may be derived formally from the organisation or may be given informally by the working group. In addition the authors argue that once the authority is assumed then the manager has a responsibility for actions taken under his/her authority. The manager then becomes accountable for the actions taken or not taken under his/her authority. The authors describe this accountability as essentially ethical in nature, and may be legal depending on the legal system (Gillingham et al., 1997). Factors emanating from managerial decisions are discussed. These would be followed by those factors relating to actions of nurses as frontline providers of care.

#### **(i) Factors relating to managerial decisions**

The basic premise of the model guiding the study is that some of the systems failures in organisations have their origin in fallible decisions made by managers. According to the model these errors could be related to: (a) the type of information managers collect; (b) their assessment of the situation; (c) assessment of required action; and (d) assessment of probable consequences.

It would seem that challenges around management of all elements requisite for efficient clinical care for patients was a key factor influencing the types of decisions made by managers charged with the management of patient care. The study noted a range of errors committed by nurse managers in their line of duty. It was noted that these erroneous decisions were made around support functions required for management of clinical care, including:

- (i) resource allocation;
- (ii) staffing patterns and workload management;
- (iii) procurement and maintenance of equipment; and

(iv) support to staff; thus giving rise to latent failures within the corporate environment.

Vincent, et al (1998) and Hale and Glendon (cited in Brooks 2007) noted that latent failures stem from fallible decisions often taken by people not directly involved in the workplace. These authors used the medical field to demonstrate their point by stating that in medicine, latent failures would emanate from decisions taken by management or senior clinicians. The decisions impact on the actions of practitioners. If this concept is applied to nursing it would mean that decisions taken by management would impact on the actions of nurse practitioners.

### ***Resources allocation***

It would seem that while nurse managers are responsible for resource allocation in their facilities, often their ability to make sound decisions on matters of patient care is constrained by the meager resources allocated to patient care activities relative to the demand for nursing care. It became apparent that decision making was one of the most difficult responsibilities given to nurse managers in the light of limited resources allocated to patient care. Decisions about deployment of staff was the most prominent challenge in the face of a limited pool and skill mix available to provide for the needs of patients with complex health conditions. Human Rights Watch (2011) reports that a well resourced, accessible (physically and financially) health system is widely accepted as being vital for women to access interventions that can prevent or treat causes of maternal deaths and injuries.

During focus groups discussions it became apparent that the health sector was struggling to attract and retain skilled personnel particularly for staffing health facilities located in remote areas. As a consequence staffing of these facilities was noted as the main culprit that compromised quality of care provided by nurses in these areas. It would seem that incentive schemes designed to attract and retain nurses in rural areas have not managed to achieve their intended purpose. Similar results were reported by Human Rights Watch (2011) who indicated that the South African health care system faces many challenges that undoubtedly impact negatively on maternal health outcomes. According to the Human Rights Watch, these challenges include weak administrative and financial management, poor staffing of health facilities and lack of medical supplies and equipment.

### ***Staffing patterns and workload management***

It was evident during interviews that workload allocation in the face of dire staff shortages was a major challenge for managers tasked with this responsibility. Excessive workload allocated to individual nurses coupled with increased demand for nursing care had a negative impact on the quality of care provided. As a consequence nurses were allocated tasks beyond their scopes of practice, or given a wide span of control which in turn compromised quality care. Invariably, these decisions created latent conditions that undermined patient care. It became apparent that under these circumstances provision of adequate basic nursing care to all patients during a shift was compromised, risks to adverse events was increased and opportunities for committing practice errors became high. The effect of latent failures on staff performance was noted in a study conducted by Delgado (2002) who argued that causes of increased numbers of disciplinary cases in the United States of America were due to increased complexity of the work roles and staffing patterns in the health care services.

The current study noted that while acknowledging that inappropriate workload levels did not necessarily mean high workload, nurses suggested that workload was linked to a mismatch between the type of staff and skills mix available and the type of patients requiring care. It would seem that managerial decisions about work placement were yet another factor that created latent conditions contributing to practice breakdown. For instance, a practice such as rotation of allocation which was intended to ensure continuous competencies in all clinical care areas was perceived to be a risk factor in times of chronic staff shortages. The study noted that knowledge based errors could occur easily when nurses are floated to units with patients who had conditions that were unfamiliar to them. The ability of nurse managers to make an accurate assessment of action and the impact of such decisions on staffing patterns of health facilities is supported by a study conducted by Massey, Esain and Wallis (2009) who revealed that the complexity of staffing health care facilities challenges managers to focus on predictability of workload needs and other factors that affect staffing requirements, such as: professional development, flexible working rosters to match the need and to minimize sickness and staff turnover.



### ***Procurement and maintenance of equipment***

The current study revealed that there were institutional bottlenecks to procurement procedures for acquisition and repairs of material resources required for safe patient care. The research noted that the process was seen to be cumbersome and inefficient. These challenges were more prominent in areas where monitoring of patients was paramount, such as in neonatal wards and delivery rooms. In these areas, nurses lamented how inadequate equipment requisite for monitoring of patients often led to adverse events which could otherwise be prevented. A report compiled by the National Committee on Confidential Enquiries into Maternal deaths (NCCEMD) cited in Human Right Watch (2011) observed that in maternity wards poor quality care happens when health workers do not have the tools they need to do their work effectively.

A study on the refinery and petrochemical industry cited by Rooney et al (2002) identifies failures in the equipment and design, operator and maintenance errors and inadequate or improper inspection as key causes of accidents. Challenges in the delivery of efficient midwifery care was corroborated by the results of a report on saving mothers, saving babies (DoH, 2008-2010). This report revealed that 67% (n=94) of district hospitals in the KZN province did not have basic equipment requisite for neonatal resuscitation.

The role of adequacy or lack thereof of equipment in adverse events is demonstrated in a study conducted by Shortell and Singer (2008). The study revealed that more than two thirds of adverse events were classified as non-technical systems oriented issues and often involved delays or missing equipment. Rooney et al, (2002) advice that safe systems design should account for all necessary maintenance behaviour through proper labeling, accessibility for repairs, removal and replacement of equipment, proper testing, inspection and availability of spare parts and tools.

Participants bemoaned how often they had to make do with substandard equipment/materials instead of using what is prescribed by the minimum services standard. It was apparent that there was a pervasive lack of appreciation about the need for urgency in the repair of equipment. Interviewees lamented the delay incurred in the repairs and maintenance of equipment as a dominant precursor for practice breakdown. The study noted that maintenance of equipment was

cumbersome with turnaround time for equipment sent for repairs being too long. Such delays were seen to be reflective of poor safeguards required to prevent occurrence of active failures. In his address during the provincial mental health summit held in Durban (19 March 2012), the provincial Minister of Health remarked about how the delay in the repair of diagnostic equipment places the life of health care users at risk. The Minister argued that patients should be warned that they are coming to such facilities at their own risk because equipment for monitoring vital signs was not back from repairs.

### **5.2.3 Unsafe acts committed by nurses as frontline providers of patient care**

In the context of the study, human error refers to the involvement of nurses as frontline providers of care in unsafe acts. The model classifies unsafe acts according to whether the act was intended or unintended. According to the model guiding the study, unintended errors entailed actions committed or omitted with no prior thought. These errors in the context of the model are described as mistakes and often arise from either rule based mistakes or knowledge based mistakes. On the other hand intentional errors are deliberate deviations from practice standards committed or omitted because of a belief that their actions are correct or better than the prescribed actions. While the intentional deviation is not intended to harm the system, the effects on the system may be undesirable. However, the study noted that nurses as frontline providers of care were involved in unintentional, intentional and malevolent behaviour.

All factors identified in the model were noted by the study. However, the study noted that the difference was in the classification of these factors. During focus group discussions these acts were described as violation of practice standards. These acts of violation of practice standards seemed to have given rise to what was described by the study respondents as unprofessional conduct. However, in describing these incidents it became apparent that these acts could be classified as unintended and intended acts, had these concepts been known to the study participants. Each of these acts committed by nurses as frontline providers of care is discussed in turn.

