

**REDESIGN OF A MODEL OF NURSING PRACTICE:
A CASE STUDY**

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A thesis submitted in total fulfilment of the
requirements for the degree of Master of Nursing
(Honours)

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March 2004

Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis which I have qualified for or been awarded another degree or diploma.

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Abstract

Models of nursing practice create a context, boundary, direction and expectations for nurses, patients and other members of the health care team. The literature is scanty in regard the experience of Australian nurses faced with the process of redesign in their workplace. This study presents a case study of the process of designing a new model for a surgical ward in a large hospital in Western Sydney and explored the nurses' experiences of this redesign process. The participants were the nurses working in the ward and the nurse managers associated with the ward management and included the nurse unit manager and directors of nursing.

Data for the case study were accessed from a number of sources for different purposes. For the description of the ward environment data came from: ward rosters, shift staff ratios, sick leave, staff attrition, bed occupancies, diagnostic related groups and ward movements. For the comparison of the new and old models of nursing practices data came from: observations, conversations, posters and rosters. For the nurse's experience data sources were: interviews and meetings.

The case study of the redesign of the model of nursing practice showed that change is a difficult process, which needs to involve all stakeholders. Education and debriefing is imperative and interaction between nurses and managers is essential. When introducing change evaluation of the quality of nursing care delivered to patients needs to be included. No additional cost was incurred during the redesign process.

The description of the nurse's experience showed that they were resistant to change, were stressed by the lack of preparation understanding and ownership during the process, and not able to empower themselves. There was no reduction in work related stress.

There are a number of implications for clinicians, managers and educators from this case study. Managers and clinicians must share an effective communication process during redesign and identify common outcomes. Clinicians need to be encouraged to work towards a vision of nursing practice through debate and education. Educators must be used to support the redesign process by preparing nurses to undertake change, provide information on models of nursing practice and change theory.

Recommendations for future research include evaluations of the role of education in redesign and the effect of redesign from patient perspective. Other studies could include descriptive studies of nurse managers' experiences of redesign in a clinical setting and reasons why nurses are resistant to change.

Acknowledgments

I would like to thank Professor Lesley Wilkes and Dr Jane Cioffi for their generous sharing of expertise and dedicated support during my candidature. The encouragement and understanding I received from both of them during my illness was enormously appreciated.

I am thankful to Shantala Mohan and Anna McManus for their continued help throughout the project.

Without the constant support of my family and friends, I would never have been able to complete this thesis and for that I am grateful. To my daughters, Jaimie and Chloe, who were ever-so patient, my mother, Gail, for her practical help and support and my close friends who encouraged, supported and understood – thank you.

Thank you to the staff at the hospital where the project took place. Without your generous contribution this project would not have been as successful.

Lastly, but not by any means least, I thank God for the strength to do what needed to be done to complete this work.

I can do all things through Christ who strengthens me (Phil 4:13, NKJ, 1991).

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Chapter 1: Introduction

1.1 Introduction to the study

Models of nursing practice drive the way in which nurses carry out nursing work. They create a context, boundary, direction and expectation for nurses, patients and other members of the health care team in relation to the way nurses organise their work. In the face of restructure, redesign and/or downsizing, a focus on skills mix and the international shortage of nurses is an imperative in this, the 21st century, for researchers examining the way in which nurses work.

This study will investigate the redesign process of a model of nursing practice and the nurses' experiences of that redesign in a surgical ward in a large metropolitan hospital in Sydney, Australia. The aim of this chapter is to contextualise the study.

1.2 Background to the study

The context of the study is the health care system of New South Wales and the issues for nurses currently working within this system. The following sections introduce the general structure of health care in New South Wales and the issues for nurses working within this system.

1.2.1 Organisational structure of health in NSW

The structure of health care delivery in New South Wales (NSW) is made up primarily of the NSW Department of Health as well as the Area Health Services (AHS), the Children's Hospital at Westmead, Corrections Health and the Ambulance Service of NSW (NSWHealth, 2003). The AHSs were established over time under the Area Health Services Act 1986 to promote, protect and maintain the health of communities (NSWHealth, 2002). Each AHS is governed by a board and has a central executive (NSWHealth, 2003).

The Minister for Health oversees the organisation and delivery of health services in the state via health service boards and the Director-General. There are a number of portfolios

that serve the Director-General and they include the following areas: audit, communication, Director-General's office, executive and corporate support, operations, policy and public health, and Chief Health Officer (NSWHealth, 2003).

The NSW Department of Health

'funds public health services, develops policy, supports the statutory role of the Minister for Health, manages public health issues, and monitors the performance of the health system. The public health organisations plan, deliver and coordinate local health services, manage resources, and maintain a balance between treatment and prevention services within their geographic areas'

(<http://www.health.nsw.gov.au/aboutus/index.html>. Accessed 03/08/03).

The NSW Department of Health identifies six key attributes; sharing clear directions, having a skilled and valued workforce, engaging the community, promoting working partnerships, supporting informed decision-making and embracing innovation (NSWHealth, 2000). The key goals of the NSW Department of Health for the period 2000 – 2005 are healthier people, fairer access, quality health care and better value (<http://www.health.nsw.gov.au/aboutus/index.html>. Accessed 03/08/03).

The New South Wales Department of Health incorporates 165 general public hospitals, 50 multi-purpose facilities, 572 community health centres, 74 early childhood centres, the Ambulance Service of NSW, 2 special children's hospitals, 55 community residential care facilities and 20 nursing homes. The metropolitan area has 11 hospitals, two of which are dedicated children's hospitals (NSWHealth, 2003).

The state is divided into a number of AHSs. These divisions comprise metropolitan and rural groups with 11 metropolitan AHSs and eight rural AHSs (NSWHealth, 2003). The goals of each AHS are to promote the health of the total community, to provide quality services efficiently, to plan the future of the health services in the area, to provide education to area staff and impart appropriate information to the community (NSWHealth, 2002).

An Area Director of Nursing (ADON) generally administrates nursing services, but in some cases the nursing services are administered by a Director of Clinical Services (DCS). The function of the ADON is to provide leadership, planning and direction to the service, financial and performance management, to maintain nursing performance, recruitment and retention of the nursing workforce, to co-ordinate nursing education, to contribute to professional matters, for example, nursing policy, and to network with professional organisations. Each ADON is also allocated additional responsibilities, for example, nursing research development, career pathways for nurses, academic affiliations and consultation in relation to enrolled nurse training (NSWHealth, 2003).

Other responsibilities of the ADON are divided into six categories and these categories are staff development, quality and service improvement, other services, information privacy, clinical and other health portfolios. Included in these categories are rural health training, partnerships with the tertiary sector, staff development and training, leadership and management forums, quality programmes and risk management, accreditation, complaints handling, disaster planning and co-ordination, area infection control, area security, record management, telehealth services, reportable health incident management, patient safety and health related transport (NSWHealth, 2003). There are a number of other portfolios held by various ADONs and these include Aboriginal health, youth health, women's health, men's health, homelessness, health promotion, staff health, family health, child protection, multicultural health, migrant health, female genital mutilation, education centre against violence, oral health, mental health, complementary medicine, breast screening, diabetes, human immuno-deficiency virus/needle exchange and sexual health (NSWHealth, 2003).

In the context of this study, the AHS has a Chief Executive Officer (CEO). The Executive Director of the hospital is responsible to the CEO. The hospital is organised into a number of divisions and each one is managed by a Director of Nursing Services (DNS). The Nursing Unit Manager for each ward is responsible to the DNS.

In New South Wales, every day 3,600 people are admitted to a public hospital, 17,000 people spend the night in hospital, there are 56,000 non-inpatient services provided and 5,400 people are seen in an emergency department (NSWHealth, 2003). The total annual expenditure on the delivery of these and other health services by the New South Wales Department of Health is \$8.34 billion (NSWHealth, 2003).

There were approximately 80,000 registered nurses and almost 18,000 enrolled nurses in NSW in 2000 (NSWHealth, 2000) however, not all nurses were employed in nursing work. The estimated number of both registered and enrolled nurses working in nursing work in NSW for 2000 was approximately 70,000. Most nurses working in NSW were female (92.1%) and aged between 40 and 44 years (NSWHealth, 2000). Of these nurses 74.4% were employed in the public sector with geriatrics/gerontology being identified as the single largest specialty area of nursing in NSW (NSWHealth, 2000).

There are primarily two categories of nurses working in NSW: registered and enrolled nurses. Some organisations employ a third category of nurse, called an assistant in nursing (AIN). AINs are not regulated by any governing body and there is much debate concerning their title to include the word 'nursing'. The main role of an AIN is concerned with supporting people in activities of daily living. The two main categories of nurses, however, make up the bulk of the nursing workforce and their roles vary according to the organisation and location to which they are employed (New South Wales Nurse's Association [NSWNA], 2003)

There are eight levels of registered nurse (RN) and each level is determined according to the nurse's years of full-time nursing service. There are a further six classifications of

Table 1.1: Classification of registered nurses and descriptions

Classification of registered nurse	Description
Clinical nurse specialist	A registered nurse with relevant post-basic qualifications and 12 months experience working in the clinical area of his/her specified post-basic qualification. (NSWHealth, 1997)
Clinical nurse consultant	There are three grades of Clinical nurse consultant. Grade one is a registered nurse who has at least five years full time clinical experience, approved post registration nursing qualifications relevant to the field that he/she is appointed. Grade two is a registered nurse who has at least five years full time clinical experience, three years full time experience in the specialty area and an approved postgraduate nursing qualification. Grade three is a registered nurse who has at least seven years clinical experience with at least five years in the specialty field and post graduate qualifications in the specialty area (NSWHealth, 1997).
Clinical nurse educator	"Clinical Nurse Educator" means a registered nurse with relevant post registration certificate qualifications or experience deemed appropriate by the employer, who is required to implement and evaluate educational programmes at the ward/unit level (NSW Nurses' Association, 2002).
Nurse educator	A registered nurse with a post registration qualification, relevant experience or other appropriate qualifications who is responsible for the development, implementation and delivery of nursing education programmes (NSW Nurses' Association, 2002).
Nursing unit manager	"Nursing Unit Manager" means a registered nurse in charge of a ward or unit or group of wards or units in a hospital. There are three levels: "Nursing Unit Manager Level 1" whose responsibilities include: (a) Co-ordination of Patient Services Liaison with all health care disciplines for the provision of services to meet patient needs. The orchestration of services to meet patient needs after discharge. Monitoring catering and transport services. (b) Unit Management Implementation of hospital policy. Dissemination of information to all personnel. Ensuring environmental safety. Monitoring the use and maintenance of equipment. Monitoring the supply and use of stock and supplies. Monitoring cleaning services. (c) Nursing Staff Management Direction, co-ordination and supervision of nursing activities. Training, appraisal and counselling of nursing staff. Rostering and/or allocation of nursing staff. Development and/or implementation of new nursing practice according to patient need; "Nursing Unit Manager Level 2" whose responsibilities in relation to patient services, ward or unit management and staff management are in excess of those of a Nursing Unit Manager Level 1; "Nursing Unit Manager Level 3" whose responsibilities in relation to patient services ward or unit management and staff are in excess of those of a Nursing Unit Manager Level 2 (NSW Nurses' Association, 2002).
Nurse practitioner	A registered nurse appointed to a position approved by the Director General and who is authorised by the NSW Nurses Registration Board to practice as a nurse practitioner (NSW Nurses' Association, 2002).

registered nurse and these are often determined by the nurse's qualifications and amount of experience. Table 1.1 lists each of the classifications of registered nurse and provides a role description for each one.

1.2.2 Issues for nurses in the workplace

There are a number of issues that affect nursing and nurses worldwide. Bleich (2002) identified the major issues for nurses as restructuring, dramatic demographic shifts and lowered budgets for health care delivery. Increased patient acuity and faster throughput of patients also impacts on the way nurses work (Pennsylvania Nurses' Association, 1999). This section will explore each of these issues from a global perspective taking into account how each impact on the way in which nurses work.

Nursing practice largely depends on the environment within which the nurse is working. The type of ward (or setting where nursing takes place), the resources, workload, the patients and the other members of the health care team, their individual and collective philosophies of nursing and day-to-day fluctuations in any or all of these factors impact on the way in which nursing work is carried out. The barriers to effective nursing practice have been identified to include the implementation of new health care roles, lack of recognition of nursing work, ineffective staffing patterns, low nurse to patient ratios, increased patient acuity, high documentation requirements, violence and/or harassment in the workplace and the global shortage of nurses (Nice, 1995; Torre, 2002; Whelton, 2002). The following paragraphs contain discussion of each one of these barriers to effective nursing practice.

The implementation of a new health role in nursing includes, but is not limited to, the implementation of the AIN in Australia. This level of nurse is employed predominantly in the private aged care health care sector to fulfill the role of delivering basic nursing care under the direct supervision of an RN. There is a great deal of debate over the role and ensuing responsibilities attributed to this group of worker. In the United States of America (USA) the corresponding role to the AIN in Australia is the unlicensed assistive

personnel (UAP) and there is much debate about the responsibilities assigned to these workers in USA as well. The role was generated primarily as a result of the growing financial burden on health systems in general and the global shortage of registered nurses. In USA, Nice (1995) identified that it was important that nurses recognised that when they assigned tasks to UAPs, they did not relinquish responsibility for the patient nor the task. Unfortunately, it is often the case that UAPs are in fact left with responsibilities greater than their level of training and/or experience. This is not a situation that occurs consciously for the most part, but rather is one that occurs out of a pure need to 'get the job done'. As a consequence, a study by Press Ganey Associates (1996) found that patients/consumers were concerned with the utilisation of UAPs in the delivery of nursing care. The consumers who participated in this study stated that they felt that the use of UAPs had a negative impact on the quality of care.

The lack of recognition that nurses receive has a negative impact on the way in which they deliver nursing care. The Magnet Program implemented in USA was designed to credential nurses and systems of delivering nursing care with a label that provided them with a sense of achievement and recognition for their nursing work. It has been identified that nurses working in a Magnet System not only deliver a higher quality of nursing care but they stay (working in the same hospital) longer. Hospitals and other health care delivery organisations utilising the Magnet Program have found that they no longer experience the same issues of recruitment and retention of nursing staff that other nurse employers experience (Mendelsohn, 2003).

Australian literature is sparse in relation to the recognition of nurses and their nursing work. Rowe (2001) stated that poor recognition was one of the issues facing nurses in the current health care system. Redman and O'Hara (2003) supported this statement by asserting that professional recognition of nurses needed to occur in order to ensure that nurses stayed employed in nursing work.

Ineffective staffing patterns or low nurse to patient ratios lead to increased workloads for nurses and in some cases were also linked to patient deaths (New Jersey Nurse, 2002).

This author also described nurses working in environments where there were staffing level issues as experiencing a higher likelihood of burnout as well as general job dissatisfaction. A program implemented in California, USA was aimed at ensuring that there were adequate numbers of registered nurses working on each shift (Massachusetts Nurse, 2003). The outcome of the program was that there were work place improvements, retention of experienced registered nurses and the recruitment of new registered nurses.

Increased patient acuity is another factor that has lead to barriers to effective nursing practice. As patients who are being cared for by nurses in hospitals and other health care settings become sicker and require more intensive nursing care, the pressure on nurses increases. Similarly, Auckenthaler (2000) identified that reduced patient-staff ratios were related to increasing patient acuity. Bleich (2002) supported this statement by asserting that patients have increasing and complex care needs hence increasing their acuity, but staffing levels have not increased proportionately. This author also considered that the needs' of the patients being cared for in hospitals by nurses should drive the numbers of nurses employed in the hospital, not the available budget. Bunch (2000) stated that registered nurses should be assessing the needs of their patients' to determine the level of care the patient requires. In doing so the patients level of acuity is determined and therefore the numbers of nursing staff required to care for that patient can be effectively planned.

The current documentation requirements in nursing have led to nurses feeling as though they are documenting more and providing less nursing care to their patients. Some nurses expressed the opinion that some of the paperwork that takes them away from their patients is not even pertinent to the patient's needs (Trossman, 2002). While nurses have recognised the need for documentation in relation to communication and accountability, they are finding such high demands for more and more documentation to be frustrating (Trossman, 2002).

Violence in the workplace is slowly permeating the health care industry (Distasio, 2000). The effects of this phenomenon on nurses can range from minor physical injuries and/or psychological trauma to death (Archer-Gift, 2003). The potential effects on nursing are lowered staff morale, increased turnover of nursing and other staff and waning trust between the workers and managers (Archer-Gift, 2003). In Texas Nursing (2002) it was asserted that at the time of the separation interview with nursing staff that had resigned from health care organisations, the primary reason given for leaving included concerns for safety. Mayhew and Chappell (2002) wrote that although comprehensive data on the degree of the occurrence of workplace violence did not exist, this type of violence caused significant costs to the nurses and their managers. According to research reported in Australian Nurse's Journal (2002), over one quarter of nurses experienced violence at work on a daily basis and that this violence caused stress for the nurses. Therefore, violence in the workplace has an adverse affect on the retention of nurses in an already dwindling profession.

Bullying is another term used for continued physical or psychological violence in the workplace. In nursing it is often referred to as horizontal violence (Mayhew & Chappell, 2001). There have been no substantive studies on bullying in the nursing workforce in Australia. However, much literature has referred to bullying as a cause of the nursing shortage and nurse retention in the workplace (Mayhew & Chappell, 2001; Farrell, 1997, 1999, 2001; McElnea, 2001; Birman, 1999; Jackson & Raftos, 1997; Taylor, 2001; Jackson, Claire & Mannix, 2002). These authors also suggest that bullying is a major issue in relation to workplace safety of nurses in Australia.

While there are a number of barriers to quality nursing practice, another issue that affects nurses and nursing work and has the greatest impact internationally, is the shortage of nurses (Freudenheim & Villarosa, 2001). The World Health Organisation (1996) stated that there was a continuing shortage of nurses globally and that this situation required urgent attention. NSWHealth (2002) identified that the recruitment and retention of nurses into the nursing workforce as a high priority. As a consequence, NSWHealth implemented a number of initiatives to attract and maintain nurses into the public health

workforce and these included increasing nurses' pay rates, the 'nursing re-connect' strategy that provided nurses working away from nursing with opportunities and support in their return to nursing work, the increased availability of scholarships for nurses, increased expenditure on education for nurses, research into skills mix, staffing levels and models of care, marketing activities, overseas recruitment, an Aboriginal nursing project to attract indigenous people to the nursing workforce and the nurse practitioner project.

The primary reasons for the shortage of nurses in Australia are the lack of enrolments into nursing education, the increasing age of the population and the ageing of nurses (Unpublished paper, Lumby, 2001). The current shortage of nurses has forced employers, governments and nursing organisations worldwide to examine the recruitment and retention of nurses into the health care workforce.