### **(a) Unintended actions committed by nurses as frontline providers of patient care**

The study observed that nurses as frontline providers of health care typify the main human factor which played a key role in the area of error causation. On a daily basis nurses are the first to come into contact with patients. The study observed that nurses engaged in the day to day health care environment are required to execute a variety of simple and complex tasks throughout the performance of their duties within a system of care where patient safety is often compromised. It was apparent during data collection that what nurses did or failed to do led to a range of unsafe acts that resulted in active failures described as unprofessional conduct by the profession.

Practice errors committed by nurses can cause harm to patients, families, practitioners, the systems and the profession at large (Benner, Sheets, Uris, Malloch, Schwed & Jamison, 2002). While describing a typical incident of unprofessional conduct by Operational Nursing Managers, the researcher observed that the opportunity for practice breakdown existed in every task performed by nurses for a variety of reasons. The trigger for unintended acts committed by nurses was noted to be twofold: those emanating from long standing latent conditions within the care environment and those emanating from the level of clinical competence of nurses as frontline providers of care. Factors arising from nurse's capabilities namely, inadequate knowledge, skills and competencies was noted as the key culprit. As a consequence, a range of unintended acts were committed by nurses. Prominent amongst these were inability to make appropriate clinical judgment and failure to provide basic nursing care to patients.

#### **(i) Nurses' capability**

As part of the duty to ensure patient safety, a nurse must ensure that he/she has the necessary knowledge, skill and competences required for providing nursing in his/her area of practice. In the South African context, the competency framework of SANC identifies ability to make clinical judgment as one of the standards for effective and professional patient care (SANC, 2004). The study noted that in clinical settings there are activities in which the required degree of professional proficiency was very high and the potential consequences for deviation from high standards became a major determinant of health outcomes for patients. In such settings continuous monitoring

of patients accurately, at regular intervals as determined in their care plans was paramount.

Nurses interpret patients' signs and symptoms and responses to therapies and evaluate relevance of those changes to ensure that patient care is adjusted appropriately. The current study noted that both knowledge-based and skills-based errors were common causes of practice breakdown amongst nurses charged with clinical care of patients. Benner et al. (2006) assert that the goal of nursing vigilance is early detection of a downward turn in a patient's health and the ability to institute measures to rescue the patient from adverse events.

During focus group discussions Operational Nursing Managers gave account of instances where adverse events were a direct consequence of failure to apply basic rules while executing basic nursing procedures, thus giving rise to unsafe acts which led to practice breakdown. The study noted that such incidents were common in areas where patients were not able to care for themselves. The study observed that pregnant women and the mentally ill were amongst the vulnerable groups affected by this type of practice breakdown. During data collection Operational Nursing Managers gave examples of instances where patients would be turned back following an inaccurate assessment of progress of labour. As a consequence, incidents of mothers delivering outside a health facility despite being informed by a nurse that they were not due to deliver were a common occurrence.

The study noted that nurses, who were allocated to areas of specialised clinical care without the requisite clinical competencies for that area, were prone to committing acts of unprofessional conduct. This is supported by Sharrock, Grigg, Happell, Keeble-Devlin and Jennings (2006) who noted that nurses working in general health care settings have difficulty in meeting health care needs of patients with mental illnesses due to lack of competences in providing nursing care requisite for patients with mental illness.

The researcher observed that during focus group discussions Operational Nursing Managers gave a range of examples where patient care was compromised as a direct consequence of inadequate knowledge and skills of nurses tending to patients. Upon further probing the researcher noted that there was no evidence in the current study where continued education was provided to enhance the clinical competencies

of nurses. Instead, nurses who were tasked with patient care were held accountable for their acts and/or omissions without any due attention to the root cause for unprofessional conduct committed by nurses. To this effect Delgado (2002) advises that continued competency should be assured through a structured and targeted programme for continued education.

Furthermore, the study revealed that the majority of nurses committed acts of unprofessional conduct classified as failure to provide adequate basic nursing care to patients who are unable to meet these needs on their own. As a consequence, basic nursing care was compromised. Specifically, giving of medication or undertaking observations critical in the determination of patient outcomes were not made. In the study, conducted by McKeon, Fogarty and Hegney (2006), a high level of knowledge was found to be associated with lower levels of violation of practice standards. Conversely, high workload and higher expectations by doctors were associated with higher incidents of practice breakdown. It is noteworthy that vulnerable patients were often the victims of poor nursing care, particularly the aged, children and patients with mental illnesses.

#### **(ii) Inadequate precautionary measures for ensuring patient safety**

While the national core standards of the Department of Health suggest that patients with special needs or those considered as high risk patients such as pregnant mothers, children and the elderly and the mentally ill should receive special attention in relation to safety (DoH, 2011), implementation of this policy seems to be fraught with challenges. The study revealed that the majority of disciplinary cases were brought to the attention of the PCC were cases of nurses who were charged for failure to prevent accidents, injury and other trauma to patients under their care. Yet, prevention of patient complications, errors and threats to patient safety are significant goals of basic nursing care (Benner et al., 2002).

The study revealed that slipping on a bathroom floor was yet another common incident that emanated from failure to ensure patient safety. These slips were often associated with the age of the patient and the elderly patients being more prone to slipping on bathroom floors. Yet, nurses are expected to anticipate sources of patient injury and implement measures to prevent these (SANC, 2004; DoH, 2011). The study observed that in instances where a nurse failed to take necessary

precautionary measures to ensure patient safety, active failures became a common occurrence.

### **(iii) Communication patterns amongst health professionals**

While communication between health professionals is crucial for patient continuity of care, the current study noted that existing communication patterns were often ineffective thus giving rise to active failures. A correlation between inadequate communication among health professionals and active failures was also suggested by the study. It became apparent that communication within the care team was perceived to be inadequate.

Nurses are expected to create and maintain accurate and adequate health records for patients under their care as an integral part of service provision to clients. Health records are a means by which information about the patient is communicated thus ensuring that continuity of care is maintained. It became apparent that in instances where, while in a haste to reach many patients within a given shift, omission of recording following nursing intervention was common. As a result of this breakdown in practice, continuity of care was compromised.

Written communication entails documentation of all nursing assessments and interventions timeously and accurately and is regarded as a measure of professional competency for nurses (SANC, 2004). However, the study noted many instances of inadequate documentation following interventions made by nurses including incomplete recording of routine observations or treatments administered in patient charts. Operational Nursing Managers gave examples of how inability to give a comprehensive report about patient care plan from one health professional to the other during a shift changeover affected patient care adversely. They were, however, cognisant of how the paucity of communication patterns, both verbal and written, create conditions for active failures. In instances where nursing assessments and interventions were not documented timeously and accurately, breakdown in the continuity of care was noted to be rife.

According to Kearney and Kenward (2010) knowing how to obtain consultation resources and services for patients requires a deep familiarity with channels of communication, resources and authorisation requirements across the institution. For

nurses to be able to facilitate continuity of care, collaboration with relevant members of the health care team, through effective communication becomes critical.

### **(b) Intended acts committed by nurses**

The nursing profession is regarded as a noble profession and is therefore expected to guard against any untoward or inappropriate behavior that tends to interfere with the needs and the rights of patients. Whereas trust is one of the cornerstones of the nurse-patient relationship, honesty ensures that the client's trust is maintained in a manner that safeguards the welfare of patients.

The study observed that malevolent acts related to deliberate deviation from defined rules for safe and approved method of performing a particular task is associated with intended causes of practice errors. Data revealed that this type of action arose in instances where procedures and standards of care were deliberately ignored thus exposing patients to unsafe nursing care. Telephonic interviews with members of the PCC revealed that there were cases where nurses intentionally committed actions that had adverse effects on patients, landing themselves with criminal charges by the courts of law and subsequent charges for unprofessional conduct by the PCC. Members of the PCC gave examples of the nature and types of criminal acts committed by nurses in the line of duty by describing a typical case of a critical incident that was subjected to professional conduct inquiry during their term of office. These acts fell into two broad categories namely: (i) fraud and forgery; and (ii) abusive behavior towards patients.

### **(i) Unprofessional conduct involving fraud and forgery**

The study reported cases of fraud and/or forgery that involved nurses which were presented to the PCC during professional conduct hearings. Chief amongst these were cases involving unauthorised use of patient property by nurses charged with the care of patients, thereby destroying the patient-client relationship and charging patients for otherwise free services. The committee members cited examples of young women who were desperate for termination of unwanted pregnancies falling prey to this type of criminal act.

The study revealed that at one time there were large sums of money which were misappropriated from a patient's accounts through fraudulent use of the patient's

credit card. It became apparent that in these cases nurses committed acts of unprofessional conduct deliberately and violated patients' rights. As a consequence, the trust relationship that existed between the nursing profession and patients was betrayed.

There were also a number of cases of fraud that involved falsification of patient records. The study observed that in the main, these involved use of records of existing patients to obtain medication prescription for use by non-hospitalised patients or the nurse him/herself. While this act of unprofessional conduct reflected a degree of desperation to help the sick in the community by nurses concerned, it also betrayed a trust relationship between the nurse and her/his patients. As a consequence, both the nursing profession and the health facility were put into disrepute by a nurse who obtained medication for personal use through falsification of patient records. Misappropriating any type of property in general and from patients in particular is not to be tolerated within the nursing profession. It is seen to be undermining the trust relationship that the patient and the employer have with the nurse. The researcher observed that although there were no formal systems of classification of offences in terms of severity, it was evident that the Council viewed fraud and forgery in a very serious light.

### **(ii) Abusive conduct**

The College of Nurses of Ontario (2005) describes abusive conduct to include acts or omissions that cause or may cause physical or emotional harm to a client. Abusive conduct may consist of physical, non-physical, verbal or non-verbal behaviour towards a patient. It includes conduct that may reasonably be perceived by the patient or others to be of a sexual or otherwise demeaning, derogatory or humiliating nature. Any abusive conduct by a nurse towards her/his patients is inconsistent with the fundamental professional obligations of the nurse. Such conduct is not tolerated by the public or the profession.

The PCC gave accounts of cases which were brought to their attention that involved patients being assaulted by nurses entrusted with their care. The study revealed that unprofessional conduct where patients were physically assaulted by nurses was common amongst women in labour and towards patients with mental illnesses. The study noted that nurses working in the delivery rooms had a tendency to verbally



abuse patients who were seen as being uncooperative during labour. While the action of the nurse reflects intentional action without prior intent, the profession expects nurse's actions to be underpinned by a commitment to putting the interest and safety of their patients first in all their nursing interventions. It also became apparent during data analysis that patients with mental illness were also vulnerable to assault by uncaring nurses. Cases of patients being sexually abused by nurses were noted to be on the increase. It was noted that in most instances of sexual abuse of patients the employer was able to institute disciplinary action with immediate effect without waiting for intervention by SANC.

### **5.3 THE NATURE AND CONSEQUENCES OF APPROACHES TO ERROR MANAGEMENT**

The current study reported error management strategies similar to those identified by the model. In instances where error was not recognised, consequences similar to those outlined in the model were observed. On the other hand, in instances where practice errors were recognised and reported, the study noted that investigations were conducted albeit at varying levels, ranging from internal investigation to referring of the case to an external agency. In instances where internal investigations were conducted, these were done superficially and tended to stop at finding a person responsible for the practice breakdown without any due consideration of the root cause of the incident. Yet the literature suggests that identifying the aetiology of errors in health care and factors contributing to them is crucial for improving patient safety (Wakefield and Maddox, 2000; Karga, Kiekkas, Aretha and Lemonidou, 2011). On the other hand the study noted that full investigation was common in specific areas where unexplained deaths of patients had occurred and this investigation often took the form of clinical audits.

The study observed that responses to adverse events were reactive in the main and primarily reflected limited consideration of how nurses function in various settings and how mistakes are made. Instead, most of the strategies identified reflected efforts directed at instituting disciplinary process following a case of reported adverse event. While defendants were given the opportunity to plead any mitigating factors during disciplinary process, the study observed that in the main these comprised of systemic factors that created conditions for latent failures within the work

environment. It became apparent during data collection that such factors were only taken into consideration when the severity of sentence given was determined. Invariably, contextual factors which contributed to practice breakdown were not addressed. The Institute of Medicine (IOM) report (cited in Benner et al., 2002) cautions that regulation and legislation related to error can create disincentives for error reporting, primarily because of their focus on individual responsibility while ignoring systemic factors that made errors possible.

The current study noted some attempts to get to the root cause of adverse events, albeit very limited. These seemed to have been limited to those adverse events which could not be directly linked to acts and/or omissions by nurses. Strategies for error management noted by this study included management of practice error by either covering up and or conducting an inquiry. The enquiry could either be done internally or externally. Each of the error management strategies and related consequences noted in this study are discussed in turn.

### **5.3.1 Management of practice breakdown by covering up**

There seemed to be a general reluctance to report errors which did not result in serious adverse events. The study noted that although reporting any adverse event irrespective of severity was encouraged, there were legal, regulatory and cultural barriers perpetuating a tendency not to report adverse events particularly those incidents that did not give rise to physical harm to the patient. Examples of instances where nurses would not disclose minor incidents for either fear of reprisal or of being accused of carelessness were noted in the current study. Elsewhere in the literature Benner et al. (2002) argue that blame and shame are part of self-defeating morality issues focusing on the character flaws of the practitioner rather than on experiential learning and ongoing knowledge development within practice.

It became apparent that the ability to report and to determine where errors are occurring is a fundamental step in error reduction. In this manner, both active and latent failures within the system can be identified and addressed. Without knowing where the errors are occurring within the system and inability to identify actions and interventions necessary to reduce them, failures will remain within the system, insidiously increasing the potential for future adverse event. The study noted that in instances where adverse events were not reported, latent causes of practice

breakdown were never discovered, acknowledged nor addressed. Thus without notification about the adverse event, opportunities for detailed analysis of all the contributing factors requisite for developing strategies for prevention of recurrence were missed. Yet, the literature suggests that identifying etiology of errors in health care and factors contributing to them is crucial for improving patient safety (Wakefield & Maddox, 2000; Karga, Kiekkas, Aretha & Lemonidou, 2011).

In addition, data revealed that patients' level of awareness of their rights was also a determinant on how incidents were managed. It would seem that in instances where the incident was not recognised by patients as such there was likelihood that the incident would be concealed by the nurse instead of being reported. It became apparent that instances where patients' ignorance about what constitute adverse events presented an opportunity for shielding nurses from being held responsible for the adverse event.

The study observed that ordinarily managers would conceal adverse events instead of instituting an investigation following an incident, unless there was a complaint by a patient or their relatives about poor care that may have affected patients and could be reported to the media. It is noteworthy that although negative publicity about the quality of patient care was often reported in the media at the time of data collection, the current study did not find use of public relations as a strategy for error management. Yet, the quantitative results of this study revealed that proactive reporting to the media about incidents that had potential or actual threat to patient safety including preventative measure for ensuring that similar incident do not happen again, has a great potential in restoring public confidence about commitment to safety by health care facilities.

### **5.3.2 Management of practice breakdown by internal enquiry**

The current study reported a process of inquiry similar to that identified by the model. A process that implied that both superficial and full investigation was a common course of action taken by management following reports of adverse events. It was noted that the institutions followed similar protocol in managing reported incidents. Specifically, all incidents that affected the smooth running of the hospital and could have detrimental effects to patients' welfare would be reported to the departmental supervisor for further management. It would seem that full investigation is conducted

in instances where a serious adverse event cannot be linked to possible acts and or omissions of a practitioner. On the other hand, the study noted that superficial investigation seemed to stop at finding the culprit without due consideration of the root causes for practice errors.