As a consequence of a global registered nurse shortage, reduced funding for the provision of nursing care to patients and increasing patient acuity, restructuring has become a means by which some organisations attempt to stretch the health dollar further. In doing so, however, quality nursing care is frequently compromised as untrained personnel take on nursing duties (Pennsylvania Nurse's Association, 1999).

In conjunction with the other factors already discussed in previous paragraphs, the global shortage of nurses leads to a challenging situation for nurses to practise nursing effectively and safely. The current trend aimed at solving these problems is to restructure the delivery of health care and more specifically to employ non-nurses to carry out nursing work.

1.2.3 Specific issues identified in the local workplace

The introduction of the new level of worker carrying out nursing work, lack of recognition of nursing work, ineffective staffing patterns, low nurse to patient ratios, increased patient acuity, high documentation requirements and increasing violence and/or harassment in the workplace are issues that have been identified for nurses globally and they therefore also exist as issues for nurses working in Australia. It was identified (via

focus group interaction which will be discussed later) that within the AHS being studied, nurses were experiencing these same issues (Wentworth Area Health Service [WAHS], 2000). The issues that were of primary importance to the nurses participating in the focus groups were nursing shortages and increasing patient acuity.

The AHS aims to maximise the total health of the community by promoting the health of the individuals in a specific geographical area (NSWHealth, 2002). The AHS have three major goals: improving health, improving equity in health by improving access to service and improving quality of service (NSWHealth, 2002). Nurses play an important role in the delivery of these quality health services that the AHS is aiming to provide to the local community.

So long as there is a significant proportion of nurses who continue to work within the AHS who are dissatisfied, it may prove challenging for the AHS to achieve their aims. One way of improving the satisfaction of nurses working within the AHS is to examine the model of nursing practice they utilise, and in particular, the barriers to effective nursing practice that might exist. The examination and subsequent development of a model nursing practice that accounts for increasing patient acuity, acknowledges or recognises the efforts of nurses, increases the nurse to patient ratios, streamlines documentation and reduces workplace violence and/or harassment will increase satisfaction for nurses. The flow-on effect will be the increased likelihood of nurses persisting with nursing work, thereby minimising the current recruitment and retention issues.

1.3 Aims of the study

The study aims to describe:

- The process of redesign of a new model of nursing practice in a surgical ward
- The nurses' experiences of the redesign process.

1.4 Significance of the study

The significance of this study is described in relation to the community, health organisations, patients and nurses. The opportunity for nurses to develop an effective and efficient model of nursing practice existed within this study. It is anticipated that nurses will experience an increase in job satisfaction by being involved in the process of generating a model of nursing practice that is developed specifically for the environment, both cultural and physical, within which they work. By improving the satisfaction of nurses, the anticipated outcomes would include an increase in the quality of patient care and a reduction in staff turnover secondary to increased staff morale. Quality nursing care could reduce the length of stay of patients and therefore have financial benefits to the health care service and to the community as a whole.

Interestingly, in the previous sections, several barriers to effective nursing practices were identified but nurse satisfaction was not included as one of those barriers. Recruitment and retention of nurses, or nursing shortages, were however, strongly identified as current issues for nurses globally as well as locally.

It was never the intention of this study to measure the satisfaction of the nurses but instead to describe their experiences during the process of changing from one model of nursing practice to another. One of the indicators measured as part of the study, however, was the recruitment to and retention of nurses in the study environment.

1.4.1 Potential study outcomes

The nurses

The outcome of this study for nurses is anticipated increased job satisfaction with a flow-on effect that the current recruitment and retention issues will diminish. Nurses may also benefit from this study in terms of the skills mix employed as part of their nursing team with greater support and appropriateness in relation to the types of work each level of nurse is carrying out.

The patients

Patients will benefit from this study because of the improvements to the way in which nursing care is delivered.

The health care organisation

The outcomes for the health organisation is that the health dollar will be used more effectively for an improved outcome in relation to patient (customer) care, efficient delivery of nursing care with appropriate skills mix to adequately meet the needs of the patients and less money spent on recruitment and retention.

The community

The outcomes of this study for the community is increased satisfaction and confidence in relation to the delivery of health services in their local area as a direct consequence of a positive experience with a health service where nurses are utilising a model of nursing practice that is effective and efficient.

1.5 Definitions

For the purposes of this study, key terms are defined in the following way.

Model of nursing practice: The framework by which nurses practice nursing.

Manager: Nurse managers involved with the ward in the study. These were Nursing Unit Manager, Director of Nursing Service (Division of Surgery) and the Principal Director of Nursing of the hospital.

Nurse: One who is trained to practice nursing and includes nurses who are registered or enrolled with the NSW Nurse's Registration Board.

Surgical ward: A designated area within the hospital where patients are cared for sometimes before but primarily after undergoing a surgical procedure in hospital.

Redesign process: In the context of this study, redesign is organised into six sub-processes. These sub-processes are project conception, project selection, formal planning,

project implementation, the milestone step and project modification (Rowland & Rowland, 1997).

1.6 Abbreviations

AHS: Area Health Service

CEO: Chief Executive Officer

ADON: Area Director of Nursing

DCS: Director of Clinical Services

DNS: Director of Nursing Services

NUM: Nursing Unit Manager

CAC: Clinical Activities Coordinator

DRG: Diagnostic Related Groups

RN: Registered Nurse

EN: Enrolled Nurse

CNS: Clinical Nurse Specialist

CNC: Clinical Nurse Consultant

TEN: Trainee Enrolled Nurse

PDNS: Principal Director of Nursing Services

AIN: Assistant in Nursing

UAP: Unlicensed Assistive Personnel

Chapter 2: Literature review

2.1 Introduction

The focus of this study requires that three defined areas need to be explored in the literature review. These three areas are models of nursing practice, redesigning models of nursing practice and change in the workplace.

The section that reviews the literature concerned with models of nursing practice (section 2.2) examines the literature in relation to the evolution of practice models as well as the four main practice models utilised in nursing in recent history and today. These four main practice models are functional nursing, team nursing, patient allocation and primary nursing. This section also includes a comparative summary of each of the models in relation to nurses, patients and the organisation.

The section on redesigning models of nursing practice section (section 2.3) examines the literature concerned with redesigning practice models of nursing and is framed by the following content headings: the purpose of redesign, methods of redesign, measuring outcomes of redesign of models of nursing practice and effects of redesign on nursing staff.

The next section (section 2.4) of this chapter examines the literature in relation to change in the workplace. It includes the following sub-sections: changing models of nursing practice, the process of change in the workplace and effective management of change in the workplace. A summary of the literature review is given in section 2.5.

2.2 Models of Nursing Practice

2.2.1 Overview

The practice of nursing in the workplace is traditionally based on the four concepts of nursing: person, health, environment and nursing (Fawcett, 1984; Fitzpatrick & Whall, 1983; Pearson, Vaughan, & Fitzgerald, 1996). These concepts are often incorporated into such frameworks as the nursing process (Pearson et al. 1996; Wimpenny, 2002) or

specific models or theories of nursing such as Peplau's nursing model (Peplau, 1952), Orem's self-care model of nursing (Orem, 1971) and Parse's theory of nursing (Parse, 1981). However, much of nursing practice has been designed to organise the delivery of nursing care (Adams, Bond, & Hale, 1998; Garbett, 1996a; Garbett, 1996b; Roper, Logan, & Tierney, 1996). In the literature, this organisation of the delivery of nursing care is also referred to as models of nursing practice, models of service delivery, models of nursing care, (Pearson et al. 1996; van der Walt & Swartz, 2002). The term that will be utilised in this thesis is model of nursing practice.

Action research by Chavasse (1981) in Ireland found that when examining models of nursing practice they must be seen in light of whether they provide continuity of patient care, effective nurse patient relationships and nurse satisfaction as these are measurements, or outcomes, of service delivery. As indicated by Shaw (1986) and Havens and Aitken (1999), when discussing quality assurance in health care, models of nursing practice must be efficient, effective, equitable as well as accessible, appropriate and acceptable. Research carried out in the USA by Murphy, Pearlman, Rea, and Papazian-Boyce (1994) showed the success of a model of nursing practice is determined by staff and patient recruitment and retention, satisfaction as well as feedback from ancillary staff, physicians and the community. Factors that influence the type of model of nursing practice selected and implemented in an organisation are dependent upon the type of patients or consumers, the type of care provided, the cost of that care and the numbers and education of staff (Ellis & Hartley, 1992).

The key models of nursing practice that have been developed are functional nursing (also called task allocation) team nursing, patient allocation and primary nursing (Pearson et al. 1996; Thomas & Bond, 1990; Thomas, 1992; van der Walt & Swartz, 2002). Customised models of nursing practice have also been developed for specific areas of nursing practice or individual health care organisations and these include the Treadgold Model of Nursing (Dennis, 1998), The Colorado Differentiated Practice Model (Levi, Montgomery, & Hurd 1994), The Magnet Hospital Model (Havens & Aiken, 1999), The Culture Specific Nurse Caring Practice Model for Hospitals (MacDonald & Miller-Grolla, 1995), The

Transformational Model (Wolf, Boland, & Aukerman, 1994), The Model for Professional Nursing in Organisations: The Rainbow (Bajnok et al. 1995), The Tidal Model (Barker, 2001), The Circle of Caring (Dunphy & Winland-Brown, 1998), The Strengths Model (Rapp, 1998) and The Roper, Logan and Tierney Model (Bellman, 1996). Another model of nursing practice which is incorporated into a much larger organisation of care involving all members of the health care delivery team is managed care (Ahrens, 1992; Clouster & Ferguson, 1996; de Luc, 2000; French, 2000; Lee, Mackenzie, Dudley-Brown, & Chin, 1998; Lyon, 1993; Potter, 1998). The customised models and managed care will not be part of this literature review. A detailed discussion concerning the evolution, main features and the benefits and weaknesses of each of the key models of nursing practice follows. Table 2.1 at the end of section 2.2 illustrates the advantages and disadvantages of each key model of nursing practice.

2.2.2 Evolution of the key models of nursing practice

The key models of nursing practice have evolved over time with functional nursing, or task allocation, emerging during the great depression of the 1930s because it allowed for the care of a greater number of patients (Ellis & Hartley, 1991). In the 1950s, because of criticisms of task allocation as depersonalising the patient, a new model of nursing practice, team nursing, became popular (Ellis & Hartley, 1991).

The next model of nursing practice to establish itself in the workplace was patient allocation in the late 1970s and early 1980s. This model gave a nurse total responsibility for all aspects of care of an individual patient on a shift-by-shift basis (Ellis & Hartley 1991; Min-Lin Wu, Courtney, & Berger, 2000). Finally, in the early 1980s, primary nursing was established, to a limited extent, in a range of clinical areas such as aged care (Pearson et al. 1996; Macguire, 1991), in a university hospital in USA (Culpepper, Ritchie, Sinclair & Betz, 1986), in an acute medical surgical ward in Nigeria (Archibong, 1999), in a nursing home in Finland (Laakso & Routasalo, 2001) and in a haematology/oncology unit of an Australian hospital (Wallis & Tyson, 2003).

2.2.3 Functional nursing

Functional nursing is based on the traditional industrial concept of division of labour (Roper et al. 1996). When applied to nursing work, the focus is on the task or jobs being undertaken and this model of nursing practice is entirely orientated to completing tasks (Adams et al. 1998; Anonymous, 1996; Ellis & Hartley, 1991; Roper, et al. 1996; van der Walt & Swartz, 2002). Tasks are allocated to the nurse according to his/her expertise or level of education taking into account medical/technical skills rather than human/interpersonal attributes (Adams et al. 1998).

Functional nursing is advantageous for organising large volumes of work (Garbett, 1996a). Chavasse (1981) and Hilton and Goddard (1996) have asserted that functional nursing models that break the work into tasks make workloads easier to plan. There is direct accountability for specific tasks (Chavasse, 1981; Hilton & Goddard, 1996) although it does discourage nurses from practising independent thinking and decision-making processes (Garbett, 1996a; Anonymous, 1996).

Nursing staff working in a functional nursing model experience less stress as a consequence of being allocated tasks rather than being responsible for the entire care of a group of patients (Garbett, 1996b; Hilton & Goddard, 1996). However, Kivimaki, Voutilainen, and Koskinen (1995) stated that functional nursing 'represents a job with low level enrichment'. In evaluative research by Backman and Westman (1996) in Sweden, functional nursing was however been found to result in the highest level of dissatisfaction amongst nurses. Garbett (1996b) and Hilton and Goddard (1996) argued that functional nursing was advantageous in that it provided a structure of nursing care delivery that was consistent with the current trained nurse shortages and the increased training of support workers.

The 'task hierarchy' associated with the functional nursing practice has been described by Hilton and Goddard (1996) and van der Walt and Swartz (2002) as a disadvantage in terms of the way in which allocated tasks are assigned. Basic nursing care is assigned low status whilst more technical nursing tasks are assigned a higher status (Roper et al. 1996)

and this presents a problem in terms of nurses no longer valuing their traditional role of delivering basic care to patients (Adams et al. 1998).

In grounded theory research by Williams (1998) in Australia, therapeutic effectiveness was demonstrated in functional nursing teams. Hilton and Goddard (1996) and Anonymous (1996) stated that nursing tasks could be allocated more effectively according to the nurse's training and expertise thus promoting job satisfaction for nurses and higher quality care for patients.

In a comparative study by Nagelkerk (1995) in USA, functional nursing teams were found to spend less time communicating with patients. However, Hilton and Goddard (1996) argued that patients had greater access to more staff and could therefore choose with whom they wished to communicate.

Patients can be considered to experience fragmented care in a functional nursing practice model as they have contact with many staff on a daily basis and care may not be as individualised (Adams et al. 1998; Chavasse, 1981; Ellis & Hartley, 1991; Garbett, 1996a; Hilton & Goddard, 1996; van der Walt & Swartz, 2002). In an ethnographic dissertation by van der Walt and Swartz (2002) in South Africa, it was found that the care delivered to patients via the functional nursing practice model was depersonalised. Hilton and Goddard (1996) have argued that there is the potential for greater subjectivity when evaluating care with greater numbers of nurses involved. Despite these limitations, Caldwell's (2000) qualitative dissertation in USA showed the development of a functional nursing team facilitated quality care.

2.2.4 Team nursing

Team nursing as a nursing practice model was introduced in the 1950s (Ellis & Hartley, 1991; Nelson, 2000). This model involved teams of nurses with varying skills and qualifications working together to deliver holistic care to the patient with each member of the team performing tasks according to their level of training and expertise (Adams et al. 1998; Anonymous, 1996; Garbett, 1996a; Roper et al. 1996; Waters, 1995).

The team nursing practice model has two distinguishing features: team leaders and team conferencing. These elements of the model provide members of the team with an opportunity to communicate the patient's needs (Anonymous, 1996; Ellis & Hartley, 1991; Garbett, 1996a). The structure of the team nursing model is 'flatter' than that of the other models of nursing practice as several team leaders coordinate service delivery for groups of patients (Adams et al. 1998; Garbett, 1996a). According to Nelson (2000), in the team nursing model of practice, registered nurses become 'muted' as they coordinate rather than deliver nursing care.

Research in the United Kingdom reported by Adams et al. (1998) claimed team nursing provided nurses in particular with a greater opportunity to participate in meaningful work, develop responsibility, and satisfy human needs in their relationships and personal interactions. The team nursing model was more likely to be embraced as the shortage of registered nurses continued (Ellis & Hartley, 1991; King, 1995). Ellis and Hartley (1991) considered this model might once again become established as a means of delivering quality care to patients as fewer registered nurses were employed and more enrolled nurses joined the team.

Team nursing offers the patient a less fragmented care experience by providing them with a continuity of a team of caregivers (Adams et al. 1998; Garbett, 1996a). Nagelkerk (1994) argued that nurses working within a team model of nursing practice spent less time talking to patients and that patients were offered less choice. The team nursing model of nursing practice, however, could prove ineffective as pressure mounts to reduce

the length of stay of patients in acute health care facilities for it might not deliver the intensity of professional care required (King, 1995). In a comparative study by Min-Lin Wu, Courtney and Berger (2000) in Australia, it was discovered that overall patient satisfaction was achieved with the team nursing practice model.

2.2.5 Patient allocation

Nurse dissatisfaction with the fragmented nature of nursing care delivery, particularly from the functional model of nursing practice, led to the development of the patient allocation model of nursing practice in the 1960s (Adams et al. 1998). This model of nursing practice is also referred to in the literature as the total patient care model (Ellis & Hartley, 1991). The orientation of this model is founded in the patient and nursing is work structured entirely around the patient's needs (Chavasse, 1981).

The purpose of using the patient allocation model is to improve interdisciplinary approach to care delivery and hence to achieve improved patient care (Clouten & Weber, 1994). The model organises nursing work so that nurses are allocated a number of patients for which they are responsible on a shift-by-shift basis (Matthews, 1975; Min-Lin Wu et al. 2000). The nurses allocated to specific groups of patients are responsible for meeting all the care needs of the patient group (Roper et al. 1996). One disadvantage of the patient allocation model can be that fewer inexperienced staff is employed so each registered nurse carries out many non-nursing tasks, for example, ordering meals (Adams et al. 1998).

Research by Adams et al. (1998) showed that the patient allocation model has been considered to lead to less fragmentation of nursing care for the patient. A further advantage of the model is that patients have greater access to registered nurses (King, 1995). Hence this model of nursing practice can be considered to improve the nurse-patient relationship and to encourage nurses to develop a stronger sense of autonomy (Adams et al. 1998; Ellis & Hartley, 1991).

2.2.6 Primary nursing

Marie Manthey first developed primary nursing in the early 1970s (Garbett, 1996a; Nelson, 2000; Pontin, 1999). Primary nursing has been described as the ultimate patient-centered nursing model (Roper et al. 1996; Waters & Easton, 1999). The key feature of this model of nursing practice is that the registered nurse is allocated to the direct nursing care of the patient for the entirety of their relationship with the health service (Adams et al. 1998; Anonymous, 1996; Ellis & Hartley, 1991). The nurse given this responsibility is called the primary nurse.

As it is impossible for the primary nurse to be delivering care directly to the patient at all times, an associate nurse is also allocated to the patient to deliver care in the primary nurse's absence (Adams et al. 1998; Anonymous, 1996; Archibong, 1999; Garbett, 1996a; Roper et al. 1996; Ryan & Logue, 1998). The primary nurse, however, is responsible for coordinating all of the patient's nursing care (Adams et al. 1998; Ellis & Hartley, 1991).