The researcher observed that in many cases if practice errors resulted in minor quality related problems, quite often no follow up was made. However, in instances where the adverse event gave rise to a near miss or sentinel event, a report would be completed and the responsible nurse could be disciplined. It would seem that managers felt relatively confident that if disciplinary action is taken against the nurse following a reported adverse event, the same adverse event will not occur again despite the underlying environment that gave rise to the problem remaining unchanged. Yet, Liang (2001) contends that focusing on an individual does not promote the elimination of mistakes nor maximize the systems functioning; nor does it induce improved performance for both the individual and the system. Instead, shaming and blaming the individual is highly counterproductive and tends to induce fear of punishment which inadvertently drives useful information about error underground. These results might shed some light on the assertion made by findings of a study conducted by Human Rights Watch (2011) which noted that despite initiating the system of monitoring maternal deaths in 1997, South African women continue to die due to the same shortcomings in the health system.

Although root cause analysis is a widely used methodology for dealing with safety related issues in the private sector, data revealed that the use of this approach as a strategy for error management in the public health sector was still limited. For example, the study noted that there were instances where clinical audits were conducted following reported adverse event. However, these clinical audits seemed to have been limited to paediatric and psychiatric departments. It would seem that conducting a full investigation enabled management to get to the root cause of the adverse event thereby allowing management to draw critical lessons from the incident for use in management of or prevention of similar incidents from happening.

Management of error through conducting a full investigation of an adverse event seemed to reflect a conscious effort to addressing contextual causes of practice breakdown by the management. This approach seemed to have allowed for more

accurate and rapid communication throughout the organisation of potential and actual causes of harm to patients thus building common knowledge about systems vulnerability.

### **5.3.3 Management of practice breakdown by external agency**

The researcher observed that, irrespective of the root cause of practice breakdown if reported, unsafe acts were managed in line with the provisions of the relevant statute. As a consequence, all reported incidents of practice breakdown were reported to the Council as acts of unprofessional conduct. The focus of this study was on error management by the Council as an external agency and those cases categorised as criminal were excluded from further exploration in the current study.

The researcher noted that in managing unprofessional conduct the preliminary investigating committee of the Council had powers to make a determination, including referral of the matter to the PCC or impairment committee for further management. There were instances where the preliminary investigation committee of the council would refer cases to the PCC with a recommendation that the practitioner found guilty of a minor offence be afforded an opportunity to pay a pre-determined fee as admission of guilt. In these instances, nurses found guilty of unprofessional conduct were given a period of up to one year to pay the fine and thereafter the case would be closed (SANC, 2007). In this approach, the underlying conditions that led to practice breakdown were not addressed and opportunities for learning from these incidents were missed. Yet, Benner et al. (2002) suggest that analysing this data has a great potential for developing new strategies for reducing recurrence of errors.

On the other hand, the preliminary investigation committee referred to the PCC all cases where there was a reasonable and probable grounds to believe that the nurse had committed an act of unprofessional conduct. In these cases, the study observed that in making a determination following a charge of unprofessional conduct the PCC was guided by the prescripts of the Council, setting out acts or omissions in respect of which the Council may take disciplinary steps against a nurse charged with unprofessional conduct (SANC,R. 373 of March 1970 ).The researcher observed that, in the period under study, at the most, nurses were charged and found guilty of failure to provide basic nursing care which seemed have threatened optimal patient care with maternity patients being the most affected.

Although it became apparent that during professional conduct hearings both the mitigating and aggravating factors were provided by the defense, this study observed that these factors were only taken into consideration in instances where there had been breaches of conditions for a suspended sentence or in instances where a practitioner had been found guilty of a criminal offence by the court of law. In the former case, the practitioner had to satisfy the council that the failure to comply with the stipulated conditions was due to circumstances beyond his or her control. In the latter case the practitioner would be afforded an opportunity to address the Council in extenuation of the conduct in question before the Council could charge her or him of unprofessional conduct (SANC, 2005). It would seem that nurses were disciplined even in cases of accidental departure from the acceptable standards. Elsewhere, research indicates that assigning blame to nurses is popular because it minimizes the impact of error since people generally prefer simple and obvious explanations (Green, 2009). As a consequence, antecedent factors to unprofessional conduct remain undetected and unaddressed.

This study noted that penalties imposed upon nurses found guilty of unprofessional conduct ranged from caution to reprimand; suspension from practice for a period of time, suspended suspension or removal of a right to practice nursing. Although suspension from practice was a common penalty handed to nurses found guilty of failure to provide basic nursing care, the study noted that such sentence was often suspended for varying periods of time on condition that the nurse is not found guilty of the same offence during the period of the suspended sentence. Effectively, these nurses remained in their workplaces and worked under the same conditions that gave rise to practice error in the first instance. This approach is contrary to observations made by Johnstone (2005) that practice errors rarely have a single cause and that mistakes rarely occur as a direct consequence of the actions of a single individual.

While penalties imposed were seen as a necessary deterrent to further acts of unprofessional conduct, their effectiveness in prevention of similar situations has never been determined. This approach of intervening at individual level does not address system issues that place patients at risk of unsafe nursing practice. Instead, it reflects a mechanical approach to public protection as it claims to protect the public by imposing punitive penalties to nurses found guilty of unprofessional conduct

without guaranteeing improved quality of care with subsequent attendance to the same health care facility. Johnstone (2005) notes that while this approach is mandatory, its appropriateness to improving quality of nursing is open to question. In this regard the author suggests that there is a need to develop strategies that will ensure that errors are managed in a more constructive and comprehensive manner (Johnstone, 2005). Similarly, Green (2009) argues that an inquiry that is judgmental and narrowly focused on the nurse is likely to overlook systems failures that render patient care environment unsafe.

This study revealed that there were cases reported by members of the PCC where it became apparent that patients were intentionally prejudiced through dishonesty or through a criminal offence by a nurse. In these cases a license to practice nursing was either permanently revoked or withdrawn for a number of years. Elsewhere, Johnstone (2005) argues that in instances where an individual nurse is reckless, uncaring or even has a malicious or criminal intent; nursing regulatory authorities (NRA) have a stringent responsibility to deal effectively with such an individual, to ensure that they are prevented from harming the patients and the public. Under these circumstances, the author maintains that taking a punitive approach may not only be appropriate but also strongly warranted.

#### **5.4 DESIGNING MANAGEMENT SYSTEMS FOR IMPROVING PATIENT SAFETY**

The current study observed that integrated management of practice errors is a product of a combination of integrated strategic interventions applied across the spectrum of the health system. Specifically, management systems need to be designed which are targeted at pre-emptive management of error inducing conditions prevalent in the external and corporate environments. Strategies need to be developed which promote proactive management of practice breakdown and create a positive practice environment for nurses. Each of these strategies is discussed in turn.

##### **5.4.1 External environment**

In the context of this study the external environment is regarded as a key requisite for the creation of a positive practice environment as a condition for pre-emptive and active management of practice breakdown. Of note were the legislative frameworks,

policies and regulations that govern nursing and the functioning of the health system. These prescripts seem to shape and inform business processes within the corporate environment. For instance, the study noted an overwhelming consensus amongst respondents on the role of the educational systems as a condition in the external environment required for integrated management of practice breakdown in nursing. In particular, educational systems that reflect a balance between theoretical and clinical competence for nurses were emphasized.

The study results revealed that the role of developing continuous competencies amongst nurses is a critical condition for safe patient care. It became apparent that the context, content and structure of educational programmes must produce a competent nursing workforce with the necessary skills mix required for optimal patient care. In a similar study Kearney and Kenward (2010) recommended that where patient safety is a goal, regulators, employers and the public should invest in the development of competencies for nurses beyond initial licensure. Yet in South Africa, programmes for continuous professional development for nurses are still to be developed.