Benefits of the primary nursing model are the promotion of autonomy and accountability in nurses (Anonymous, 1996; Archibong, 1999; Garbett, 1996a; Nelson, 2000; Ryan & Logue, 1998) as well as increased job satisfaction (Ellis & Hartley, 1991; Melchior et al. 1999). Ellis and Hartley (1991), however, stated that there was a danger in autonomy as nurses could forget how to delegate effectively.

According to Rigby, Leach and Greasely (2001), their research carried out in United Kingdom (UK) showed that though the primary nursing model provides an opportunity for nurses to work to their full potential, it has not as yet been confirmed conclusively. Zander (1985) for example suggested that the primary model of nursing practice generated feelings of over-involvement, possessiveness and mistrust amongst nurses.

The main advantage of the primary nursing practice model is that the care delivered has the potential to be totally individualised (Ellis & Hartley, 1991; Garbett, 1996a; Roper et al. 1996; Ryan & Logue, 1998). In a comparative evaluation by Archibong (1999) in

Nigeria, the primary nursing practice model was found to address the individual needs of the patient. The shift toward the delivery of individualised nursing care has been one of the most important moves in nursing in recent years (Nelson, 2000; Steven, 1999). Research by Laakso and Routasalo (2001) in Finland found the benefits of this model of nursing practice for the patients to be increased feelings of well-being, health and security. Others have described a main advantage of the primary nursing model as being the continuity of care with a one-to-one relationship between the nurse and patient being encouraged (Adams et al. 1998; Anonymous, 1996; Ellis & Hartley, 1991; Garbett, 1996a; Nagelkerk, 1994; Roper et al. 1996; Ryan & Logue 1998).

2.2.7 Summary of advantages and disadvantages of the models of nursing practice

Table (2.1) summarises the advantages and disadvantages of each of the key models of nursing practice.

2.3 Redesigning models of nursing practice

In today's health care industry the rapidity of change is described by Crotty (1996) as 'monumental', as health care organisations strive to redesign. While there are innumerable ways in which change could be implemented in the health care industry, the term 'restructure' is one that is being used abundantly in the current literature (Christensen & Bender, 1994; Manning, 1996). This term is followed closely by the term 'redesign' in relation to changes being implemented in health care delivery across the globe (Benkert, 1995; Fielding, 1995; Garner, 1996; McGuckin-Smith, 1997; Sawatzky, 1998). Some literature utilises the term re-engineering (Davidson & Davidson, 2000; Krainovich-Miller et al. 1997). The term selected for use in this thesis is redesign. Redesign involves change and therefore the methods, process and evaluation of change will be discussed later in this section

Table 2.1: Summary of advantages and disadvantages of the main models of nursing practice

MODEL TYPE	ADVANTAGES			DISADVANTAGES		
	Nurses	Patients	Organisation	Nurses	Patients	Organisation
Functional	<ul style="list-style-type: none"> *A structure consistent with the current nursing shortage *Promotes job satisfaction *Potential for greater subjectivity *Nurses experience less stress 	<ul style="list-style-type: none"> *Higher quality of care *Patients have greater access to more staff 	<ul style="list-style-type: none"> *Workloads are easier to plan *Large volumes of work easily organised *Tasks allocated according to experience/expertise 	<ul style="list-style-type: none"> *Job dissatisfaction 	<ul style="list-style-type: none"> *Less time spent communicating with patients *Fragmented care *Care less individualised 	<ul style="list-style-type: none"> *Task hierarchy *Less value is placed on the delivery of basic nursing care
Team	<ul style="list-style-type: none"> *Greater development of responsibility *Participation in meaningful work 	<ul style="list-style-type: none"> *Continuity of care 	<ul style="list-style-type: none"> *Flatter structure *Team leaders *Team conferencing *A structure consistent with the current nursing shortage 	<ul style="list-style-type: none"> *Nurses co-ordinate rather than deliver care 	<ul style="list-style-type: none"> *Less time spent talking with patients *Patients offered less choice *Less intensive professional nursing care 	
Patient Allocation	<ul style="list-style-type: none"> Increased autonomy for nurses 	<ul style="list-style-type: none"> *Higher quality of care *Continuity of care *Patients have greater access to more staff Improved nurse-patient relationships 		<ul style="list-style-type: none"> Nurses doing non-nursing tasks 		
Primary	<ul style="list-style-type: none"> *Allocation of primary nurse and associate nurse *Promotion of autonomy and accountability in nurses *Increased job satisfaction *Opportunity for nurses to work to their full potential 	<ul style="list-style-type: none"> *Greater continuity of care *Individualised care *Patients experience one to one relationships with their nurse 		<ul style="list-style-type: none"> *Nurses forget how to delegate effectively *Generates feelings of possessiveness and mistrust 		

2.3.1 The purpose of redesign

Redesign in healthcare is imperative in order to become more efficient and therefore cost-effective (Davidson & Davidson, 2000; Lundgren & Segesten, 2002). Zawyrucka (2002) stated that the reasons for redesign are to improve the delivery of services to patients, develop an improved staff skill mix to assist with staff shortages and to use staff existing staff more efficiently. Christensen and Bender (1994) stated that nurse managers are searching for a service delivery model that will simultaneously deliver quality patient care, assure patient satisfaction and maintain current budgets. Elements that have driven the need for redesign of the way in which health care is delivered include rising costs, a change in patient expectations and the shortage of registered nurses (McLaughlin et al. 2000; Robinson, 1991; Roch, 1992). Larger patient loads, new technology, higher acuity of patients and financial restraints are all factors that have led to the need for redesign in the health industry (McCullough, 1995). Tonges (1989) and Davis and Farrell (1995) are in agreement that the main imperative for redesign in the health care system is the shortage of nurses.

The majority of the literature focuses on the move to a mixed skill group of workers delivering nursing care according to their level of training and experience. In order to redesign nursing practice change must occur.

2.3.2 Changing models of nursing practice

This study is about change in the workplace and therefore it is important to examine the concept of change as well as the methods, process and evaluation of change. Change is not a new concept and it continues to be a constant in a world where change occurs more rapidly than ever before (Carney, 2000; Grant, 1995; Keleher, 2000; Manion, 1994; Richards, 1999; Telles, 1996). Change is defined by Krebs and McLeod (1994:84) as 'to alter, vary or become different'. Crotty (1996) explained change as a 'futuristic process', that is, 'the difference between what is and what will be'. Telles (1996) described change in the workplace as inevitable. Ashford, Eccles, Bond, Hall and Bond (1999) stated that change in the health care

industry was necessary because of changes in practice, new and progressive technology and professional knowledge, new practice evidence as well as economic, political and social factors. Muller (1992) also stated that the rapid increase in technology was the primary cause of change in the workplace. Shoptaw (1995) has identified that the delivery of nursing care has developed via several phases of change including the move from task oriented nursing to team nursing to primary nursing.

Research by Chavasse (1981) found that change that is successfully implemented in the workplace could lead to improved patient care and increased learning and job satisfaction for nurses. Successful change in the workplace is carried out with courage and competency in a spirit of collaboration and optimism (Richards, 1999). As well as these attitudes to change, Palmier (1998) identified that nurses required education about decision-making, reactions to change, the change process and communication if change was to be implemented effectively and efficiently. Herrington (1996) foreshadowed this statement asserting that education greatly assisted nurses as they faced change in the workplace; and in research by London (2001) education and communication were found to be elements of the process that facilitated successful change in the workplace.

Cutcliffe and Bassett (1997) examined redesign of health service delivery and drew four conclusions from the data they collected. They asserted in so far as cultural change was possible within large organisations, the nature of change was not always immediately recognised, there was no one correct way of bringing about change and that persons responsible for coordinating change needed to understand several models of change.

Rowland and Rowland (1997) described a redesign process that includes six distinct steps. The first step is called project conception where there is identification that there is a need for change. The second step is called project selection and within this step the participants agree to change. This second step

correlates with Lewin's (1951) unfreezing phase of change. The third step is called formal planning and in this step the participants identify the desired outcomes of the proposed change. The next step is called project implementation and is described as the working phase of implementing actual changes. The milestone step occurs next and is similar to Lewin's (1951) refreeze phase of the change process. It involves the beginning of a process of evaluation of the changes implemented in the previous step. The final step in this redesign process is called project modification and it involves periodic re- evaluation of the changes.

Chalmers and Colton (1995) stated that if redesign was to take place successfully, then three key tenets needed to be considered. Firstly, the necessity for redesign should be driven by the needs of the patient. Secondly, registered nurses should be in positions where they are assigned as team leaders and finally, AINs should be trained appropriately and their role should not be expanded to include activities that are not part of their training programme.

The exchange of registered nurses for less qualified assistive workers has been observed as an economic requirement for the continuing financial viability of health care delivery organisations (Davis & Farrell, 1995). One of the limitations has been that registered nurses were found to be unwilling to delegate work to assistive workers (Davis & Farrell, 1995). Rheaume (2003) wrote that nursing roles in hospitals are being redesigned and that one of the ways in which this redesigning is occurring is by reducing the numbers of nurses and replacing them with UAPs. Brannon (1996) commented that this strategy of exchanging registered nurses for unregistered workers was a turn-around from the 1980s where there was a definite workplace trend toward an entirely professional workforce. This process is referred to in the literature as downsizing (Brannon, 1996; Del Papa, 1995; Fielding, 1995; Waddell, 1995) and has been seen by some nurses to threaten patient health and safety (Fielding, 1995; Waddell, 1995). Redesign is more likely to be successful if it is interactional between health care professionals and when

there is clarity of role delineation, team commitment and an understanding of the limitations of the assistive worker role (Benkert 1995).

While there are a number of methods of redesign, and some of them have been outlined above, there are several main issues arising from the literature. Effective redesign occurs in phases with a co-coordinator who is familiar with several models of change, the redesign must be driven by the patients' needs and ongoing evaluation of the redesign process is necessary.

In summary, the process of change occurs in the nursing work environment because of new technology, economic pressure, new evidence in practice and social influences. Successful change in the workplace is aimed at increasing job satisfaction for nurses and improving the quality of care delivered to patients. To effectively redesign nursing practice models, nurses require support by means of education, communication and collaboration.

2.3.3 The process of change in the workplace

Introducing change into a workplace is inevitably met with varying degrees of resistance, as people feel challenged. Kurt Lewin (1951) facilitates understanding of change by means of his Change Theory. This theory postulates that change is created by 'driving forces' while forces that oppose change are 'restraining forces'. When driving forces and restraining forces are equal, there is no change, however, when the driving forces are stronger than the restraining forces, change can occur. The change agent needs to be able to identify the resistive forces in order to manage them and allow the change to proceed productively (Kanter, 1995; Leavitt, 1964).

Lewin (1951) describes one mode of implementing change successfully as occurring in three phases. These phases are called unfreezing, change and refreezing. Lewin (1951) described these phases in the following way. The unfreezing phase occurs when an organisation, for example, recognises the need

for change. At this stage, the issues and challenges are identified and the desire, capacity and resources available to facilitate the change are assessed. If, in fact, the challenges are perceived as manageable and the desire, capacity and resources exist, then there is adequate driving force for the change to occur. Beckett (1999) considers that the unfreezing phase is often unseen due to the rapidity of the change. The second phase incorporates a series of steps that include identifying goals, planning action and considering ways of evaluating the change. Once this has been established, the plan can be put into action. Refreezing is the third and final phase in the process of change. Refreezing is referred to by Crotty (1996) as the 'stabilisation' phase. It occurs when the change is incorporated into practice and thinking. Beckett (1999) argued that the unfreeze, change and refreeze processes suggest that change occurs entirely externally to the individual and that in reality change occurs internally through a process of choosing to anticipate change, embracing the concept of change and adapting to change quickly.

Successful change in the workplace can occur in a number of ways and Balfour and Clark (2001) have stated that an effective change framework is required to coordinate change competently. A structured framework for change should be utilised in order to promote successful change (Baileff, 2000). Keleher (2000) identified three factors that determine how change occurs in the workplace: firstly, the resources that are available to allow the change to transpire; secondly, the process that exists to facilitate the use of these resources; finally, the values held by the staff as these processes emerge.

Broome (1990) and Pearson and Vaughn (1984) identified an alternate method of examining the process of effective change. These authors advocated the following phases of a successful change process. Initially, the change must be assessed and defined then a description of the desired outcome should be developed. Next, identification of the changes and the development of a plan that incorporates definitive and realistic outcomes should occur. Finally, implementation of the plan and continuous evaluation of the actions should facilitate an effective change

process in the workplace. Balfour and Clark (2001) affirmed that the change process needs to be cyclical so that it can be continually refined.

The modified Kolb-Frohman model of planned change is illustrated by Baileff (2000) as consisting of the following steps: entry, diagnosis and planning (the first feedback loop), planning action and evaluation (the second feedback loop) and finally termination. The feedback loops in this model of change are seen as essential as they promote continual reflection and evaluation of the change process.

The Burness-Bolton model of change is described by MacDonald and Miller-Groller (1995) as initially identifying a change master. Change masters are described as people within the organisation who are held in high regard, which this is necessary to ensure their successful leadership in the change process. A detailed project plan for the change is written and then implemented.

Carney (2000) described the 'change management model' as containing the following five components. The first component is the identification of the critical success factors of the project. By concentrating on these factors success is more likely (Carney, 2000). Secondly, the communication process promotes consultation, education and participation amongst the staff. Next, the acceptance resistance component allows managers to identify resistive and accepting attitudes towards the proposed change and manage these attitudes accordingly. The next component of the 'change management model' is the change implementation process where the actual change is implemented. The final component of this model of change is the evaluation stage where the changes and the process of change are reviewed.

Murphy, Pearlman, Rea and Papzian-Boyce (1994) identified that three main areas for measuring outcomes of service delivery redesign: staff satisfaction, patient satisfaction and recruitment and retention of nursing staff. Research by Adams,

Bond and Hale (1998) identified two dominant areas of measurement of service delivery: patient satisfaction and nurse job satisfaction. The Nursing Role Effectiveness Model was developed in order to measure patient outcomes after redesign of a large tertiary care facility in Canada (Doran, Sidani, Keatings, and Doidge, 2002). The model integrates indicators of structure, process and outcome of quality nursing care (Doran et al. 2002). Donabedian (1988) argued that the measurement of the quality of nursing care needed to be undertaken with great caution, as there is much interaction between the nurse and the patient that is not yet entirely apparent.

In summary, a number of change frameworks have been identified, and the important issue is that a framework for change is actually utilised when planning change. These frameworks distinguish the four main themes of the process of change as identification, planning, implementation and evaluation. An important phase identified in the process is the need for a cyclical progression where evaluation and re-evaluation of the change is built into the process. One of the main barriers to the change process is resistance and strategies for managing, or accepting resistance are built into some of the models. Change occurs internally as well as externally; therefore it is not only the processes that are put into place to bring change about in the workplace, but also the internal characteristics of the people who will be affected by the change that determine the effectiveness of the change. It has also been identified that the process of change is more likely to be successful when the person or people responsible for coordinating the change have certain attributes, such as being respected by their co-workers. In the context of this study the matters of importance are identifying the change framework utilised, examining the way it is implemented in the work environment and evaluating the effectiveness of the process of change.

2.3.4 Measuring outcomes of redesigning models of nursing practice

Research by Ingersoll, Cook, Fogel, Applegate and Frank (1999) examined the effects of redesign on nurse managers and identified that they struggled to cope with the demands of change in the workplace. One nurse respondent in a study on nursing redesign in Arkansas, USA (Del Papa 1995), stated that threats to patient health and safety existed with the downsizing of nursing. Schiff (1995) supported these statements by asserting that worsening staff ratios and the transfer of bedside nursing care to UAPs meant that the critical functions of the registered nurse, such as early identification of deteriorating health, alteration in vital signs and mental state and the onset of infection were now the responsibility of the UAP.

Shoptaw (1996) described a study that focused on the impact of redesign on nurses in Arkansas USA, and stated that most services surveyed had changed the way in which they delivered nursing care to a more 'patient-focused' model and that there had been a decrease in the number of registered nurses and an increase in UAPs. Shoptaw acknowledged that while the sample was comparatively small, one of the key findings of the project was that communication was imperative if redesign was to be successful. Fielding (1995) also asserted that the alteration of the workforce pattern was leading to a decline in patient safety and the quality of care provided. Porkorny (1995) supported this by stating that UAPs can only work to a capacity where they are implementing selective elements of a patients care requirements in order to increase safety.

There are disadvantages as well as advantages of this kind of redesign documented in the literature. Rheume (2003) asserted that while the replacement of registered nurses with UAPs was economically advantageous, the quality of patient care could be jeopardised. Hospitals with lower nurse-patient ratios experienced an increase in medication errors, patient-related complications and mortality (Aitken, Smith, & Lake, 1994; Blegden, Goode, & Reed, 1998; Tourangeau, Giovannetti, Tu, & Wood, 2002).

The literature describes the main ways of measuring the outcomes of redesign of models of nursing practice as patient satisfaction, nurse satisfaction (Murphy et al. 1994). The recruitment and retention of nursing staff is also observed as an indicator of successful redesign (McLaughlin et al. 2000). The main redesign strategy documented in the literature has been to reduce the numbers of registered nurses and increase the numbers of assistive workers and this is reviewed in most cases as having a negative affect on patient health and safety (Rheume, 2003).

2.3.5 Effective management of change in the workplace

In order for effective change to occur in the workplace, people must be empowered to make the change (Crotty, 1996). Autocratic change, or a 'top down' approach, has proved to be least effective as it leaves the participants (workers) feeling 'alienated from the processes of decision-making and planning' (Baileff, 2000; Crotty, 1996). These feelings can promote resistance to change. A manager who has insight into the process of change is more likely to be effective in bringing about successful change in the workplace (Cutcliffe & Bassett, 1997). The process of change needs to be managed effectively in order for the change to be successful.

There are several factors that will influence the way change occurs in the workplace and Carney (2000) states that it is not the change itself that creates problems, it is the transition phase that causes tribulations. In a study carried out by Tingle (2002) the researcher was able to identify that some of the factors that were barriers to effective change were attitudes of staff, lack of perceived support during the change process and ingrained practices and thought processes. Baileff (2000) states that the main obstacle to change is worker reluctance. Individual beliefs, values and attitudes generate either a driving or resistive force to the proposed change (Crotty, 1996). Willmott (1998) builds on this proposition by stating that resistance to change is often encountered as a result of lack of consideration of beliefs, attitudes, 'perceived incompatibility', relationships and finally, a fear of being exposed as lacking knowledge or understanding. Carney

(2000) states that the major resistance to change is caused by anxiety uncertainty and a loss of control. Telles (1996) considers that resistance during a change process can be a positive element as it forces the change initiator to clarify the purpose of the change and to recognise that there may be inadequacies in communication strategies.