#### **5.4.2 The corporate environment**

In the context of this study the corporate environment provided an institutional context for interplay between the patients nurses and work processes as necessary in the creation of a positive practice environment for nurses as a condition for pre-emptive management of practice breakdown. Of significance in this study was: (a) institutional policies and practices; (b) design and management of infrastructure and physical space; (c) management style and nature of decision making; and (d) nurses' capabilities. Each of these is discussed in turn.

##### **(a) Institutional policies and systems**

It would seem that institutional policies and systems for patient care are amongst the key predictors of management of practice breakdown within the corporate environment. Redesigning these systems and instituting safe practices within the health care environment were seen as essential in decreasing the likelihood that patients were placed at risk of being harmed by care processes. These findings are corroborated by the study conducted by Nolan (2000) who found that institutional



policies and systems underpinning the context, organisation and management of work environment are critical instruments in the design of safe care systems.

The study noted an overwhelming consensus amongst all respondents from the four groups on the item relating to the recognition of the need to design a system that allows for all concerned to acknowledge that practice errors arise from preventable situations prevailing within the internal environment as a step towards integrated management of practice errors. Elsewhere in the literature it is asserted that a safe system has procedures and attributes that make errors visible to those working in the system so that they can be corrected before causing harm to patients (Nolan, 2000).

It would seem that a range of policies and performance guidelines for each of the areas of clinical care would be required for optimal patient care. The study noted that chief amongst these would be regular updates and dissemination of clinical policies and procedures that promote and support best practices. It would seem that such guidelines would ensure standardisation of care plans and also serve as a monitoring instrument for assessing adequacy of clinical care.

In addition it was apparent that other critical policies and procedures to be considered by organisations in developing policies for error prevention would include a non-punitive policy towards error, clear standard operating procedures for taking action to reduce error-inducing conditions and guidelines for training in error avoidance and management.

### **(b) Infrastructure and physical spacing**

The study noted that the elements of infrastructure, physical spacing and availability of medical equipment are necessary for the creation of a positive practice environment requisite for pre-emptive management of practice breakdown. In particular, well maintained and reliable equipment and the choice of wards for admitting patients in line with presenting illness of the patient are necessary to ensure that patients are not harmed by the environmental factor.

### **(c) Management decisions**

With regards to the nature and impact of decisions made by managers it became apparent that managerial decisions made in relation to support of clinical care of

patients is an important measure in ensuring patient safety. It would seem that the key decision making area related to ensuring that sufficient resources (material and human) are allocated for clinical care responsibilities. Adequacy in resource allocation ensures that conditions that cause latent failures are addressed thus reducing the likelihood of recurrence of practice breakdown. Therefore, management needs to be able to argue with sound motivation for allocation of adequate resources – material and financial – requisite for efficient clinical care. Such decisions enhance safe patient care and serve as a pre-emptive strategy in the integrated approach to management of practice breakdown. Erlen (2007) suggests that preventing harm to patients and promoting their wellbeing require that healthcare providers consider how the patient will be affected by decisions made by management. The current study noted that nurses were in support of managerial decisions that encourage the use of protocols, flowcharts and pathways as instruments for guiding decision making.

#### **(d) Nurses' capabilities**

Overall there was agreement amongst the four groups that the level of competency of nurses involved in direct patient care is a factor in the prevention of active failures. Group consensus was found on all except one of the nine items. It would seem that because nurses are frontline providers of care, what they do or fail to do tend to have an immediate impact on health outcomes. All four groups were in agreement about learning areas directed at improving clinical competency for nurses. All participants agreed that nurses should possess adequate knowledge and skills requisite for patient care responsibilities. Developing capable, motivated and supported health workers is essential for overcoming bottlenecks to achieve national and global health goals (Wook, 2006). Such skills would enable nurses to make sound clinical judgments and enhance understanding of their scopes of practice.

All groups agreed on the measures to be taken by nurses to prevent adverse events including appreciation of the need to apply measures to ensure patient safety in all their clinical interventions and understanding that accurate documentation following nursing intervention is an integral part of safe nursing practice. These results were corroborated by the findings of a study conducted by McMaster (n.d.) who suggests that strengthening professional accountability for nurses can strengthen nurse's capabilities to take measures that prevent adverse events.

In addition, all groups agreed on measures to be taken by nurses that would ensure proactive management of practice errors. These measures in their opinion include reporting of adverse events irrespective of severity; appreciation of the significance of conducting in-depth clinical review through collecting and analysing all data; and learning from all kinds of adverse events. Furthermore all groups agreed on the need to ensure continuous competency for nurses by engaging in programmes for continuing professional development in specific job related skills and competencies.

## **5.5 MEASURES REQUIRED FOR ACTIVE MANAGEMENT OF PRACTICE BREAKDOWN**

The study revealed an acknowledgement by all concerned that practice breakdown is a function of the whole system and not limited to individuals in the frontline of service delivery. The study noted a common understanding amongst the four groups that focusing on an individual does not promote the reduction of practice errors. In addition, it became apparent that nurse managers would have to be instrumental and take a leadership role in the implementation of measures regarded as core in the management of practice breakdown.

Within a systems thinking context, nurse managers as policy makers need to advocate for policies and practices that maximize the system's functioning thus inducing improved performance from both the individual and the system. As advocates for patient safety, Operational Nursing Managers need to consider creation of positive practice environments for patient care. In this regard nurse managers need to consider drawing up standard operating procedures for making errors more visible when they do occur so that they may be intercepted and managed holistically. Finally, nurse managers need to draw up procedural codes requisite for mitigating the impact of error when they are not detected and interrupted. These results were corroborated by the findings of the IOM report (1999) which suggest that these measures would improve patient safety, regardless of where care is provided.

## **5.6 THE DESIRED OUTCOMES OF INTEGRATED MANAGEMENT OF PRACTICE BREAKDOWN**

The study observed that the desired outcomes of an integrated approach in the management of practice errors would impact positively at all levels of the health system. However, the study noted that the degree to which managers agreed on the desired outcome was comparatively lower than that of the victims. The study noted shared views on the elements of the desired outcomes of integrated management of practice breakdown amongst all four groups. All four groups shared the view that integrated management of practice breakdown would yield a number of desired outcomes, including overall improvement of patient safety, open discussions about practice errors and a workplace environment conducive to error reporting. In their view, this improvement would be achieved if the patient care environment promoted a culture of reporting all adverse events irrespective of severity without being constrained by fear of reprisal. In addition, there was consensus amongst the four groups that the ability to engage in open discussions about practice errors would provide opportunities for learning from errors and designing systems that would ensure prevention of recurrence.

## **5.7 THE RELATIONSHIP BETWEEN EXTERNAL AND CORPORATE ENVIRONMENTS, ACTIVE MANAGEMENT OF PRACTICE BREAKDOWN AND THE DESIRED OUTCOMES OF INTEGRATED APPROACH TO MANAGEMENT OF PRACTICE ERRORS**

It would seem like interventions within each of the subsystems of the health system had varying relationships to each other. The study noted some variables as having a high but moderate and positive relationship, while others had a very weak relationship. The positive and moderate relationship between institutional policies, managerial decisions and infrastructural arrangements was remarkable.

Typically, managers would make decision in relation to their generic managerial functions including, planning and organising amongst others. It seems that if nurse managers are to make a positive impact on matters regarded as critical in the prevention of latent failures, they have to find space for active participation in the policy formulation processes within the health sector. Otherwise their managerial responsibility for organising the patient care environment could be compromised by

existing organisational policies, such as policies related to infrastructural design and physical spacing of the patient care environment.

In addition, the study noted a moderate and positive correlation between the external environment and all corporate environment variables (institutional policies and practices, physical design and infrastructure, and managerial decisions) with the exception of nurses' capabilities. As a result, at all times nurses need to be sensitive, relevant and responsive to individual, community and societal health needs and their changing circumstances (SANC, 2004). All corporate environmental variables (except nurses' capabilities) are shaped and influenced by variables in the external environment for proactive management of practice errors.