The people who are to be most affected by the change need to, firstly, recognise the need for the change to occur and secondly, need to be involved in the planning and implementation of the change if it is to be successful (Crotty, 1996). When people are informed about the change, there is less resistance (Telles, 1996). When people believe that the change is in their best interests, they will be more accepting of the change process (Telles, 1996).

Balfour and Clarke (2001) describe a successful process of change as a 'bottom-up' approach that incorporates ongoing reflective evaluation. Crotty (1996) supports this by stating that an effective change process in the workplace needs to involve the people's ideas, values and beliefs as well as be well planned, have adequate resources and be creative in its approach. Strandell (1997) supports this statement by asserting that employee participation where workers have a 'voice at the table' will foster the change process in the workplace. People affected by the change should be involved in all aspects of the change process (Baileff, 2000) and change is more likely to be successful when the process is owned by the people whom it most affects (Wright, 1989).

2.3.6 Summary

This literature review has included an in-depth examination of the literature in relation to the four main practice models of nursing. Functional nursing, team nursing, patient allocation and primary nursing have been discussed in relation to evolution, main features, benefits and weaknesses with a comparative table included to facilitate an overview of the distinctive features of each model. Redesign was also examined in this literature review in relation to the health care

workplace in particular, why it is necessary, how it is implemented and how outcomes of change are evaluated.

The literature review clearly identifies the need for research into the models of nursing practice currently being utilised in the nursing workplace as well as a close assessment of how nurses experience change in the workplace. From this review of the literature, it is clear that there is a paucity of literature that describes nurses' experiences of redesign in the workplace. The experiences that nurses have in relation to change in the workplace and, more specifically, their experiences of a changing model of nursing practice will be distinctly identified through this study.

This literature review clearly summarises the following points:

- There are four main models of nursing practice and numerous customised models
- There are disadvantages and advantages associated with each model of nursing practice
- The current models of nursing practice are not always meeting the needs of the patients, nurses and/or managers of health care organisations
- Change is inevitable in the current health care system and atmosphere.
- There are many ways to bring about effective change in the workplace
- Redesign is one way of effecting change in the workplace that meets the needs of the patients, nurses and managers
- The outcomes of change can be measured in a variety of ways
- Change affects nursing staff in two main ways: reduced ability to cope and increased stress associated with perceived threats to patient safety caused by change, particularly the exchange of registered nurses for assistive personnel
- There is no in-depth description of the nurses' experiences of redesign of a model of nursing practice

2.4 Summary of the literature

Changes that redesign the structure of a health care workplace are often driven by the need for financial restraint or the need to cope with nursing shortages. The way in which change in the workplace develops will often determine its outcome. The change process utilised primarily determines the success or failure of workplace change but it is also influenced by other factors such as the attitudes of staff and the resources available.

The most common redesign this past decade has been the shift to utilise a different skill mix of care delivery staff. Increasing the numbers of assistive workers whilst reducing the numbers of registered nurses in the workplace has been a typical way of approaching health service redesign. The literature documents many disadvantages to this particular type of redesign as well as suggesting the factors that will most likely lead to successful and effective change in the workplace.

2.5 Research questions

What is the process of redesign of a model of nursing practice in a surgical ward?

What are the nurses' experiences of redesign of a model of nursing practice in a surgical ward?

Chapter 3: Methodology

3.1 Introduction

This chapter will provide an overview of the design and background of the project. Included in the overview will be a description of the processes utilised for data collection and analysis. Other significant sections included in this chapter are research design and justification, gaining access to the setting, data sources for the study, ethical issues, trustworthiness, limitations of the design, inability to generalise, researcher bias and presentation of the findings.

3.2 Theoretical assumptions of the research design

Within the context of the research questions for this study, when redesign occurs, there is an accompanying process of change. How this process occurs is elaborated in a number of theories and models outlined in the preceding chapter. However, what happens to participants within this process is unique and is governed by a number of factors such as individual characteristics, management characteristics, the organisation environment and the state of current knowledge. Therefore exploring individual case studies of this process, provides a growth of knowledge of both redesign and change agents. Case study is a familiar yet elusive approach to research. It is recognisable as it has been promoted by researchers and writers from a range of disciplines, for example education (Ball, 1983; Burgess, 1985; Hammersley, 1986; Stake, 1995), experimental psychology (Barlow & Hersen, 1984; Robson, 1993a; Yin, 1994) and nursing (Huntchinson, 1990; Ross & Tissier, 1994; Woods, 1998). It is mysterious, at least in nursing, because the case study method is typically only given negligible consideration in research textbooks (for example Polit & Hungler, 1999; Burns & Grove, 1997).

Case study design is described by Yin (1994, 13) as ‘an empirical enquiry that investigates a contemporary phenomenon within its real life context’. Creswell (1998) defines case study design as an exploration of a bounded system utilising in depth data from multiple sources. A further definition of case study research is

given by Robson (1993b) as a research strategy, which involves an empirical investigation of a specific contemporary phenomenon in a real life context and utilising multiple sources of data. The case study examines a single unit or subject within its natural environment or situation. The single unit could be an individual, a family, an organisation or even a society. Hakim (1987) adds to these definitions that a characteristic of case study research is that there are multiple methods of data collection. Hamel (1993) identified that case study design has been applied to research in many disciplines including law, education, medicine and psychology. Sharp (1998) asserts that case studies are, potentially, an excellent way of conducting nursing research. Case study is therefore relevant to this study as it is naturalistic and is conducted in a real life setting not controlled by the researcher.

There are three types of case study design identified: exploratory, descriptive and explanatory. Exploratory case studies are used to define a research question or to test the viability of future studies. Descriptive case studies endeavour to reveal a meticulous description of a specific phenomenon with its unique context. Explanatory case studies aim to explain cause and effect of a specific interaction (Gray, 1998). Descriptive case study is the design used for this study because this will provide an extension of knowledge of redesign and change.

Case studies typically use both qualitative and quantitative methods of data collection (Yin, 1994). Choice among these methods depends on circumstances within individual cases, (Marshall & Rossman, 1989; Miles & Huberman, 1994). By using multiple methods of data collection the researcher gains a rich picture associated with the single unit or subject (Yin, 1994; Creswell, 1998). In this study, both qualitative and quantitative methods of data collection were used with a number of sources including documents, minutes and audiotape recordings of staff meetings, posters, interviews and direct observation.

Dale (1995) asserts that the primary advantage of case study design is its value in providing a framework for a systematic and holistic exploration of individual

experience. Another advantage of case study design as described by Gray (1998) is that it is truly grounded in reality due to the wide variety of data sources. While the findings cannot always be generalised to other settings or groups, they provide a rich description and therefore in-depth understanding of specific phenomena in a real life context. This study provides a systematic and holistic exploration of nursing staff experiences of change during a redesign of a model of nursing practice in the reality of a ward area in a large tertiary hospital.

3.3 The researcher's position within the research design

The position of the researcher is significant in that it can influence the design of the research. In the instance of this research project there are a number of factors that are noteworthy. The age and gender of the researcher is consistent with the majority of the participants. This potentially intensified understanding and communication between the researcher and the said participants in that they share cohort language and communication styles. The level of comfort experienced may have also been enhanced as a result of this commonality. The fact that the researcher is a nurse could also be a factor in the way in which the participants contributed to the project. Whilst the researcher was an 'outsider' to the project, there was familiarity with the context of the ward and the ability to interpret nursing practice. Therefore, there was likely to be a level of assumed knowledge and understanding between the researcher and the participants.

3.4 Gaining access to the setting

The research setting was a surgical ward in a large Western Sydney hospital. The researcher was given permission to access the ward by the Principal Director of Nursing of the hospital. The University of Western Sydney and the AHS granted ethics approval jointly. In order to gain access to the ward, a hospital photograph identification badge was issued to the researcher from the hospital security department.

It was important at this stage that the researcher developed relationships with the Director of Nursing Services (DNS) who was responsible for the ward, the Nursing Unit Manager (NUM) and the staff on the ward. In order to do this, an introductory meeting was held for the staff to meet the researcher, ask questions and generally discuss the project. Over the next four months the researcher spent time on the ward attending regular staff meetings, carrying out observational visits and talking informally with the staff.

3.5 Data sources for the study

Several types of data were collected for this study. There were three objectives for this data collection as listed below.

These objectives were to describe:

1. Characteristics of the ward environment
2. Differences and similarities between the old and the new models of nursing practice
3. Nurses' experiences of the process of redesign of the new model.

Each of the data sources and when they were collected are illustrated in table 3.1: Data sources over the phases of the study. There were three phases of the study: the pre phase, the mid phase and the post phase. The processes for data collection and analysis are described in the next sections of this chapter.

3.5.1 Objective one: Characteristics of the ward environment

There were several types of data collected in order to summarise the context of the ward during the development and introduction of the new model of nursing practice on the ward. Analysis of these data sources meant that it would be possible to identify changes on the ward caused by factors other than the implementation of the new model of nursing practice. The data that were used to provide a detailed profile of the ward included diagnostic related groups, bed occupancy rates, admissions, discharges and transfers of patients, numbers of nursing staff employed on the ward, sick leave taken by nursing staff and

resignations and transfers of nursing staff. The above sources of data were used, as they were readily available and gave a clear indication of staff movement and throughput.

3.5.1.1 Diagnostic related groups

The context of the clinical caseload was identified through the use of diagnostic related groups (DRGs). Data are collected regularly on a daily basis for each patient on the ward and is summarised on a monthly database to represent the clinical caseload of the ward. In order to identify the context of the ward and to be able to clearly distinguish external changes to the way in which the staff might perform, this DRGs database was used.

Following a meeting with the research team and the NUM and DNS of the ward, it was decided that the DRG data would provide an effective way of measuring the constancy of the ward throughout the period of change. It was anticipated that changes to the model of nursing practice and the feedback from the staff in relation to these changes might be correlated with DRG data. The possibility existed that negative feedback in relation to the model might be affected by the workload and that this would be indicated by the DRG data.

Table 3.1: Data sources over the phases of the study (+Indicates when data collected)

3.5.1.2 Bed occupancy

The number of patients in the ward on a day-to-day basis over the period of the study is relevant in relation to the context of the study because it represents the workload of the nurses during that time.

3.5.1.3 Admissions, discharges and transfers

The numbers of patients moving in, out and around the ward were measured over the three phases of the study in order to determine the workload of the nursing staff over the phases of the study.

3.5.1.4 Numbers of nursing staff employed on the ward

The number and designated classification (RN, EN etc) of nurses rostered to the ward was recorded over the period of the study. The number of nurses rostered to the ward on a day-to-day basis over the period of the study is relevant in relation to the context of the study.

3.5.1.5 Sick leave taken by nurses on the ward

The numbers and designated classification of nursing staff taking sick leave was measured throughout the phases of the study.

3.5.1.6 Resignations and transfers of nursing staff on the ward

The numbers and classification of nursing staff resigning or transferring out of the ward was measured throughout the phases of the study in order to determine the turnover of staff on the ward throughout the phases of the study. The following table identifies and describes each of the data sources as well as the data collection methods and the data analysis methods.

Table 3.2: Data sources, collection methods and analysis

Data Source	Data collection method	Data analysis
<p align="center">Diagnostic related groups</p>	<p>DRG data are collected for every patient in the hospital however data specific to the patients admitted to ward were selected. The data were collected in the pre, mid and post phases of the project.</p> <p>A spreadsheet of data was provided by the person at the hospital responsible for collecting and collating DRG data, to the researcher. The information included on the spreadsheet was the specific DRGs, a weighting for each DRG and the number of each DRG for the ward for each phase of the project.</p> <p>The spreadsheets of DRGs specific to the ward were provided to the researcher by the Case Mix Department within the hospital via email. Accessing DRG data proved somewhat challenging in that special permission had to be obtained and authorisation given to allow the researcher right to use the data. The spreadsheet was printed and ready for analysis.</p>	<p>The numbers of DRGs and descriptions for each phase of the study were calculated and tabulated and clearly identified the data for the pre, mid and post phases of the project.</p> <p>The change in rates (if one exists) will be discussed in relation to the implementation of the new model.</p>
<p align="center">Bed occupancy</p>	<p>The data were provided to the researcher by the NUM in the form of a list of numbers indicating how many bed occupancy days existed for the ward for that month for all patients admitted to the ward.</p>	<p>The bed occupancy days for each month were tallied and appropriate percentages were then calculated. The results were tabulated to represent the total bed occupancy as well as the total percentage occupancy rate for each month. These were compared across the three phases of the study in relation to changes being implemented on the ward.</p>
<p align="center">Admissions, discharges and transfers of patients</p>	<p>The data were provided to the researcher by the NUM on a monthly basis in the form of a spreadsheet. The spreadsheet included all information about patients admitted to, discharged from or transferred around the ward.</p>	<p>The data related to admissions, transfers in and out of the ward, discharges and the average length of stay were compared across the three phases of the study in relation to changes being implemented on the ward.</p>

Data source	Data collection method	Data analysis
Numbers of nursing staff employed	The rosters for all nursing staff were photocopied and provided to the researcher on a monthly basis by the NUM.	The numbers of nurses in each designated classification were tallied and percentages calculated for each month of the study. The results were tabulated and compared across the three phases of the study.
Sick leave taken by nurses	The data were collected on a monthly basis for all nurses appearing on the roster throughout the phases of the study from the NUM. The data were provided in the form of a hand written notation indicating the date, the category of nurse and how many days of sick leave had been taken.	The sick leave data were tallied according to the designated classification of nurses and shifts worked. These were tabulated to represent monthly sick leave. The results were compared across the three phases of the study.
Resignations and transfers of nursing staff	The data were collected on a monthly basis throughout the phases of the study from the NUM for all nurses appearing on the roster. The data were provided in the form of a hand written notation indicating the numbers of nurses who had resigned or transferred out of the ward each month. Data for the same period in the previous year were also provided.	The number of resignations and transfers of RNs and ENs were calculated for the period of the study as well as for the same period in the previous year. The results were tabulated and compared across the three phases of the study and for the same period on the previous year.

3.5.2 Objective two: Comparison of the old and the new models of nursing practice

The following sections will provide information about the data collected and how it illustrated the differences and similarities between the old and the new models of nursing practice. The data were collected from observations, conversations, poster activities and rosters as this provided different perspectives and systematic records of the differences between the two models to enable comparison.

3.5.2.1 Observations

Observational visits to the ward were undertaken from time to time throughout the phases of the study. The activities being carried out by staff as well as staff interactions were observed. These data were organised according to the category of nurses and helped to verify the data from the posters.

3.5.2.1.1 Sample

The sample was the nursing staff rostered to the ward at the time of the observational visit.

3.5.2.1.2 Data collection instrument

A proforma was developed (see Appendix 2) in order to organise the collection of data and to ensure consistent data collection. The observations are not intended to be a time and motion study but to provide a description of activities.

3.5.2.1.3 Data collection procedures

At the time of each observational visit, notes were taken on the proforma. Each completed proforma was dated and timed. The observational visits were organised at different times during the three shifts in order to ensure that a variety of staff and interactions were observed. The length of time of each visit varied between one and three hours.

3.5.2.1.4 Data analysis

The data from the observations were sorted into two major categories for both RNs and ENs. In relation to the first major category (activities), there were comparisons made between different levels of staff, and varying times of the day in relation to the activities the staff were carrying out. These comparisons were tabulated. In terms of the second category, staff interaction, the number of times the staff interacted and the type of interaction were coded into three sub-categories: clinical communication, social communication and other communication.

3.5.2.2 Conversations

Conversations occurred informally from time-to-time throughout the phases of the study with the DNS and NUM. The content of the conversations was mainly about the staff and how they carried out their nursing work.

3.5.2.2.1 Sample

The sample were the DNS and the NUM.

3.5.2.2.2 Data collection procedures

The researcher recorded hand-written notes during these informal conversations.

3.5.2.2.3 Data analysis

The conversations became stories from the nurses in writing the description of their experiences of the redesign. Important themes were identified from these stories and exemplars used to illustrate points of view.

3.5.2.3 Poster activity

The poster activity was implemented in both the pre and post phases of the study. The primary purpose of the posters was to clarify the roles of the RNs and the ENs.

Pre phase

The posters were generated in order to provide the staff with an opportunity to contribute to the data and to find out their thoughts and ideas about the roles they assume on the ward. In particular the roles of the RN and EN were the focus because it was anticipated that these were the two groups of staff that were going to be most affected by the change in the model of nursing practice. It was important to find out what the staff's experiences were of the differing roles. The roles, or perceptions of their roles, would impact on the model of nursing practice utilised on the ward and the effectiveness of that model. It had been established from previous meetings and data collected that there was a high likelihood that the staff were not working according to their differing roles and that this anomaly was likely to impact on the way in which any model of nursing practice was going to be implemented.

It was hoped that the contributions might shed some light on the types of work currently being undertaken by RNs and ENs. This in turn lead to the possibility of education,

support, directives and/or meetings that would aim to support staff in differentiating their roles more clearly with the wider outcome being that staff worked more effectively within the new model of nursing practice. The data collected were categorised into themes and analysed through written discussion.

Post phase

Posters were also developed for the post phase period of the study. The purpose of the posters was the same as the pre phase posters. Each poster was created in the same way and positioned in the same place as the pre phase posters; however, the questions asked on the posters in the pre and post phases were different in order to reflect the progression of the study.

3.5.2.3.1 Sample

The sample comprised the nursing staff from the ward that volunteered to contribute information.

3.5.2.3.2 Data collection instrument

Posters were developed and placed in the tearoom of the ward for a period of one month in the pre and post phases of the project. The posters were made from cardboard and were written on in thick texta pen. Tables 3.3 and 3.4 illustrate the information on each of the posters placed in the ward.

Table 3.3: Pre phase poster instructions

RN Poster	EN Poster
<ul style="list-style-type: none"> <u>Instructions:</u> Please write your ideas/perceptions of the jobs of RNs 	<ul style="list-style-type: none"> <u>Instructions:</u> Please write your ideas/perceptions of the jobs of ENs

Table 3.4: Post phase poster instructions

RN Poster	EN Poster
<ul style="list-style-type: none"> Since the implementation of the new model of nursing practice, how has the role of the RN changed? 	<ul style="list-style-type: none"> Since the implementation of the new model of nursing practice, how has the role of the EN changed?

3.5.2.3.3 Data collection procedures

Two posters were positioned in the ward 'tea-room' and the staff were requested to contribute by writing directly on to the poster. The posters were left on the ward for one month in an attempt to provide maximum opportunity for staff to contribute. The NUM encouraged the staff to contribute to the posters. Pens were provided and attached to the posters with blutac® to facilitate optimal contributions.