## CHAPTER SIX

### A RECOMMENDED MIDDLE–RANGE THEORY OF INTEGRATED MANAGEMENT OF PRACTICE BREAKDOWN

#### 6.1 INTRODUCTION

The purpose of this study was to provide a unified frame of reference for management of practice breakdown for the nursing profession in order to prevent predictable errors and correct both the systemic and individual factors contributing to practice breakdown thereby introducing active practice breakdown management. To this end a middle range theory of integrated management was developed.

Chinn and Kramer (2011:185) define a theory as a creative and rigorous structuring of ideas that projects a tentative purposeful and systematic view of phenomena. Polit and Beck (2012) describe four levels of theory development: *meta-theory*, focusing on methodological and philosophical perspectives; *grand theories* which define broad perspectives on the goals and structure of a discipline, *middle range theories* which contain a limited number of concepts and are testable; and *practice theories* which focus on desired goals and prescribe actions necessary to achieve the desired goals.

Theories vary in their level of abstraction. The more abstract and broader type of theory is referred to as a grand theory whereas the more concrete and narrower type of theory is referred to as a middle range theory (Fawcett, 2005:19). Grand theories are composed of broad and abstract concepts and propositions that can be applied to a very wide range of situations, whereas a middle range theory is made up of limited concepts and propositions and tends to be descriptive of a more specific situation or phenomenon under study (Chinn & Kramer, 2011:188). This chapter presents a middle range theory of integrated management of practice breakdown based on the South African context. The middle range theory presented in this chapter builds on the illustration provided in the previous chapters.

Chinn and Kramer (2004) identify six descriptive components of a theory, including: (a) purpose of the theory, which specifies the context and the situation in which the theory applies; (b) concepts which are groups of words which have a logical relationship with one another to form a coherent structure or pattern; (c) definition of concepts to clarify meaning of concepts within the context of the theory; (d) relationship statements which structurally interrelate the concepts of the theory; (e) structure of the theory which gives overall form to the conceptual relationship within it; and (f) assumptions which are basic givens or accepted truths that are fundamental to theoretical reasoning.

Chinn and Kramer (2004) suggest that the six components of theory namely, goals, concepts, definitions, relationships, structure and assumptions form categories that can be used to describe a theory and are also useful in the analysis of an existing theory as they are embedded within a theory when it is being developed.

## **6.2 THE PURPOSE OF A MIDDLE-MIDDLE-RANGE RANGE THEORY FOR INTEGRATED MANAGEMENT OF PRACTICE BREAKDOWN**

The ultimate aim of the middle-range theory for integrated management of practice breakdown is to provide the features of a unified framework for guiding the management of practice breakdown in a manner that manages practice breakdown actively and prevents predictable errors by redress of both systems design and human factors contributing to practice breakdown. The middle range theory suggests a systems oriented approach with active and pre-emptive strategies for management of practice errors thus facilitating effective management of practice breakdown prevalent in nursing care settings.

## **6.3 DEFINITION OF CONCEPTS IN THE MIDDLE- RANGE THEORY**

Concepts are the building blocks of a theory. Chinn and Kramer (2004) state that concept definitions can be implied by how the theorist uses the conceptual terms in the context (relatively associative definition) or by how he/she defines terms specifically by what they mean. As concepts are defined, ideas about the relationship between them begin to form. Since the phenomenon of interest in this study is error reduction through organisation learning, this phenomenon is regarded as the main concept in this middle-range theory. The researcher defines the substantive concepts

of integrated management of practice breakdown in a relative associative manner in order to bring an understanding of how integrated management of practice breakdown is conceptualised in this particular theory.

### **6.3.1 Error reduction through organisational learning**

Within the context of this middle-range theory error reduction through organisational learning is seen as a product of a combination of integrated, strategic, and deliberate interventions applied across the spectrum of the health system. It entails a co-operative, non-threatening, blame free approach to management of practice breakdown, an approach which encompasses the entire system and its members as a primary tenet for the reduction of error through organisational learning. It comprises both active and pre-emptive strategies for management of practice breakdown.

### **6.3.2 Active management of practice breakdown**

Active management of practice breakdown involves the application of defined deliberate and goal focused interventions aimed at positive management of all incidents within the corporate environment whenever they occur. This strategy involves conducting a full investigation of all adverse events irrespective of severity, making a distinction between the violation of the legislation governing nursing practice, and managing the press.

### **6.3.3 Pre-emptive management of practice breakdown**

Pre-emptive strategies entail the use of preventive strategies targeted at prevention of predictable errors and correcting systems designs that contribute to practice breakdown. These include strategies for prevention of recurrence of practice breakdown or mitigation of the impact of practice errors.

### **6.3.4 Positive practice environment**

The creation of a positive practice environment involves the cultivation of an enabling external and corporate environment and redesign of systems and work processes in support of patient safety and the prevention of predictable errors. Accordingly, the elements of a positive practice environment consist of: (a) the external environment as a context of care; (b) the corporate environment as an organisational context of care; and (c) organisation and management of care.



#### **6.3.4.1 The external environment as a context of care**

In the context of the middle-range theory the external environment as a context of care refers to the legislative framework emanating from the various organs of state which have an influence on the business processes within the corporate environment.

#### **6.3.4.2 Corporate environment**

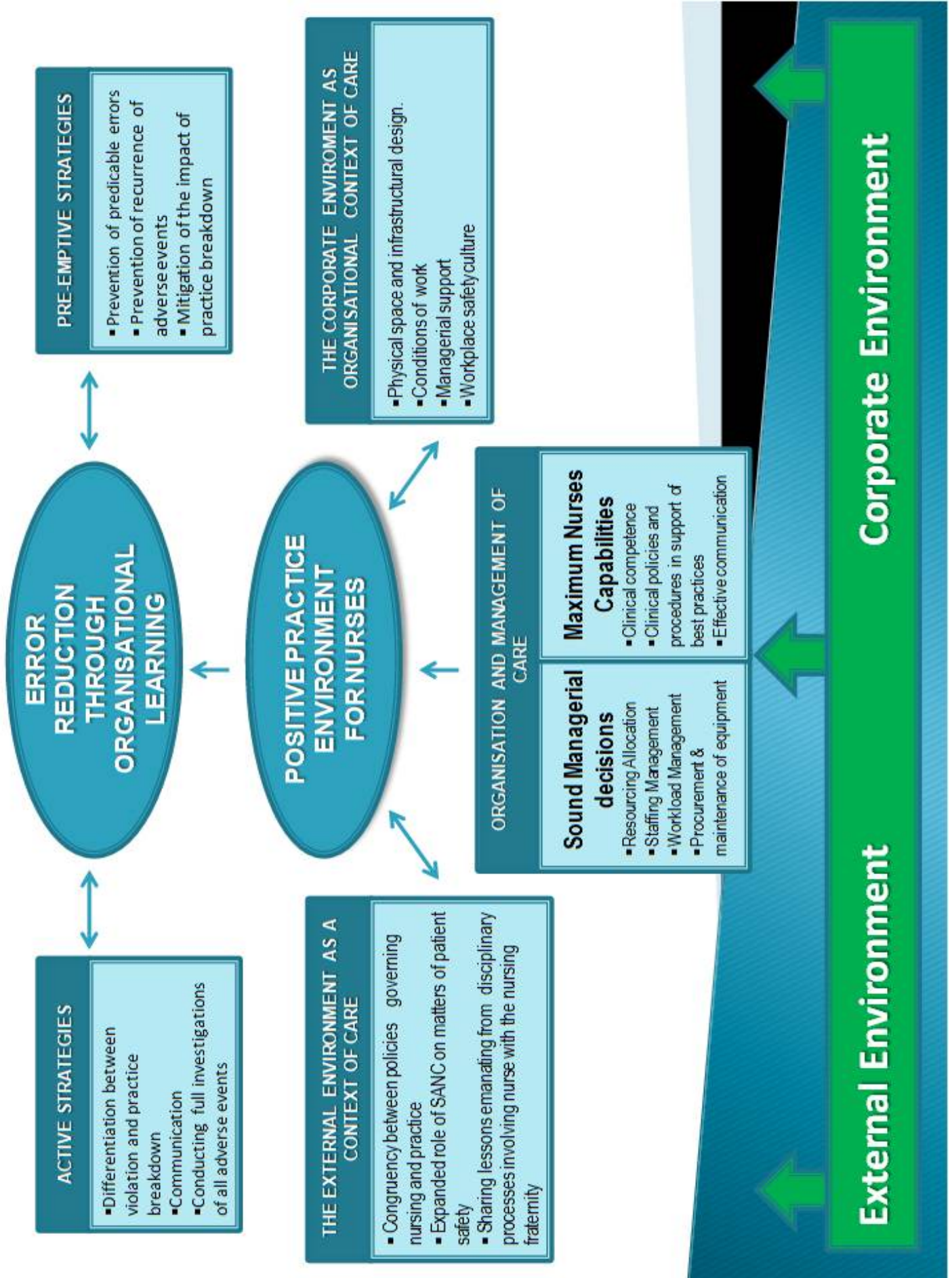
The corporate environment refers to the organisational context of care, including physical space and infrastructural design, conditions of work, managerial support and the prevailing workplace safety culture.