3.5.2.3.4 Data analysis

The data for the posters were transcribed onto post-it-notes and sorted into three categories of tasks the nurses undertook in their day-to-day activities. Following this, the number of tasks for each category according to designated classification of staff were tallied and tabulated. Individual tasks identified by the nurses, in each category, were tabulated according to designated classification.

3.5.2.4 Rosters

The rosters were used to determine the number of categories and levels of nurses employed on the ward.

3.5.2.4.1 Sample

All of the computer generated rosters available in the pre, mid and post phases of the study.

3.5.2.4.2 Data collection procedures

The rosters were provided by the NUM on a monthly basis.

3.5.2.4.3 Data analysis

The number of each category and level of nurse was tallied for each shift on a monthly basis. Percentages were calculated and the number and percentages were then tabulated.

3.5.3 Objective three: Nurses' experiences of the redesign of the new model of nursing practice

There were two data sources that were used to determine the nurses' experiences of the redesign. Interviews and meetings were organised to generate data that would clearly establish the nurses' experiences of the new model of nursing practice. These provided the opportunity to obtain both individual and group data at both a personal and professional level.

3.5.3.1 Interviews

Interviews were conducted in the pre and post phases of the study. The primary purpose of the interviews was to gain understanding of the nurses' experiences of the redesign of the model of nursing practice.

Pre phase

Originally, the interview plan was to hold small focus groups that were to be taped, transcribed and the data interpreted. This plan did not eventuate for one main reason. When an attempt was made to gather the staff into small groups, the staff expressed extreme concern about their lack of time. Taking into consideration the stress levels previously emphasised by staff in relation to time, it was decided to hold individual interviews. It was anticipated that changing the mode of data collection would increase the participation rate.

Post phase

Post phase interviews differed from the pre phase interviews in that they were longer and therefore more in depth interviews that generated richer data. The interviews were semi-structured in that there were several questions that were asked consistently of all

participants. The remainder of the interview, however, was less structured and allowed participants to express their thoughts and feelings in relation to the implementation of the new model of nursing practice more freely.

3.5.3.1.1 Sample

The sample included the nurses working on the ward who volunteered. The interview times were varied in order to promote participation by maximum numbers of staff. The pre phase interviews were organised so that the researcher was available at particular times on specified days (the times and days were staggered to promote maximum participation) and the staff that wished to participate were directed to the interview by the NUM. The post phase interviews were organised in a more formal way by the NUM. Staff who wished to participate were scheduled for interview by the NUM.

3.5.3.1.2 Data collection instrument

All interviews were taped and transcribed for later coding and categorising.

3.5.3.1.3 Data collection procedures

Dates and times of interviews were discussed with the NUM in order to ensure that as many staff as possible would be able to participate. To promote participation it was decided to hold the interviews on different days of the week and at different times. Interviews were held early in the morning to 'capture' the night duty staff and in the afternoons to catch the day duty and evening duty staff. Participation was encouraged but voluntary. For the pre phase interviews, the dates and times were posted on the ward in advance to facilitate maximum participation. An information sheet was generated and contained information for the nursing staff about the purpose of the interviews.

The interviews were held in a small meeting room within the ward to facilitate ease of access for the staff. The room was private and the door was kept closed during the interviews. Due to the pressing time factor, the pre phase interviews were kept brief and focused. However, the post phase interviews were in-depth and lasted approximately one hour for each interview. The nurses had expressed (during staff meetings) that they could

not cope with longer interviews as their workload meant that they had very little time to be away from the ward and their patients.

At the commencement of both the pre and post phase interviews, some demographic information was collected from each participant. This information included their name and designation and participants were given the following information.

1. Their comments would be taped.
2. Although their comments would be utilised for research purposes, participants would not be identified individually.
3. They were encouraged to be as descriptive as they could.

In the pre phase interviews, after the initial introduction, the nursing staff were asked the following two questions.

1. What do you think about the change?
2. What are your suggestions or ideas?

Each participating staff member answered these questions and was then encouraged to elaborate on their thoughts and ideas during the interview.

In the post phase interviews, the nursing staff were asked the following questions.

1. What do you think about the change?
2. How do you feel about the change?
3. What do you think about the new model of nursing practice?
4. What do you think about the new CAC position?
5. If the CAC role is a benefit to the ward, can you describe how?
6. How could things be improved from this point forward?

3.5.3.1.4 Data analysis

Transcripts were collated from tape recordings of semi-structured interviews with various staff members. The comments made by the staff during the interviews were transcribed into Microsoft Word and text analysed for emerging themes. By a process of constant

comparison and contrast (Glaser & Strauss, 1967) the themes were categorised and a description of the staff experiences was written for both the pre phase and post phase interviews.

3.5.3.2 Meetings

The data from the meetings were used to describe the nurses' experience of the redesign process. Meetings were conducted consistently throughout the phases of the study. There were three types of meetings. The first type of meeting was a management meeting and was attended primarily by the DNS, NUM, Clinical Activities Coordinators (CACs) and the researcher. The purpose of these meetings was to gain feedback on the events of the week, plan the staff meetings and discuss options for progression. The second type of meeting was the staff meeting. All nursing staff were invited to attend these meetings and the purpose of these meetings was to discuss the changes that had been implemented since the previous meeting, to discuss changes in the future and to provide an opportunity for the nurses to share thoughts and ideas about how to improve the process. The third type of meeting that occurred during the phases of the study was an ad hoc meeting that usually included nurse managers and the researcher and the purpose of these meetings was to discuss the general progress of the study.

3.5.3.2.1 Sample

The managers and nursing staff from the ward attended the meetings. The nursing staff who attended the meetings were generally staff who were rostered to the ward at the time of the meeting and who felt they could leave their patient care responsibilities for the purposes of a meeting. The managers attended the managers' meetings and they would often attend on a day they were not rostered to the ward.

3.5.3.2.2 Data collection procedures

Data from all three types of meetings were either tape-recorded or written notes were taken. At the outset, the meetings were tape recorded and transcribed but with such a large volume of staff attending some of the meetings the tape recordings were of poor

quality due to lots of background noise and people talking simultaneously. It was therefore decided to take written notes at each meeting that would reflect the discussions.

3.5.3.2.3 Data analysis

The information provided by the transcribed tapes and written notes were analysed by the researcher for key elements during the process of redesign to describe the nurses' experiences of this change. The meeting data were read and the key elements of the nurses' experiences were identified and used to describe these during the phases of the study.

3.6 Ethical issues

The University of Western Sydney ethics committee as well as the Area Health Service where the study was conducted granted ethics approval for the study. All participants were volunteers. Each participant was provided with an information sheet and signed a consent form. Anonymity of the participants was the primary ethical concern and this was achieved by the allocation of codes to participants who took part in the interviews.

All data received by the researcher from the NUM etc were de-identified for example sick leave. Informal conversations were annotated and no direct quotes were used.

Informants were aware of note taking. Transcripts were kept in a locked filing cabinet in my private office. The transcript data were shared only with the academic supervisors for the project. Other ethical issues of confidentiality and consent were addressed throughout the phases of the study and therefore the contravening of any ethical concern did not compromise the validity of the study. The study was conducted according to National Health and Medical Research Council guidelines (National Health and Medical Research Council [NHMRC], 2000).

3.7 Trustworthiness

In the context of this study, where a case study approach was taken and therefore generalisability is not sought, the believability (Diers, 1979) or credibility (Lincoln & Guba, 1985) of the data and their analysis is the most important aspect for establishing trustworthiness and authenticity of the study (Erlandson et al. 1993, Yin, 1994 & Dale,

1995). Holloway and Wheeler (1996) state that case study research is utilised to examine cases that are coupled specifically to a group or locality and therefore, is less generalisable than other qualitative designs. In order to achieve believability and credibility, techniques must be utilised to establish the trustworthiness and authenticity of the case study. The techniques used in this study were:

- Persistent observation. When analysing text or numerical data there was attention to accuracy and clarification of meaning particularly in the context of the interviews, meeting notes and observations.
- Reflexive triangulation: This was achieved by verifying and/or validating data when working with various realities.
- Data source and sample triangulation: Various sources of data and different samples of staff were used to verify data during the process of the study. For example, observations of the researcher as well as roster data were used to determine staff working on ward and their activities before and after introduction of the new model of nursing practice.
- Referential adequacy of the materials: All documental and literature data used were provided in appropriate fashion as background to or data for the study.
- Thick description: The methods and techniques used in collecting analysing and writing the report for this study are fully described.
- Purposive samples: The determination for purposive sampling of nurses, documents and rosters was made to gather data most appropriate for the study.
- Audit trail: All data forms and analysis are available for evaluations. These include copies of documents, journals, records of telephone conversations, emails, transcripts, interview audiotapes, observation documentation check list, notes from meetings, information and consent form from participants.

- Ethical considerations: The study was designed to safeguard the anonymity and safety of subjects and data. See section 3.5 for details.

3.8 Limitations of the design

The limitations of the study will be discussed primarily in relation to the inability to generalise and potential researcher bias. The following sections consider these two criticisms in more detail.

3.8.1 Inability to generalise

Generalisability of the study findings exists only in so far as the findings may be applicable to other very similar contexts. The study context is made up of the nurses, the patients and the environment. These three function collectively to create the distinctive context of this unique study. Never again will the same nurses be found on the same ward with the same patients at the same time. Gray (1998) asserts that case study findings are context specific and cannot be generalised to other study environments. However, there are aspects of the study findings that could be applied to other similar contexts and these are discussed in detail in Chapter 7 of this thesis.

The strongest criticism of case study research design has been the inability to generalise the research findings. Burns and Grove (1997) argue that case study design creates the opportunity for the generation of original hypotheses for subsequent examination. Cohen and Manion (1994) assert that case study design is strong in reality and therefore provides a 'natural' basis for generalisation. Yin (1994) and Sharp (1998) state that whilst case study design cannot be generalised to populations, it is possible to generalise to theoretical propositions.

The purpose of this study was to provide in-depth description of the experiences of nurses as well as to describe the process of change experienced by the nurses on the ward and therefore the ability to be able to generalise the findings was never anticipated.

3.8.2 Researcher bias

Another criticism of case study design is researcher bias. Bias is defined by Woods and Catanzaro (1988) as occurring where the researcher is precluded from making independent judgement because of individual partiality or inclination. Since the researcher, in case study design, is compelled to become immersed in the data, individual partiality is not only unavoidable but also anticipated

3.9 Presentation of the findings

The findings of the study will be presented in the next three chapters:

Chapter 4:

Characteristics of the ward environment (Objective one)

Chapter 5:

Comparison of the old and the new models of nursing practice (Objective two)

Chapter 6:

Nurses' experiences of the development and introduction of the new model of nursing practice (Objective three)

Chapter 4: Characteristics of the ward environment

4.1 Overview

This chapter will provide a description of the ward, clinical activity and the staff of the ward. These data illustrate the context of the study environment. These data sources were used as they were readily available and they clearly illustrate the characteristics of the ward environment.

4.2 Ward profile

The ward is a 30 bed surgical ward of a large hospital in Western Sydney, New South Wales. The ward consists of 30 beds made up of six four bedded rooms and six single rooms. Each room has a bathroom/toilet attached to it. Other specific areas on the ward include a patient lounge, a visitor's room, staff room, tutorial room, interview room and a patient tearoom. The usual clinical areas of dirty utility, treatment room and linen and storerooms are also found in the ward. Several administration areas such as offices and a reception area also exist in the ward. The ward is structured so that all the patient's rooms are located around the perimeter of the ward and the treatment, store, linen, interview and tutorial rooms are located in a central block surrounded by a corridor. The reception area is at the most southern end of the ward near the lifts. There are fire exits at either end of the ward.

The types of patients who were admitted to the ward were generally adults experiencing health problems related to functioning of their gastro-intestinal system, with a maximum of 30 patients at any given time. The main types of health issues included post surgical gastro-intestinal problems like those affecting the oesophagus, hepato-biliary system and colo-rectal surgery. Very rarely the ward admitted a medical (rather than surgical) patient with gastro-intestinal health problems. Occasionally a patient with Methicillin-Resistant *Staphylococcus aureus* (MRSA) was admitted to the ward and when this occurred a cluster was usually created in one room of the ward. A cluster is when patients with similar health problems are grouped together. The ward also had several respite beds

where patients with long-term gastro-intestinal health problems could be admitted regularly for ongoing treatment.

The monthly bed days varied from 806 to 909 (mean 884.8) and the ward occupancy varied from 96.0% to 97.7% throughout the phases of the study with a mean of 96.9%. Table 4.1 illustrates the bed occupancy rates for the ward during the three phases of the study.

Table 4.1: Total bed occupancy days and percent and rate of bed occupancy from July 2002 to June 2003

	Pre phase			Mid phase						Post phase			Mean
	Jul 2002	Aug	Sept	Oct	Nov	Dec	Jan 2003	Feb	Mar	Apr	May	Jun	
Bed days (f=)	873	894	873	909	872	895	906	806	902	909	906	873	884.8
Bed occupancy rates (%)	97.0	96.1	97.0	97.7	96.9	96.2	97.4	96.0	97.0	97.7	97.4	97.0	96.9

The number of admissions, transfers in and out of the ward, discharges and length of stay for the patients on the ward somewhat reflects the workload of the nursing staff. Table 4.2 illustrates variations on nursing workload over the phases of the study.

Table 4.2: Total monthly admissions, transfers in and out, discharges and mean length of stay from July 2002 to June 2003

Month	Pre phase			Mid phase						Post phase			Mean
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Admissions	5	5	8	6	6	8	11	6	10	6	7	11	7.4
Transfers in	152	155	154	143	155	138	141	125	141	131	147	137	143.3
Total in	157	160	162	149	161	146	152	131	151	137	154	148	150.7
Transfers out	21	18	29	21	27	27	39	23	23	23	27	31	25.8
Discharges	121	145	129	129	133	120	113	110	125	116	128	114	123.6
Total out	142	163	158	150	160	147	152	133	148	139	155	145	149.4
Mean length of stay (days)	4.86	4.73	4.44	5.08	4.59	5.09	5.01	5.04	5.07	5.26	4.98	4.99	4.9

The admissions, discharges and transfers indicate the workload assigned to the nursing staff during three phases of the study. The mean number of admissions per month varied from five (July and August 2002) to 11 (January and June 2003) with an overall mean of 7.4. The mean number of transfers in varied from 125 (February 2003) to 155 (August and November 2002) per month with an overall mean of 143.3. The frequency of patients admitted to the ward was 1808 and the monthly mean was 150.7 patients.

The frequency of monthly transfers out of the ward during the period of the study varied from 18 (August 2002) to 39 (January 2003) with a mean of 25.8. The mean number of discharges each month was 123.6 with a high of 145 in the month of August 2002 and a low of 110 in the month of February 2003. The mean length of stay of patients during the period of the study was 4.9 days with a high in April 2003 of 5.26 days and a low in September 2002 of 4.44 days. The frequency of patients leaving the ward was 1792 and the monthly mean was 149.4 patients.

Table 4.2 illustrates the trends in the movement of patients in and out of the ward during each phase of the study. These figures also reflect the workload affecting the nurses

during this period. The mean monthly admissions, transfers in and out, discharges and length of stay for each phase of the study were calculated.

Table 4.3: Mean monthly admissions, transfers in and out, discharges and mean length of stay for each phase of the study

Type of ward movement	Pre phase Mean	Mid phase Mean	Post phase Mean
Admissions	6	15.6	8
Transfers in	153.6	140.5	138.3
Transfers out	22.6	26.7	27
Discharges	131.6	121.7	119.3
Length of stay (day)	4.68	4.98	5.1

During the mid phase of the study, there were almost double the number of admissions to the ward although transfers to the ward were greatest in the pre phase. During the post phase period the largest frequency of transfers out of the ward occurred; however, this was only a marginal increase. During the pre phase period there were the most number of discharges and this is consistent with the fact that there were also the greatest frequency of admissions. The patients stayed longer in the post phase period of the study.

4.3 Clinical activity profile

The way in which the clinical activity of the ward was monitored throughout the phases of the study was to examine the Diagnostic Related Groups (DRGs). The DRGs indicate the level of patient acuity and the number of each group of patients being admitted to the ward.

There were 844 DRGs allocated to patients on the ward and these were made up of 325 different DRGs. The following table illustrates the total frequency of individual DRGs allocated to patients admitted to the ward over each phase of the study.

Table 4.4: Total number of individual DRGs for each month during the three phases of the study

Phase	Month	Total individual DRGs	Total number of DRGs per phase
<u>Pre phase</u>	July	63	207
	August	67	
	September	77	
<u>Mid phase</u>	October	80	445
	November	82	
	December	79	
	January	64	
	February	64	
	March	76	
<u>Post phase</u>	April	65	192
	May	69	
	June	58	
GRAND TOTAL		844	

Each DRG is weighted for the expected acuity of the patient according to their diagnosis. The individual weighting for each DRG has been calculated in order to determine the acuity of patients over each phase of the study. These data will provide some concept of the workload of the nurses during the study period. The table below illustrates the DRG weightings for each month of the study period, as well as the means for each month and totals and means for each phase.

Table 4.5a: Number of individual and total DRGs for each month

DRG weighting	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Total number of individual DRGs	30	28	34	30	33	34	32	29	30	33	30	28
Total number of DRGs	63	67	77	80	82	79	64	64	78	65	69	58
Total weighting	125.69	150.69	174.83	197.81	200.56	165.65	167.07	134.26	159.72	150.44	166.07	117

Table 4.5b: Mean number of individual total and monthly DRGs for each phase of the study

Mean	Phases		
	Pre phase Mean	Mid phase Mean	Post phase Mean
Individual DRGs	30.66	31.33	30.33
Total DRGs	69	74.5	64
Monthly DRG weighting	150.26	170.85	144.50

Table 4.5a illustrates that the total number of individual DRGs ranged from 28 (August and June) to 34 (December) over the phases of the study with an overall mean of 30.9 per month. The per phase mean was highest in the mid phase (31.3) and lowest in the post phase (30.33). The total number of DRGs ranged from 58 (June) to 82 (November) over the phases of the study with a mean of 70.5 per month. Table 4.5b illustrates the mean for total DRGs per phase was highest in the mid phase (74.5) and lowest in the post phase (64). During the pre phase of the study, the total DRG weighting was 450.78, the mid phase 1025.07 and the post phase weightings were 433.51. The mean monthly DRG weighting for each phase of the study was lowest in the post phase (144.50) and lowest in the pre phase (150.26).

Data indicate two major factors affect the workload of the nurses during the phases of the study. Firstly, the low number of individual and total DRGs was highest in the mid phase of the study indicating that the nurses had a broader range of patients to nurse. Secondly, the mean monthly weighting of each DRG was higher in the mid phase indicating that the patients admitted to the ward during this phase were of a higher acuity. Both of these factors led to an increased workload during the mid phase of the study when the new model of nursing practice was being implemented. During the post phase of the study, the frequency of individual and total DRGs was the least. The mean monthly weightings were also less for the post phase indicating that the workload decreased during this phase of the study.

4.4 Staff profile

Thirty-two nurses were on the rotating roster on the ward at the commencement of the project. These were a nursing unit manager (NUM), a clinical nurse specialist (CNS), registered nurses (RNs), enrolled nurses (ENs) and a trainee enrolled nurse (TEN). There was also a discharge planner who worked permanently and fulltime on the ward from 0800hours to 1630hours. A clinical nurse consultant (CNC) specialising in stomal therapy, was attached to the ward but was not exclusive to the ward. Casual nursing staff were rostered from a 'pool' as required. Agency staff were utilised as necessary although this was infrequent. This occurred when nurses were off duty due to illness or were unable to work their rostered shifts unexpectedly. Very occasionally a TEN worked on the ward. A regular ward clerk was employed Monday to Friday 0800hours to 1630hours. There were several staff doctors and specialists who cared for patients on the ward. Physiotherapists, occupational therapists, social workers, diet aides, the chaplain and other allied health staff visited the ward as requested. Table 4.6 illustrates that the number and percentages of each level of nurse working on the ward at the beginning of the study.

Table 4.6: Classification, total number and percent of total nursing staff employed on the ward at the commencement of the pre phase

Nursing staff classification	Total number	Percentage (%)
NUM	1	3.125
CNS	1	3.125
RN 8th year+	10	31.25
RN 7 th year	3	9.375
RN 6 th year	2	6.25
RN 5 th year	2	6.25
RN 4 th year	2	6.25
RN 3 rd year	2	6.25
RN 2 nd year	4	12.5
RN 1 st year	1	3.125
Total RN	26	81.25
EN	3	9.375
TEN	1	3.125
Total staff	32	100%

Table 4.6 shows that at the commencement of the study there were 26 registered nurses employed on the ward, 10 of them being eighth year or greater. There were also one NUM, one CNC, three ENs and one TEN. It is important to note that a CNC services the ward but has not been included as part of the ward profile as this employee divides their time between several wards. In addition to the nursing staff employed to work on the ward, there is also a discharge planner, ward clerk, and approximately 20 doctors who worked on the ward regularly.

The following table illustrates the variations in the number of nursing staff over the phases of the project and clearly identifies several trends. The nursing unit manager remained and an extra clinical nurse specialist was employed. There was little movement in the number of registered nurses employed on the ward. There was a definite increase in the frequency of enrolled nurses with the ward starting out with three enrolled nurses in

the initial phase of the study and this frequency doubling to 8 at the completion of the study.

Table 4.7: Number of individual classifications of nursing staff employed on the ward per month during the pre, mid and post phases (NC = nursing classification)

NC	Pre phase			Mid phase						Post phase		
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
NUM	1	1	1	1	1	1	1	1	1	1	1	1
CNS	1	1	1	1	1	1	1	1	1	1	2	2
RN	26	27	28	24	24	24	24	25	28	25	28	24
EN	3	3	3	3	7	8	10	7	9	7	8	8
TEN	1	1	1	1	0	2	3	3	1	1	0	3
Total	32	33	34	30	33	36	39	37	40	35	39	38

Although the previous table indicates that the frequency of registered nurses has not reduced during the study, some of those registered nurses may have been employed on a part time basis. It is therefore important to examine the number of fulltime hours for both registered and enrolled nurses to get a clear picture of staff movement over the phases of the study. Fulltime employment hours of both registered and enrolled nurses are illustrated in table 4.8.

Table 4.8: Number of fulltime equivalent for each category of nursing staff rostered on the ward per month during the pre, mid and post phases (NCat = nursing category)

NCat	Pre phase			Mid phase						Post phase		
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
RN	20.8	17.9	20.1	19.5	20.0	18.9	16.8	18.8	19.3	18.5	17.7	17.9
	3	2	7	0	5	3	7	9	1	1	2	5
EN	2.53	3.00	2.84	2.54	6.46	7.42	7.63	6.47	6.84	6.63	6.77	7.09
Total	23.3	20.9	23.0	22.3	26.5	26.3	24.5	25.3	26.1	25.1	24.4	25.0
	6	2	1	4	1	5		6	5	4	9	4

The fulltime hours of registered nurses decreased from 21.3 to 17.95 over the phases of the project whilst the frequency of fulltime hours of enrolled nurses increased from 2.53 to 7.09.

The following table illustrates sick leave taken by nursing staff on the ward during the phases of the study. During the pre phase of the project (July to September 2002) the mean monthly sick leave was 20 shifts. During the implementation, or mid phase, of the study (October 2002 to March 2003) the mean sick leave for nurses was 18.17 shifts. In the post phase period the mean sick leave was 16.7 shifts per month. It is not clear whether these figures are consistent with previous sick leave trends and undoubtedly there would be seasonal fluctuations in sick leave that would not be related to the study. In order to clarify the sick leave rates, data were collected to determine the rates of sick leave of nurses employed on the ward for the previous year. Table 4.10 presents the sick leave taken by staff employed on the ward during the previous 12 months prior to the study.

Table 4.9: Sick leave taken by staff in each classification employed on the ward during the pre, mid and post phases (measured in 8 hour units) (NC = nurse classification)

NC	Pre phase			Mid phase						Post phase		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
RN	27	12	16	13	19	14	19	9	8	7	11	13
EN	1	1	3	1	3	4	3	1	13	5	8	3
NUM	0	0	0	1	0	0	0	0	1	0	1	0
CAC	Introduction of CAC position Jan 2003						0	0	0	0	1	1
Total	28	13	19	15	22	18	22	10	22	12	21	17

Table 4.10: Sick leave taken by each classification of staff employed on the ward in the 12 months prior to the study (measured in 8 hour units) (NC = nurse classification)

NC	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
RN	11	16	15	13	21	26	19	24	10	19	12	16
EN	6	2	2	3	2	1	1	0	5	2	4	3
NUM	0	1	3	2	0	0	0	0	1	0	0	0
Total	17	19	20	18	23	27	20	24	16	21	16	19

The total frequency of sick days taken by nurses was 219 during the phases of the study and 240 in the previous year.

Table 4.11 illustrates the number of registered and enrolled nurses leaving employment on the ward throughout the phases of the study. During the pre phase of the project (July to September 2002) four nurses left employment and after that one nurse left per month for six of the nine remaining months. Three times as many registered nurses left than enrolled nurses. In order to determine the trends for nursing staff leaving the ward, data were collected for the previous year and are illustrated in table 4.12.

Table 4.11: Number of nursing staff in each category for each month leaving the ward for the study period (NCat = nursing category)

NCat	Pre phase			Mid phase						Post phase			Total
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
RN	2	1	0	0	1	0	1	1	0	1	0	1	9
EN	0	1	0	0	0	1	0	0	0	0	0	0	3
Total	2	2	0	0	1	1	1	1	0	1	0	1	12

Table 4.12: Number of nursing staff in each category for each month leaving the ward for the 12 months prior to the study (NCat = nursing category)

NCat	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
RN	3	1	0	1	0	0	0	0	1	1	1	1	9
EN	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	4	1	0	1	0	0	0	0	1	1	1	1	10

Nurses left the ward during the three phases of the study for three reasons. Six nurses resigned, five nurses transferred to another ward in the area health service and one nurse retired. These data were provided to the researcher by the NUM.

Of the nurses who resigned, at least half of the nurses who resigned stayed in nursing work, one nurse moved out of the area health service but may have stayed in nursing, one left nursing completely and one did not give a reason for resignation. Of the nurses who transferred out of the ward two registered nurses moved to another ward; one enrolled nurse entered a graduate program; one registered nurse left the ward to study; and one registered nurse moved to another hospital within the same area health service. The above information was provided to the researcher by the NUM.

4.5 Summary

The data contained in the previous four sections illustrated changes in the profiles of the ward, clinical activity and staff over the three phases of the project.

The ward profile fluctuated significantly during the three phases of the project. Transfers of patients out of the ward were greatest in the pre phase. The mid phase saw a peak in the number of admissions and a reduction in the number of discharges. The number of admissions was highest in the post phase of the project and consequently the post phase also saw the highest bed occupancy level.

DRG data identified that the clinical activity increased in the mid phase, which was consistent with the increasing numbers of patients on the ward during that phase.

The staff profile also changed over the course of the project. The numbers of RNs decreased while the number of ENs employed on the ward increased significantly from the pre to the post phase. There was more sick leave taken by nursing staff in the pre phase but the number of nursing staff leaving the ward was stable across all three phases

Chapter 4 has described the characteristics of the ward environment in terms of the ward profile, clinical activity profile and staff profile. Chapter 5 will provide a comparison of the old and the new models of nursing practice within the identified ward environment.

Chapter 5: Comparison of the old and the new models of nursing practice

5.1 Overview

This chapter will describe both models of nursing practice, the old and the new, in relation to work organisation and rostering. As listed in Chapter 3, the data sources were the observations, conversations, posters and rosters. Meaning has been extrapolated from that data and presented in the following sections.

5.2 The old model of nursing practice – patient allocation

It was important to determine the model of nursing practice within which the staff were working on the ward. Once the model was identified, then there was a starting point for the development process for the new model. Whilst examining the existing model of nursing practice there was also an opportunity to identify current problems and future challenges.

It was identified via conversations with the NUM and DNS in the beginning stages of the project, that the staff on the ward were utilising the patient allocation model. They were not working strictly within the pure definition or boundaries of this model, but for the most part, patient allocation was the way in which they worked. The variation on the model of nursing practice occurred on occasions where an RN and an EN would team-up and provide nursing care together to a group of patients. Comments from the nurses included wanting to work together getting the work done, going home on time and having a homely feeling at work. For the most part, the staff indicated this was not a successful way to deliver nursing care and that they preferred the patient allocation model.

5.2.1 Work organisation within the old model of nursing practice

The data sources for this section were the observations, conversations, posters and rosters. The observations, conversations and rosters provided data about the activities carried out by the nurses, however, the posters generated data that were from the nurse's perspective.

5.2.1.1 Observations

During the observations there were two major categories identified for RNs and ENs. The first category was the activity and the second category was interaction. The second category (interaction) was further analysed and three sub-categories emerged. The three sub-categories were clinical communication, social communication and other communication. Table 5.1 illustrates the two observational categories: activity and interaction and the three sub-categories: clinical communication, social communication and other communication.

5.2.1.2 Conversations

During the conversations with the NUM and DNS information about the way in which the nurses organised their work was uncovered. From the notes taken during these informal conversations, the model of nursing practice that the nurses were using was established.

Allocation of the workload was the responsibility of the RN who was 'team leader' of each shift. The RNs would take turns at fulfilling the role of team leader on each shift and this responsibility was designated on the roster by the NUM. This role was particularly important on the afternoon shifts, night shifts and weekends when the NUM was not on duty. The role of the team leader was to not only allocate workload, but also to act as a support person for the other staff rostered to that shift.

It was the responsibility of the team leader on each of these shifts to allocate patients to individual staff members at the commencement of duty. Staff members were then responsible for providing total care to their allocated patients. For the most part, the staff worked autonomously within this model.

Staff were allocated on a shift-by-shift basis to specific patients - usually according to the room the patients were in but not always according to their acuity. The term acuity refers to the level of care required by the patient. There was only some consideration at the time

of allocation of the type and level of care required by the patient and the level of skill and qualifications of the staff. For example, where there were 10 patients requiring less technical nursing care, situated geographically close, they would be allocated to a team consisting of an RN and an EN. They would be called the 'double' - a term generated by the nursing staff. The rest of the patients would be allocated to the remaining RNs. Each staff member was generally allocated five patients to their care. The staff worked in a mostly independent, or autonomous, manner and even the 'double' would frequently split the patient load and in this case, the EN would take responsibility for the patients who required the least technical care.

Manually insert table 5.1: Observational categories for RNs and ENs: activity and interaction and subcategories; clinical communication, social communication and other communication.

5.2.1.3 Pre phase posters

The pre phase posters were created in order to encourage the nurses to identify the similarities and differences in their respective roles (RNs and ENs). The posters were filled in by the nursing staff with information that consisted of words or phrases. The information documented by the nurses was sorted into three categories with the following definitions.

Category one:

Administration/Non-clinical: any task that is non-patient focused

Category two:

Communication: any task that involved communication, but not including patient/relative education

Category three:

Clinical skills: limited to tasks usually performed by nurses or those tasks specific to the specialty ward

Registered nurses identified 29 tasks and the enrolled nurses identified 30 tasks. Of all the tasks recorded, 21 were seen by both the registered and the enrolled nurse to be their responsibility. Table 5.2 illustrates the total numbers of tasks identified by registered and enrolled nurses on the ward as well as the tasks that were recorded as being the coequal responsibility of both groups. There were a total of 38 tasks from all three categories identified on both the registered nurse and enrolled nurse posters.

Table 5.2: Total number of tasks recorded by registered and enrolled nurses and tasks identified as being the simultaneous responsibility of both groups

Task	Registered nurse tasks	Enrolled nurse tasks	RN/EN tasks
Administration/ Non-clinical	8	9	7
Communication	6	4	4
Clinical Skills	15	17	10

Of the total 38 tasks, given that there were 21 recorded as being part of the role of both groups, it is reasonable to deduce that there is some role overlap on the ward amongst the nurses. This is illustrated in the data where RNs identified finding equipment as part of their role while ENs recognised supervising students as part of their nursing role on the ward. One could reasonably expect that, of 38 tasks recorded as the responsibility of two groups of nurses with different levels of training, there would be a clearer delineation of their responsibilities in regard to the tasks they performed on the ward.

Below are four tables that illustrate each of the categories and the tasks identified by registered and enrolled nurses for that category. Following each table there is a brief summary of each category and finally, there is an analysis of all four categories.

Table 5.3: Types of tasks identified in the category administration/non-clinical performed by registered nurses and enrolled nurses

Administration/non clinical	Registered nurse task	Enrolled nurse task
Admissions	*	*
Discharges	*	*
Transfers	*	*
Restock	*	*
Find equipment	*	
Access pathology results	*	*
Organise diet changes	*	*
Clean pan room		*
Empty sharps containers	*	*
Supervise students		*

Table 5.3 shows that the registered and enrolled nurses identified a total of 10 tasks. Several of the tasks were recognised as activities that both groups carried out: admissions, discharges and transfers, restocking, accessing pathology results, organising diet changes for patients and emptying sharps containers. The registered nurses recorded '*finding equipment*' as the only administration/non-nursing task that they carried out that the enrolled nurses did not identify. The enrolled nurses, on the other hand, identified that they cleaned the pan room and supervised students and these two tasks were not recorded on the posters by the registered nurses.

Noted here is that the task ‘supervise students’ has been included in this category as it indicated that this task was primarily about organising or allocating the students onto the ward. Another task that was identified on the posters was ‘*mentoring students*’ and this has been placed in the communication category, as it is not a clinical nursing activity; the word ‘*mentoring*’ indicated that there was some interaction (teaching/support) between the nurse and the student.

Table 5.4: Types of tasks identified in the category communication performed by registered nurses and enrolled nurses

Communication	Registered nurse task	Enrolled nurse task
Liaise with doctors	*	*
Liaise with families	*	*
Liaise with allied health staff	*	*
Liaise with supervisor	*	
Answer telephone enquiries	*	*
Mentor students	*	
Total (6)	6	4

Table 5.4 shows the nurses recorded a total of six activities. Both registered and enrolled nurses recorded four activities: liaising with doctors, families and allied health staff and answering telephone enquiries. The enrolled nurses did not identify any tasks different from those of the registered nurses. The registered nurses documented that, in addition to the tasks identified by the enrolled nurses, they also mentored students and liaised with the ward supervisor.

Table 5.5: Types of tasks identified in the category clinical tasks performed by registered nurses and enrolled nurses

Clinical skills	Performed by registered nurse	Performed by enrolled nurse
Administration of medication	*	
Maintain intravenous line	*	*
Provide enteral nutrition	*	*
Attend complex dressings	*	
Provide pain management	*	
Manage drains	*	
Manage indwelling catheters	*	*
Manage naso-gastric tubes	*	*
Perform electro-cardiographs		*
Educate patient/relative		*
Remove cannulas		*
Measure epidural observations		*
Attend sponges	*	*
Attend showers	*	*
Attend simple dressings	*	*
Remove sutures/staples	*	*
Provide bed pans		*
Measure and apply anti-embolic stockings		*
Empty indwelling catheters		*
Measure observations (Not specified)	*	*
Measure blood sugar levels	*	
Take nursing histories	*	*

Table 5.5 there are 22 activities that they perceived by nurses as part of their role on the ward. Ten of these activities that were identified by both the registered and the enrolled nurses: maintain intravenous lines, provide enteral nutrition, manage indwelling catheters and naso-gastric tubes, attend sponges, showers and simple dressings, remove sutures or staples, measure observations and take nursing histories. The tasks identified by the registered nurses exclusively were administer medication, attend complex dressings, provide pain management, measure blood sugar levels and manage drains. The tasks identified by the enrolled nurses only were perform electrocardiographs, educate patients and relatives, remove cannulas, measure epidural observations, provide bedpans, measure and apply anti-embolic stockings and empty indwelling catheters.

There were many nursing tasks that were not identified on either poster. Tasks like bed making, counselling patients and families, documentation, liaising with other nurses, pressure area care and repositioning, assisting patients with meals and drinks and assisting patients with mobility and exercise are examples of activities not appearing on either poster.

It is possible that registered nurses recorded information on the enrolled nurses poster and vice versa. There is no way of knowing this for certain, and it is assumed that, for the most part, the nurses documented tasks on the poster that corresponded with their position.

One of the drawbacks to this type of data collection method is that there is little confidentiality and this factor may have somewhat limited the responses given by the staff.

From the data collected on these posters, there is no clear definition of the roles of the registered and enrolled nurses on the ward in regard to the tasks they carry out on the ward. There is a great deal of overlap in the tasks identified as being the coequal responsibility of both the registered and enrolled nurses. It is also noted that there are a number of nursing activities that were not documented by either group on the posters.