#### **6.3.4.3 Organisation and management of care**

Organisation and management of care denotes the work processes and management decisions relating to managing resources and workforce and organisation of care plans.

### **6.4 THE PROPOSED STRUCTURE AND RELATIONAL STATEMENTS OF THE MIDDLE-RANGE THEORY**

Theories are basically sets of rational rules and they contain many concepts and specify how concepts relate to one another. According to Chinn and Kramer (2011), concepts should be given a structural form to clarify their relationship by means of a symbolic representation. The structure of the middle-range theory is determined by the concepts identified and its relationship between the concepts. The relationships, in turn, determine the strength and quality of the elements of the middle-range theory (Chinn & Kramer, 2011). To make it possible to follow the reasoning of this middle-range theory, the nature of its structure and the process description of the middle-range theory will be described simultaneously because of the nature of their interrelatedness. The middle-range theory is depicted in Figure 6. As can be seen from this figure, all central and related conceptual relationships are included within a single structure.



Chinn and Kramer (2011) describe relationships as linkages between and amongst concepts. The manner in which conceptual relationships emerge provides clues regarding the theoretical purpose and the assumptions on which the theory is based. These relational concepts include: (a) error reduction through organisational learning; (b) active management of practice breakdown; (c) pre-emptive management of practice breakdown; and (d) creation of a positive practice environment. These concepts are related to each other and together suggest the elements of the middle-range theory for integrated management of practice breakdown. These elements focus on both the systems and individual contexts of care requisite for safe nursing practices and are described in turn.

#### **6.4.1 Strategies for active management of practice breakdown**

The middle-range theory suggests: (a) drawing a distinction between violation practice errors; (b) media engagement; and (c) conducting a full investigation of all incidents of adverse events as measures for active management of practice breakdown.

##### **6.4.1.1 Drawing a distinction between violation and practice errors**

Drawing a distinction between practice breakdown and violation of the rules and laws governing nursing practice and criminal acts committed by nurses while on duty, is a critical first step in the integrated approach for managing practice breakdown. This approach would allow channelling of all incidents to appropriate structures for further management. In this approach, practice errors would be referred to the designated internal committee for adverse events; violation of legislation would be referred to the preliminary investigation committee of SANC, and criminal acts would be reported to the South African Police Services. Therefore a system for classification of all incidents including a process map for management of all types of incidents should be determined.

##### **6.4.1.2 Communication**

Proactive communication directly with affected patients and the media was noted as an integral part of active management of practice breakdown. The use of this strategy will ensure that members of the public are provided with accurate information as early as possible. This approach to communication will protect the

image of the institution where adverse event took place by declaring upfront the causes and strategies for active and pre-emptive management of practice breakdown.

#### **6.4.1.3 Conducting a full investigation**

Full investigation of all incidents irrespective of severity should be conducted as a strategy for active management of practice breakdown. These investigations are to be guided by a commitment by all concerned to learn from the incident and to instituting corrective measures that would prevent recurrence of similar incidents. The middle-range theory suggests a process for conducting a full investigation of all adverse events. This process entails the establishment of a committee comprising both senior officials and practitioners who would institute an investigation of all cases of adverse events. This committee would be expected to develop a process map for management of all adverse events. In addition, this committee would be expected to conduct reviews of all incidents with a brief to focus on how the incident occurred rather than who is responsible. Within this approach management would be able to get to the root cause of an adverse event and thereby discover basic and contributing causes of practice breakdown. This approach to practice error management reflects commitment by management to systems instead of individual orientated error management. In addition, conducting a full investigation of all adverse events would allow for more accurate and rapid communication throughout the organisation of potential and actual causes of practice breakdown thus building common knowledge and awareness to all about the system's vulnerability. Furthermore, it is proposed that active management be in tandem with pre-emptive management for the goal of error reduction through organisational learning to be achieved.

#### **6.4.2 Strategies for pre-emptive management of practice breakdown**

This middle-range theory suggests that recognition of error producing actions or conditions is a critical factor in the early detection of error inducing situations and in mitigating the impact of errors in instances where practice breakdown has taken place. It suggests a number of strategies for pre-emptive management of practice breakdown, including: (a) prevention of predictable errors; (b) prevention of recurrence of adverse events; and (c) mitigation of the impact of practice error.

#### **6.4.2.2 Prevention of predictable errors**

Prevention of predictable errors is about ensuring that patient safety efforts are on an equal footing with finance and resource allocation and proactive management of risk factors inherent in care environments. Therefore, management should set up mechanisms for ensuring that adequate resources which would ensure that corrective actions are taken where gaps are identified are allocated in all areas of need. In addition, appointment of safety champions for every section in the institution is suggested. Furthermore, nurses should be trained in procedures for reporting all incidents.

#### **6.4.2.2 Prevention of recurrence of adverse events**

The middle-range theory identifies strategies for prevention of recurrence as being central to an integrated middle-range theory for the management of practice breakdown, through:

- (a) Leadership commitment to instilling an organisational climate conducive to error reporting.
- (b) Implementation of changes requisite for prevention of recurrence of practice breakdown.
- (c) Implementation of procedures for analysing errors and providing feedback to frontline workers providing direct patient care.
- (d) Ensuring that lessons are shared within the organisation.

#### **6.4.2.3 Mitigation of the impact of practice breakdown**

Mitigating the impact of error should be based on the understanding that in instances where practice breakdown takes place its impact on the functioning of the organisation's operating systems should be minimized. Associated strategies suggested by the middle-range theory include the development of a monitoring system which will ensure that in instances where lessons are identified, necessary changes are put in place. In addition, procedures to make error visible when it happens so that error could be intercepted should be designed. Furthermore, analysis of the frequency, type and level of severity of all incidents and the lessons learnt should be carried out.

## **6.5 CREATION OF POSITIVE PRACTICE ENVIRONMENT**

The attainment of a positive practice environment is incumbent on an approach to management of practice breakdown premised on acknowledgment that liability to practice breakdown is strongly affected by the context and the conditions of work. Therefore, creation of a positive practice environment becomes a necessary condition for facilitation of effective implementation of both the active and pre-emptive strategies in the management of practice breakdown.

This middle-range theory suggests conditions in the external and corporate environments requisite for attainment of a positive practice environment as a defined condition for error reduction through organisational learning. These include: (a) the external environment as a context of care; (b) the corporate environment as an organisational context of care; and (c) organisation and management of care.

### **6.5.1 The external environment as a context of care**

The middle-range theory identifies the legislative frameworks, policies and regulations that govern nursing and the functioning of the health system as prescripts which shape and inform business processes within the corporate environment. Congruency between nursing workplace demands and national staff retention policies and incentive schemes is a necessary condition for the creation of a positive practice environment for nurses. National and provincial government policies and procedures governing the functioning of health care systems should take cognisance of their potential impact on the internal care environment. In particular, national staff retention policies, designation of health establishments for specialised health facilities, and incentive schemes, should achieve their desired outcomes without compromising the ability of management to respond to the needs of the dynamic patient care environment. Finally, SANC should set up mechanisms for sharing lessons emanating from the disciplinary processes involving nurses with nursing management. This approach would begin to advocate for the improvement of working conditions for nurses thus contributing to the creation of a positive practice environment for nurses.

### **6.5.2 The corporate environment as organisational context of care**

The role of nurses as frontline providers of patient care who are ultimately responsible for identification and analysis of practice breakdown is notable. Willingness to report all incidents is a first step towards active management of practice breakdown. In instances where all incidents of practice breakdown are reported promptly, management would be better placed to institute corrective measures in time for mitigating the impact of practice breakdown and prevention of recurrence.

Cultivation of an error reporting culture within the corporate environment should be regarded as key in the reduction of practice breakdown. Therefore, an organisational culture conducive to immediate reporting all adverse events must be developed for nurses. This culture could be enhanced when nurses are assured of confidentiality when reporting adverse events. It is believed that such an environment would provide a safe space for conducting a full investigation.

In addition, appropriate organisational design and conditions of work conducive to optimal nursing practice were identified as critical factors in the enhancement of patient safety and the attainment of a positive practice environment required for reduction of error through organisational learning. The infrastructural design and physical layout of the wards have a critical role in enhancement of patient safety. Of significance is the design and layout of acute care wards. For instance, a nurses' work station located in the centre of the paediatric ward is a type of physical layout that would allow a full view of all babies admitted in paediatric wards.

Furthermore, the creation of working conditions for nurses which are conducive to optimal care for patients is identified as a factor which is necessary for the creation of a positive practice environment. Conducive conditions of work provide requisite support in the reduction of error through organisational learning. In addition management support of care processes is noted as necessary for the creation of a positive practice environment.

### **6.5.3 Organisation and management of care**

The middle-range theory enumerates the organisation and management of care as a third aspect of institutional arrangements and processes required for the creation of a positive practice environment. These processes include: (a) management decisions; and (b) maximising the nurses' capabilities.

#### **6.5.3.1 Management decisions**

Management decisions should ensure that patient safety efforts are on an equal footing with allocation of finance and other resources. Therefore, paying attention to sound policy and practice related frameworks which guide decisions about allocation of material, financial and human resources required for the attainment of a positive practice environment becomes a key decision necessary for the attainment of a positive practice environment for patient care. With regards to human capital, sound decisions relating to the determination of staffing norms and work load management would enhance the creation of positive practice environment for nurses in South Africa. Therefore, staffing norms should be sensitive to acceptable patient-nurse ratios in line with the demand for care. In addition workload management should be aligned to the disease profile and nurses' ability to perform. Furthermore, the middle-range theory identifies the need for internal policies and procedures that would ensure efficiency in procurement and maintenance processes for all equipment required for safe patient care.

#### **6.5.3.2 Maximising nurses' capabilities**

The middle-range theory identifies intervention directed at improving nurse's capabilities in support of the creation of a positive practice environment for nurses. Attainment of initial and continuous clinical competence by nurses is crucial in making sound clinical judgments necessary for optimal nursing care. In addition, clear performance guidelines relevant to the various practice areas should be made available to all newly qualified nurses and to those nurses working in areas where patients with complex conditions are admitted. Furthermore, mechanisms for a periodic review, update and dissemination of clinical policies and procedures should be established. Finally, effective communication amongst members of the health care



team about patient care plans and interventions is regarded as key in the attainment of a positive practice environment.

## **6.6 ASSUMPTIONS MADE BY THE MIDDLE-RANGE THEORY**

The process of creating conceptual meaning was based on the assumption that conceptual meaning does not exist as an “out there” reality to be objectively discovered. Instead it is deliberately created from experiences which are often common and shared (Chinn & Kramer, 2004). The authors note that such experiences can also be unique based on the individual’s own subjective experiences. Accordingly, ideas expressed individually by study participants from each of the sectors during Phase 3 of the current study were used to identify and define common concepts and inherent assumptions to be used as a foundation for determination of theoretical meaning of concepts central to management of practice breakdown in nursing. In addition, logical relationship between the common concepts established was used to form a coherent structure of a conceptual middle-range theory.

This middle-range theory is based on the following assumptions:

- (a) Improving safety at the point of care is a critical aspect in prevention of practice breakdown.
- (b) The ability to determine where errors are occurring is the first and a fundamental step in error reduction. Within this approach, both active and latent failures within the system would be identified and addressed.
- (c) Designing and implementation of a framework with mutually reinforcing elements for promoting patient safety will yield an integrated approach in the management of nursing practice breakdown.
- (d) Emphasis on prevention rather than punishment is the preferred method to mitigate systems vulnerability and reduce practice errors.
- (e) The systems approach is vital to preventing predictable errors and correcting systems design that contribute to practice breakdown once they have been identified.

## **6.7 USABILITY OF THE MIDDLE-RANGE THEORY**

In the context of the study the middle-range theory for integrated management of practice breakdown was considered the most appropriate for answering questions relating to practice breakdown in nursing in an integrated approach because of its focus on arriving at a changed situation and new learning rather than problem solving. It is envisaged, however, that such a middle-range theory will be recommended for implementation by all stakeholders regarded as key in the implementation of the proposed integrated approach for the management of practice breakdown by the nursing profession in South Africa.

## **6.8 CONCLUSION**

To a very large extent, nursing practice outcomes are a function of two types of dynamic and interactive environments i.e. the external and corporate environments. The nature and the type of business processes within the corporate environment is shaped and influenced by factors prevailing in these two environments. Of note in the external environment were the legislative frameworks, policies and regulations that govern nursing and the functioning of the health system. Whereas in the corporate environment, the interplay between the organisational context of care, nurses capabilities and management decisions on resourcing of patient care activities are the main determinants of the calibre of processes and performance of nursing care interventions. The effects of this interplay became more prominent in areas where the demands on nurses for high level of acuity within an environment fraught with chronic staff shortages exacerbated the risk for practice breakdown. It would seem that the workplace culture, in which nurses worked, had left them feeling disempowered and unable to challenge unsafe practices and poor decision making which seem to trigger practice breakdown.

Responses to adverse events were reactive in the main and primarily reflected limited consideration of how nurses function in various settings and how mistakes are made. Instead, most of the strategies identified reflected efforts directed at instituting disciplinary process following a case of reported adverse event. Defendants were given the opportunity to plead any mitigating factors during disciplinary process, and in the main these comprised of systemic factors that created conditions for latent failures within the work environment. However, these factors were only taken into

consideration in the determination of severity of sentence passed. This, invariably, leaves contextual factors which contribute to practice breakdown, unaddressed.

Although some attempts to get to the root cause of adverse events were noted, albeit very limited, these were confined to those adverse events involving patients with mental illness or paediatric patients. Strategies for error management noted by this study included management of practice error by either covering up and or conducting an inquiry. The inquiry could either be done internally or externally.

## **6.9 FURTHER RECOMMENDATIONS**

The following further recommendations with specific reference to further research are based on the findings of this study.

- (a) The middle-range theory for the integrated management of practice breakdown needs to be evaluated for its empirical soundness and usability.
- (b) The voices of patients as the stakeholders central to the purpose of management of practice breakdown are silent. Therefore, perspectives of patients on management of practice breakdown should be sought through further research on the subject.

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## LIST OF ANNEXURES

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