5.2.1.4 Rosters

The staff were organised on a roster of shifts. Most staff worked fulltime (40 hours per week with a rostered day off each month) and some were employed on a part-time basis (with varying numbers of hours). Some staff worked a rotating roster. This meant that they worked a series of morning, afternoons and night shifts. Others worked set-shifts of all mornings, evenings or nights. For example, some nurses preferred regular night duty, some could only work morning shifts and others only on the weekends. Their preferences were based usually on family commitments and the NUM stated that she always tried to organise the roster around her staff's family responsibilities. The working of set shifts was accepted by the NUM in order to keep adequate levels of staff on the ward.

The roster was generated on a monthly basis and there was a 'request book' for staff to make specific requests to work (or not work) certain days or shifts in the roster being developed for the following month. The NUM asked the staff to make no more than two requests per roster. The staff were free to swap shifts with another staff member wherever both staff members were agreeable. Most staff made regular requests to ensure they were not rostered certain days in order to fulfill family responsibilities. The staff working the set shifts was less likely to utilise the request book.

There were four shifts that staff could be rostered every 24 hours. Table 5.6: Shift times of nurses illustrates the times of morning, afternoon and nights shifts.

Table 5.6: Shift times of nurses

Morning	Afternoon	Night
0700hours - 1530hours	1430hours- 2300hours Or 1230hours – 2100hours	2130hours - 0730hours

The numbers of staff varied from shift to shift, that is, there were different numbers of staff rostered for morning, afternoon and night duty. Table 5.7: Staffing ratios RN: EN for morning, afternoon and evening shifts in June 2002 illustrates the type and number of nursing staff rostered to the ward over any given twenty-four hour period.

Table 5.7: Variation in staff ratios RN: EN for morning, afternoon and night shifts for one month in the pre phase period

Shifts	Variation in RN:EN staffing ratios
Morning	7:0
	6:1
	5:2
	4:3
Afternoon	6:0
	5:1
	4:2
	3:3
Night	4:0
	3:1
	2:2

Morning shift ratios include the NUM as an RN.

5.3 Development of the new model of nursing practice

The idea for a new model of nursing practice was originally generated by focus groups held within the hospital in the year 2000. The findings of the focus groups indicated that the nursing staff were generally dissatisfied at work. Many staff stated they were exhausted, stressed and ready to leave the wards (Unpublished paper, WAHS 2000).

As a result of these findings, the hospital decided to support a nursing research student to examine the current model of nursing practice. The student was to look at ways of developing the model with the desired outcomes being safe practice, retention of staff, staff and patient satisfaction and consideration of the current budget. The hospital in collaboration with the University of Western Sydney applied for an Australian Research Council (ARC) SPIRT grant to fund the Masters of Nursing programme for this student (the current researcher). A student was selected via an interview process and a meeting was held, so that the researcher, her academic supervisors and key hospital staff could begin discussions about the project. It was anticipated at this stage that the project would be in the form of a participatory partnership.

The first phase of the project was to select a ward area to participate in the project. Since the project was to be one of participatory partnership, it was thought that the participating ward should self-select. The Principal Director of Nursing Services (PDNS) identified two wards in particular that would be most likely to participate. The NUMs of both the wards were approached by the PDNS and they both voiced their support for the project. The NUMs held meetings with their respective staff to gauge their enthusiasm and to acquire general feedback from the staff about their ideas in relation to the research project. The researcher made observational visits to both of the suggested wards. The purpose of the observational visits was to spend time with the staff, talking to them, attending meetings with them and simply observing them at work. The researcher also attended meetings with the NUMs to discuss their perception of the project. The staff in one of the wards was especially enthusiastic about the project and this was the ward selected to participate.

As the project was to be a participatory partnership, the original intention was for the staff to drive the development process with facilitation from the researcher, the NUM and DNS. The project, however, did not evolve this way and it became a case study research project with the researcher as a silent observer.

This shift from the original plan occurred for a number of reasons. Firstly, a crisis situation occurred within the ward in relation to staffing levels and rapidly increasing workloads. Secondly, the DNS had a clear plan of what should occur in relation to the changes to the existing model and felt the need to push the project ahead to divert further staffing crises. Thirdly, the researcher became unwell in the early stages of the project and was unable to participate for a period of six months. The project halted whilst the researcher was absent and this situation created some urgency in relation to moving the project along. This meant that some of the decisions in regarding the way the process occurred were made at a management level rather than at the ward level with the staff, as was the original plan.

5.4 The new model of nursing practice – team nursing

The plan was to redesign nursing service delivery within a new nursing practice model. It was anticipated that team nursing was going to be the solution with the introduction of a new level of nurse. Team nursing on the ward could be achieved by the allocation of patients to an RN/EN team where the RN was responsible for coordinating the care and carrying out the more technical nursing tasks that the EN was not trained to perform. It was anticipated that the team would work together to deliver total patient care. The success of the team nursing model required the members of the team to have three qualities. One was the willingness and motivation to try something new as well as to possess an adaptability to change. The second was good communication skills and the third was a clear understanding of each other's role and abilities in relation to qualifications and skills. These three characteristics would facilitate the success of the implementation and ongoing achievement of the new model of nursing practice.

Bull (1998) suggests that creativity, innovation and multiple solutions to problems are achieved with a team approach to the delivery of nursing care. With these benefits of the team nursing approach it was anticipated that improvements in staff and patient indicators would be clearly demonstrated on the ward in the future.

5.4.1 Work organisation within the new model of nursing practice

The data sources for this section were observations, conversations, posters and rosters.

5.4.1.1 Observations

In regard to the observations, the nurses' activities documented in table 5.1 were identical during the pre, mid and post phases of the study. The workload was organised so that teams of two nurses (usually an RN and an EN) would work together. Hence, each team would meet the care needs of each patient allocated to them by organising their work according to their skills and qualifications. In essence, each team would work in such a way that both the team members would be providing nursing care to the same patient, but according to their qualifications or skill level. The RN would provide the technical nursing care and the EN would provide the basic nursing care. This meant that there

needed to be a fairly clear definition of the roles of the RN and the EN and it was anticipated that the staff might require support in relation to team building and communication skills.

5.4.1.2 Conversations

The following account of events was documented from conversations with nursing managers.

A new level of nurse was to be created for a number of reasons. Firstly, it would allow the NUM to focus her activities on her management role. Secondly, it meant that there would be an extra tier or level of nurse on the ward to which RNs could aspire. Lastly, it was anticipated that the creation of a senior clinical role would assist in supporting less experienced staff.

At the time of crisis on the ward, when decisions were made quickly in order to divert calamity, it was decided by the DNS and the NUM to quickly develop the role and title of this new staff member. A meeting was held with staff to get their ideas about the new role. A questionnaire was also distributed to the staff to gain their ideas. A draft document was created by the NUM based on the staffs' suggestions in the meeting and from the responses on the questionnaire. The document outlined the description of the role of the new staff member.

The next stage was to develop a title for the new staff member and, in order to facilitate this process, another staff meeting was held. At this subsequent meeting, a brainstorming activity was utilised to gain the staff's thoughts and ideas and as a consequence, the staff developed the new role title of Clinical Activities Coordinator (CAC). At this time, the new position of AIN was also advertised and filled.

In order to implement the new model, staff meetings were held to get the staff to contribute to the process in terms of providing their thoughts and ideas. It was thought that involving the staff from this point onwards in the process, would encourage them to

'own' the new model and that compliance and success would be more likely to be achieved.

At this initial phase of the implementation of the new model of nursing practice there were a number of things that had already changed about the way in which the nursing staff worked. These changes are identified in table 5.8: Comparison of previous and current models of nursing practice.

5.4.1.3 Post phase posters

Again, posters were developed and positioned in the nurse's tearoom. The aim of the poster activity was to encourage the nurses to record any changes to their roles (RN and EN) that had occurred as a consequence of the change to the model of nursing practice. Unfortunately, on this occasion, the nurses did not choose to participate in the poster activity as enthusiastically as in the pre phase of the study. In fact, the RNs only contributed one thing to the poster and that was the question: '*What is a model of nursing practice?*' The ENs contributed three comments or questions to the poster and they were: '*It's gone backwards*', '*What is the new model of nursing practice?*' and '*It hasn't changed*'.

All in all these comments were negative in regards to the change and perhaps even in regard to the study project. The comments could indicate that the nurses were either unaware of the changes that were being implemented on the ward or genuinely felt that the changes had had a negative impact on them with a detrimental flow-on effect on the patients.

Table 5.8: Comparison of characteristics of the ward environment pre and past phase

Pre phase ward environment	Post phase ward environment
Nursing model: <ul style="list-style-type: none"> ▪ Patient allocation 	Nursing model: <ul style="list-style-type: none"> ▪ Team nursing
Environment: <ul style="list-style-type: none"> ▪ 30 bed post-surgical gastro ward in large Western Sydney Hospital 	Environment: <ul style="list-style-type: none"> ▪ No change
Work organisation: <ul style="list-style-type: none"> ▪ A ratio of RNs and ENs on duty were allocated to provide care for up to 5 patients each 	Work organisation: <ul style="list-style-type: none"> ▪ RN and EN 'teamed' together to provide care for up to 10 patients ▪ Staff encouraged to work together (RN: EN team) to provide care for each patient according to their skill and qualifications
Patients: <ul style="list-style-type: none"> ▪ Post-surgical gastro ▪ Some MRSA clustering 	Patients: <ul style="list-style-type: none"> ▪ No change
Staffing: <ul style="list-style-type: none"> ▪ <u>Categories:</u> NUM/CNC/RN/EN ▪ <u>Roles:</u> NUM largely undertaking management AND clinical position ▪ <u>Shifts:</u> NUM: 0800 - 1630hrs All other staff: Morning: 0700 -1530hrs Evening: 1400 - 2300hrs or 1230 – 2100hrs Night: 2300 - 0730hrs 	Staffing: <ul style="list-style-type: none"> ▪ <u>Categories:</u> Introduction of CAC and AIN positions Two RNs move to part-time CAC role ▪ <u>Roles:</u> Refinement of NUM role to primarily a management role Introduction of CAC positions Introduction of AIN position ▪ <u>Shifts:</u> Introduction of CAC shift 0700 - 1530hrs

The lack of participation in this activity could be attributed to several factors. One possibility is that the nurses did not see the value in the poster activity. Another possibility is that the nurses may have felt as though they were being stretched somewhat

during the post phase period as they were attending interviews and extra meetings as well as their usual clinical nursing activities.

5.4.1.4 Rosters

With the implementation of the new model of nursing practice, the numbers of staff actually appearing on the roster did not change. It was the way in which these staff were rostered and allocated duties on a shift-by-shift basis that changed. There were two main alterations to the types of staff employed on the ward. Two new levels of staff were employed to work on the ward. Two CACs were employed to job share the position and to work as RNs on their non-CAC rostered days. An opportunity also existed on the ward to employ a third year undergraduate nursing student as an Assistant in Nursing (AIN). It was anticipated that the AIN would work with an RN, providing basic nursing care to the patient while the RN in the team provided the more technical nursing care to the same patient. Although this was a transient position, it was thought that, if successful, it might be utilised again at a later date if the opportunity arose. The roster was then adjusted to reflect the new 'team nursing' model. The ratio of staff on each shift is illustrated below in table 5.9: Staff ratios per shift in July 2003.

Table 5.9: Variation in staff ratios RN: EN for morning, afternoon and night shifts in July 2003

Shifts	Variation in RN:EN staffing ratios
Morning	6:1
	5:2
	5:1:1 (RN:EN:AIN)
Afternoon	4:1
	3:2
	3:1:1 (RN:EN:AIN)
Night	3:1
	2:2
	2:1:1 (RN:EN:AIN)

Morning shift ratios include the NUM as an RN.

In the final phases of the study, there were several other levels of nurse employed in the ward and the following table (5.10) illustrates the numbers of these other nurses

Table 5.10: Number of staff per classification for each shift for one month in the post phase

Classification of staff	Shifts								
	Morning			Afternoon			Night		
NUM	1	1	1	0	0	0	0	0	0
CAC	1	1	1	0	0	0	0	0	0
RN	4	3	3	4	3	3	3	2	2
EN	1	2	1	1	2	1	1	2	1
AIN	0	0	1	0	0	1	0	0	1
Totals	7*			5			4		

*Total reflects weekday staffing ratios. On the weekends the morning shift ratio is reduced by the NUM.

While the actual numbers of staff rostered to the ward for each shift did not change, the type of staff changed with the implementation of the new model of nursing practice.

5.5 Summary

Chapter 5 has compared the old and the new models of nursing practice in relation to work organisation by examining data generated from observations, conversations, posters and rosters. Chapter 6 will present the experiences of the nurses to the development and introduction of a new model of nursing practice.

Chapter 6: Nurses' experiences of the development and introduction of the new model of nursing practice

6.1 The development of the new model of nursing practice

The development process of the new model of nursing practice was recorded during the meetings held on the ward.

6.1.1 Meetings

Meetings were conducted throughout each of the phases of the project and organised by the DNS and NUM. The purpose of the meetings in the pre phase was to get ideas about how to redesign the current model of nursing practice. The primary objective of the meetings during the mid phase was to introduce the new model and the purpose of the meetings in the post phase was to fine tune the new model.

During the meetings there were several topics of discussion; however, for the purposes of this study, only the discussion pertaining to the redesign has been included. The initial meetings were audiotape, but during transcription were found to be inaudible due to several staff talking simultaneously and loud background noise. Therefore, handwritten notes were taken by the researcher to document the meetings.

Various staff members attended the meetings and the group differed from meeting to meeting. They were held in the early afternoons and all nursing staff were invited. The number of nursing staff attending the meetings ranged from six to 12 with an average of eight nurses attending. The meetings lasted between 35 minutes and one hour and ten minutes. The NUM attended all meetings. There were seven meetings in the pre phase, twelve meetings in the mid phase and eight meetings held in the post phase of the project. The researcher was not in control of the meetings and this was primarily the role of the DNS or NUM.

During each meeting there was an opportunity for the staff to discuss the new model of nursing practice. The nursing staff participated in the discussions and suggestions, complaints and compliments were noted. The elements of the nurses' experience that arose during the study are described in relation to each phase.

Pre phase

The primary discussion topic in the meetings held in the pre phase was the role of the CAC. The nurses were very keen for the new role to have a largely clinical focus. One nurse stated, *the CAC needs to be a really clinical role*. Their ideas were aimed at improving job satisfaction for the nurses and improving the quality of nursing care given to the patients. Some of the nurses stated that more staff were needed to be able to provide quality care to the patients. It was explained by the managers at the meeting that the current budget could not afford any more staff and that creativity was required in order to achieve improved patient care with the same numbers of staff. Some nurses also voiced concern about the team nursing model and felt that it was more difficult to work within the bounds of the team model than it had been to work within the patient allocation model. A few nurses stated that they found that the new model of nursing practice was working well on most days and that it was simply a matter of whom you were allocated to work with. A typical comment from the nurses was, *it depends who you work with; some nurses are easier to work with in that [team nursing] model*. The nurses acknowledged that everyone worked a bit differently.

Also during the pre phase interviews, nursing staff had the opportunity to contribute to the position description for the CAC. The nurses also expressed during this phase of the study that they were concerned that they could not do their job properly as long as the workload was so huge. The nurses were reassured by the managers that they were understood and that this project aimed to relieve the stress associated with the ward workload.

Mid phase

In the mid phase of the study, nursing staff identified that there was a communication gap between the nurses and the CACs. One nurse stated, *we never know if they are going to do it [organise ancillary services], or if we need to go ahead and do it*. A suggestion was made to use the whiteboard on the ward to communicate more effectively with the CACs. The managers at the meeting decided to go ahead and start using this strategy immediately. During this phase the nurses continued to express concerns about the function of the CAC and frequently commented on the need for the CAC to have a strong clinical role. The nurses rationalised, in the meetings, that if the CAC had a more clinical role, then it would take the pressure off them.

It was during the mid phase of the study that the CAC role was refined. Although a position description had been developed in the pre phase, the CAC role continued to be refined over the six months of the mid phase.

The other issue that was discussed at every meeting during the mid phase of the study was the model of nursing practice. The nurses continued to express negativity about the team nursing model. A typical comment from a nurse was, *we [RNs] can't take all the responsibility of ten patients*. They were asked by the managers to continue trying to make it work. Through discussion the nurses were able to identify that one of the reasons the model was not successful was that there was too little conversation between team members. A decision was made that the nurses would make a conscious effort to meet up with the nurse they were partnered with every few hours to plan and allocate their nursing work.

Post phase

In the post phase of the project, the nurses continued to express dissatisfaction about the team nursing model. Some nurses, however, stated that it was working well. One nurse stated, *it works most days*. Again, the dissatisfied nurses were asked by the managers to persevere with the model. During this phase the nurses also continued to express the need for the CAC role to be more clinical.

The nurses made complaints about the redesigned model and these complaints centred mostly on their inability to manage the workload. The nurses also had some positive things to say about the new model of nursing practice. A typical comment by the nurses was, *if we can get someone to work with who communicates well, it's all fine*. Another nurse went on to state, *I like working together with someone else, it takes the pressure off*.

6.2 Introduction to pre phase interviews

The nurses' experiences of the development of the new model were recorded during pre phase interviews.

6.2.1 Interviews

After an initial introduction, the staff participating in the interviews were asked the following two questions.

1. What do you think about the [proposed] change [on the ward]?
2. What are your suggestions or ideas [in relation to this change]?

Each participating nurse (eight) answered these questions and was then encouraged to elaborate on their contribution. The responses to each of the questions were analysed and sorted into five main categories:

- Feelings
- Nursing quality
- Nursing practice
- Future view
- Unaffected by the change

The responses to the second question the nurses were asked have been analysed and then sorted into three main categories:

- Recruitment
- Restructure
- Resources.

Question one: What do you think about the change?

Feelings

Although some participants (5) expressed their feelings associated with the proposed changes to the skills mix structuring of the ward, most (10) of the comments concerned their thoughts in direct on introduction of the position of CAC. These comments were more detailed than the expression of their feelings.

The feelings expressed were those of desperation, hope, fear, worry and optimism.

We are desperate (nurse 1)

I hope something positive comes of it (nurse 1)

I am pretty scared (nurse 2)

I am a bit worried (nurse 3)

I'm optimistic (nurse 8)

The overall feeling was that nurses were genuinely concerned about how they were going to manage what they perceived to be extremely heavy workload in the midst of the introduction of a new model of nursing practice. Three nurses did not express any feelings in relation to the changes being proposed for the ward.

Their thoughts in relation to the introduction of a new model of nursing practice included concerns about the increasing workload. Nurse 3 stated,

The workload is huge.

The nurses also commented on the introduction of a new nursing position on the ward and most of their comments were positive.

It's good to have a clinical coordinator for this ward (nurse 4)

I think there are some positive aspects of it (nurse 7)

I am still unsure of whether they are going to be beneficial to the ward (nurse 8)

Some concerns were expressed in relation to the quality of nursing care, and lowered staff morale.

The standard of nursing care is not enough (nurse 1)

Staff are just going to get burnt out so quickly it's not funny (nurse 3)

Two nurses stated that they would be unaffected by the proposed changes.

I work on the evening shift, so it's not really [going to] affect me as much as the morning staff (nurse 5)

I do permanent night shifts so it's not going to affect me at all (nurse 6)

One nurse did not have any thoughts in relation to the proposed changes on the ward.

The nurse (nurse 3) who identified concerns about the increasing workload clarified her comments by explaining that the workload had increased significantly for RNs since the introduction of the new model of nursing practice. She said that the RNs had the responsibility of the total care of five patients before the new model of nursing practice was introduced and that since the change had been implemented, she (and other RNs) now had the responsibility of the care of ten patients. She went on to describe how, when teamed with an EN who carried out basic nursing care of the ten patients, she still had the overall responsibility for those ten patients.

Three nurses (nurses 4, 7 and 8) voiced their concerns about the introduction of the CAC to the ward. They each went on to explain that they were not entirely sure of the CAC role and responsibilities. Nurses 4 and 7 stated that the CAC had been helpful on occasions but was often not available to support them with nursing care of patients. They all stated that the formal education of nurses on the ward had improved since the introduction of the new model of nursing practice. Overall, they all stated that they would like to see the CAC role as a more clinical rather than managerial role.

Nurse 1 expressed concern about the standard of nursing care delivered by nurses on the ward. She said that the standard could be improved by better organisation of staff and the

introduction of more staff, particularly RNs, to the ward. She said that sometimes there was just too much to do and not enough people to get the job done.

Nurse 3 identified lack of staff morale during the interviews. She stated that the morale of the nursing staff affected their ability to carry out their jobs effectively.

Two nurses (5 and 6) stated that they had been unaffected by the implementation of the new model of nursing practice on the ward. They gave the reason that they worked evening and night shifts permanently and did not see how the introduction of the CAC position affected them. They did not perceive that the new model of RN/EN teaming for ten patients applied to them. They thought that this new model should only be applied to the day shift nursing staff.

Nursing quality

Nursing quality emerged as an issue as nurses commented on their ability to deliver good nursing care in an environment where change was occurring and staffing was already a major issue. Nurse 1 stated that, *the standard of care is just not enough*. Nurse 8 commented that she felt that the nurse's ability to do their job was *already stretched*. Over all the nurses expressed that they were unable, at times, to deliver quality nursing care as a direct consequence of a lack of appropriate nursing staff.

Nursing practice

Nurses 3 and 5 identified nursing practice as a major issue during the interviews. Nurse 3 stated that, *the workload is already huge, the patients are really sick and that the nurses are going to get burnt out*. Nurse 5 stated that, *the changes were not going to lessen the workload*. Overall the nurses expressed concerns about the acuity of the patients on the ward and their ability to cope with the increasing workload.

Future view

Four nurses identified the category future view.

It will be good to have a clinical coordinator for the ward (nurse 5)

I don't know if it's going to work (nurse 7)

I think there are some positive aspects of it (nurse 7)

I am unsure whether they [the CACs] are going to be beneficial to the ward (nurse 8)

The nurses were somewhat more positive about the future despite the obvious concerns about the declining staff morale, the increasing workload and the perceived threat to the delivery of quality nursing care.

Unaffected by the change

Two nurses (5 and 6) stated that they felt the changes would not affect them; the reasons for this being that they worked evening and night shifts respectively.

Further discussion: Positive and negative comments

From the nurses' initial responses to the two questions, further discussion was generated. Some of the comments made by the nurses were positive and some were negative in relation to the proposed changes on the ward.

There were some positive comments made by the nurses in regard to the role of the CAC.

It's good to have a clinical coordinator (nurse 4)

The clinical coordinator could be a good resource person (nurse 5)

If it is someone who doesn't mind pitching in and could help with the heavy and demanding patients it would be good (nurse 6)

They could pick up the slack when people are really busy (nurse 6)

A clinical coordinator who could assist would be a real advantage (nurse 7) Extra hands on the ward would help (nurse 8)

Overall, the nurses thought that if the CAC position role included supporting them in a clinical capacity, it would be a positive change for the ward.

There were some negative comments made by the nurses.

Low staffing levels and the lack of morale (nurse 1)

Increasing responsibility, no time for education, extra patients for each nurse and difficulties to changes in current routines (nurse 2)

I'm sure it will have a negative impact (nurse 4)

The workload is increasing (nurse 5)

Acuity on the ward is too great to manage (nurse 7)

I am sceptical of the role (nurse 8)

The 10 negative comments made by the nurses during the interviews indicate that they were concerned about the role of the CAC, the increasing workload and the implementation of the new model of nursing practice.

Question two: What are your suggestions or ideas?

The nurses were then asked to make suggestions about how things could be improved on the ward. Interestingly, the comments made in relation to improvements did not include anything that was patient focused although the obvious outcome would be an improved quality of patient care. There were three main categories identified from the nurses' responses: recruitment, retention and restructure.

Recruitment

One nurse made a suggestion about the need to recruit more staff to the ward. Nurse 1 stated that, *we need more staff ... we do still need to try to attract more RNs with experience*. The nurses expressed the need to have extra RNs employed on the ward.

Restructure

Several nurses made suggestions about retaining staff to achieve improvements for both nurses and patients.

I think we need more RNs not ENs (nurse 1)

Give us a clinical coordinator because we are a busy ward, but we still need that extra RN on the floor (nurse 4)

We definitely need the extra person in the morning (nurse 8)

Overall, the nurses expressed the need for more experienced RNs to be rostered to the ward.

Resources

Four nurses made suggestions about resources on the ward. Nurse 2 stated, *We need more RNs.*

We need more staff ... we need more RNs (nurse 3)

We still need five RNs and one EN in the mornings (nurse 5)

An extra RN would make the world of difference on nightshift (nurse 6)

Again, the nurses expressed the need for more RNs rostered to the ward.

6.3 Introduction to post phase interviews

The nurses' experiences of the implementation of the new model were recorded during post phase interviews.

6.3.1 Interviews

The interviews were conducted over a period of four weeks. Twelve staff were interviewed including seven RNs and five ENs. Each of the interviews was audio taped and later transcribed. One of the tapes did not record properly and therefore could not be transcribed. The nurses participated voluntarily in the interviews. The nurses who chose to participate have been allocated a number in order to maintain confidentiality but to allow analysis of their comments. Each participating staff member was asked the following questions.

- What do you think about the change?
- How do you feel about the change?
- What do you think about the new model of nursing practice?
- What do you think about the new CAC position?
- If you think the CAC position is beneficial, can you describe how?
- How could things be improved from this point forward?

The data collected from the interviews were analysed and sorted into the following seven categories. These categories were determined by grouping like responses.

1. Evaluation of the model of nursing practice
2. Evaluation of the CAC role
3. Negative feelings associated with the experience
4. Positive feelings associated with the experience
5. Clinical issues
6. Professional issues
7. Ideas for the future

Evaluation of the model of nursing practice

The comments made by the nurses in relation to the evaluation of the new model of nursing practice were further sorted into two sub-categories; workload and skills mix.

Responses by the nurses about the **workload** were primarily negative. They mostly felt that the new model would have a *negative impact* (nurse 2) in terms of getting the job done and the overall outcome for the patients on the ward. Four nurses made negative comments about the new model of nursing practice.

One person [RN] is doing a double patient load (nurse 3)

When you have 10 patients, you really don't know them well (nurse 4)

The acuity of the ward is too great to manage doubles (nurse 5)

We are being lumped with extra patients (nurse 9)

Three nurses commented on the **skills mix** within the ward since the new model of nursing practice had been implemented.

They [casual nursing staff] do mostly a good job but there is a lot of little things that get messed up like central line changes (nurse 6)

Some of them [ENs] aren't so good but most of them are okay (nurse 7)

You are the RN, you are it, you are responsible ... you're the RN looking after 10 patients and whatever happens, it ends up in your lap (nurse 9)

I don't think having extra patients and dividing their care between RNs and ENs is going to help, I think we just need RNs (nurse 10)

Numbers [of nursing staff] on the floor are just manageable (nurse 11)

Clearly, the nurses felt that the implementation of the new model of nursing practice had further increased their workload. The primary concern was the skills mix of the staff. Both the RNs and the ENs stated that they were dissatisfied with the new model. The RNs expressed concern about having the responsibility of 10 patients. The ENs felt that they were expected to only do the very mundane nursing tasks and the only responsibility of the RNs was to administer medications.

Evaluation of the CAC role

In relation to evaluating the role of the CAC, the nurse made comments that were further sorted into three sub-categories: negative comments, positive comments and suggestions.

The two **negative comments** made by the nurses were primarily about the day-to-day role of the CAC. Nurse 1 stated that, *I strongly disagree with that being done at the expense of an RN on the floor*. Nurse 6 stated that, *the role should be more clinical*. The nurses expressed negativity in relation to the actual role the CAC was fulfilling as well as their need to maintain the numbers of RNs working to take care of patients.

The **positive comments** made by five nurses were chiefly concerning the benefits of having an extra pair of hands on the ward to assist with the day-to-day running of the ward.

It is good to have a clinical coordinator for this ward (nurse 1)

The new person is like a resource person and that, there will be somebody here to ask how to do something or can you do this for me because I'm really busy (nurse 2)

If it is someone who doesn't mind pitching in and helping out then I think it will work quite well (nurse 5)

We have really, really demanding patients and I think they could help in these situations (nurse 7)

They pick up the slack that's around when people are busy (nurse 9)

If we could get the clinical coordinator to assist with the running of the ward then that would certainly be an advantage (nurse 10)

Overall, these comments indicate that the nurses could be positive about the introduction of a CAC if the role integrated a strong clinical component.

The five **suggestions** made by the nurses in relation to the evolving role of the CAC were mostly about the types of tasks the CAC would do in order to support the RNs on the ward.

If this new role/person is going to be in a clinical position ... then that would be very helpful (nurse 1)

Their working hours should be nine to six in the evening (nurse 3)

I don't think we need them until six o'clock at night (nurse 4)

If there is a really sick patient, then maybe they [CAC] could look after them until they are stable (nurse 8)

I think the morning staff need that person more than the evening staff (nurse 11)

While most of the comments concerned the actual CAC role and speculation about the degree of clinical focus the role would embrace, some nurses also considered the working hours and shifts of the CAC that would most benefit the ward.

Negative feelings associated with the experience

The negative feelings expressed in relation to the ward as a whole were primarily regarding their perceived ability to effectively get their job done.

There is a real lack of morale (nurse 1)

Everyone is just fed up and burnt out (nurse 2)

We don't feel that we get enough support from management (nurse 3)

Staff are just going to get burnt out (nurse 7)

The whole system is up the creek (nurse 8)

Our ability to do our job is already stretched (nurse 9)

The patients are fed up, the families are fed up and lots of people aren't happy about it
(nurse 10)

Overall, the nurses expressed concern about their level of job satisfaction as well as the quality of nursing care they were able to deliver during the change period.

Positive feelings associated with the experience

There were three positive comments made by the nurses during the interviews in relation to the experience of implementing a new model of nursing practice. A small number (3) of the nurses expressed that they were prepared to support the implementation of the new model of nursing practice.

I'm more than open to have a go (nurse 6)

I'll have a go and give it my best shot (nurse 7)

I am willing to give it a go (nurse 11)

Clinical issues

The comments made by the nursing staff in relation to clinical issues on the ward were primarily concerned with the workload.

The ward is huge and there are so many really sick people (nurse 1)

It's a very busy ward (nurse 7)

The workload is packed into the morning shift at maximum level (nurse 9)

The workload is really full on (nurse 10)

The four nurses who commented on clinical issues expressed concerns primarily regarding the workload experienced by nurses on the ward.

Professional issues

The nurses expressed a variety of concerns via their comments during the interviews in relation to professional issues. One nurse (nurse 2) expressed that, *the level of care that we are giving is not good enough*. Other nurses expressed more global nursing issues like

the nursing shortage and the lack of funding for RN positions. Nurse 6 stated that, *there is a nursing shortage*. Nurse 8 stated that,

There is no money and you need money to be able to staff the ward properly and deliver proper patient care otherwise the patients are going to get undue suffering as well.

Some nurses voiced their concerns in regard to their day-to-day job.

I have taken on the RN role and I take it very seriously (nurse 3)

There's not enough time to pick up your educative stuff and focus on the skills you need (nurse 5)

Our ability to do our job will diminish (nurse 9)

Every shift, every one of us is giving the hospital that time [tea breaks] and we don't get away on time, not doing things, not doing things at a level that I would like to (nurse 11)

Overall, the nurses expressed concerns in regard to their ability to carry out effective nursing care.

Ideas for the future

All comments (7) the nurses made during the interviews in relation to their ideas for the future were concerned with the staffing levels and skills mix on the ward.

We need more RNs not EN (nurse 1)

We need just RNs on this ward (nurse 3)

We need six RNs per shift [morning shift] (nurse 4)

More RNs working on the ward (nurse 7)

Five RNs and one EN ... that could work (nurse 8)

We need three RNs on nightshift (nurse 10)

We need more staff (nurse 11)

Overall, the nurses expressed the need to have more staff employed on the ward and that they would prefer these new nurses to be RNs rather than ENs.

6.4 Summary

This chapter has described the experiences of nurses during the development and implementation of the new model of nursing practice on the ward in which they work. The data have been used to describe the process of the introduction of the new model of nursing practice as well as the nurses' experiences of the development and introduction of the new model of nursing practice to the ward. The data were collected in the pre, mid and post phases of the study via meetings and in the pre and post phases via interviews. The data collected from the meetings provided information about the process of the redesign being planned and implemented into the ward.

The pre phase interviews yielded data about the nurses' experiences of the new model of nursing practice being planned for implementation. There were two questions asked during the interviews. The data for question one were sorted into five categories: thoughts and feelings, nursing quality, nursing practice, future view and unaffected by the change. The data for question two were sorted into three categories: recruitment, restructure and resources.

The post phase interviews yielded data about the nurses' experiences of the change to the model of nursing practice on their ward. The data were sorted into seven categories: evaluation of the model of nursing practice, evaluation of the CAC role, negative feelings associated with the experience, positive feelings associated with the experience, clinical issues, professional issues and ideas for the future.

Chapter 6 presents the nurses' experiences of the development and introduction of the new model of nursing practice. Chapter 7 will discuss and draw conclusions from chapters 4, 5 and 6, identify limitations and make recommendations for further research.

Chapter 7: Discussion, conclusions, limitations and recommendations

In this chapter the study findings are discussed in relation to the two aims of the study. These were to describe the:

- process of redesign of a new model of nursing practice in a surgical ward.
- nurses' experiences of the redesign process.

These findings are also examined with reference to relevant literature. Conclusions are presented including implications of the study for nursing management, practice and education. The limitations of the study are addressed and recommendations for future research made.

7.1 The process of redesign

The original model of nursing practice was identified as a patient allocation model and this model was exposed as ineffective primarily because the nurses felt they were unable to cope with the clinical caseload on the ward. This was identified in focus groups implemented by the hospital prior to the commencement of the study. The challenge was to redesign the model of nursing practice in a way that reduced work-related stress for the nurses and improved the quality of nursing care delivered to the patient without requiring additional financial support. A team nursing model was identified as the basis for redesign of the existing model of nursing practice.

The redesign process evolved over a period of 12 months. The initial aim of the process was to identify the current model of nursing practice; specifically it's work organisation and rostering. This was followed by the development of the new model.

According to the literature, in order for redesign to be successful, the following six sub-processes need to be included. These are project conception, project selection, formal planning, project implementation, the milestone step and finally, project modification (Rowland and Rowland, 1997). These sub-processes will be used to discuss the findings

of the study. In the context of this study, the sub-processes are defined by Rowland and Rowland (1997) in the following ways:

- **Project conception** occurs when a need for change is identified.
- **Project selection** occurs when the nurses agree to change.
- **Formal planning** occurs when the nurses identify the desired outcomes of the proposed change.
- **Project implementation** occurs when the actual changes are put into action
- **The milestone step** occurs with the beginning stages of evaluation of the changes
- **Project modification** occurs with periodic re-evaluation of the changes

The process of the redesign has been described in the study in terms of the pre mid and post phases. In the pre phase, the sub-process of project conception and project selection occurred. In the mid phase of the study, formal planning and project implementation occurred. In the post phase of the study the milestone step and project modification occurred.

7.1.1 Project conception

A need for redesign was identified after focus groups were held at the hospital and before the commencement of the study.

7.1.2 Project selection

Originally, an action research approach was chosen in order to give the nurse participants the opportunity to be as involved as much as possible in the redesign process, to facilitate staff empowerment and foster ownership of the new model of nursing practice (Dick, 2001). Although there was to be a strong focus on the nurses' contribution to the redesign process, unfortunately this plan did not eventuate and a number of reasons were identified for this short fall. There were circumstances that meant the process had to be expedited and therefore the nursing managers chose to implement some changes rapidly, and hence with minimal staff consultation, which contradicted the research approach. The acceleration of the process resulted in parts of the process being driven mainly by the managers' ideas of the new model rather than by being developed by the nursing staff as

a whole. Consequently, staff might not have felt ownership of those parts of the process that were decided for them. The change imposed in this manner contravenes the 'change management model' as according to Carney (2000), people affected by the change need to be involved in the process to facilitate successful change.

The circumstances that led to rapid decisions being made by the nurse managers were primarily concerned with the need to develop and implement the new role of CAC to support the NUM and other nursing staff on the ward. The nursing management felt that this new role would reduce the work related stress being experienced by the nurses by improving the overall organisation of the ward. During the mid phase of this study the staff were encouraged to complete a questionnaire to further define the role of the CAC. This role had been somewhat devised in advance - although not set in stone. According to the nurse managers, the nurses' ideas and suggestions for the emerging role collected at meetings and via the questionnaire shaped the CAC role.

More specifically, during meetings, the nurses were consulted in relation to the ongoing redesign process. The managers made suggestions and invited the nursing staff to express their ideas as well as to make suggestions. During the meetings the nurses were given explanations of the team nursing model as well as the opportunity to participate in the development of the new CAC role. Many nurses participated actively in the meetings by making suggestions, expressing concerns and providing the managers a realistic perspective of their clinical caseload and nursing responsibilities in general. This 'real life' perspective afforded the managers with the information on which to base decisions about the implementation of the new model of nursing practice.

7.1.3 Formal planning

In the formal planning sub-process, the nurses had limited opportunity to participate actively in the redesign process. The nurse managers assumed the role of decision makers. This may have been perceived by them to be the best strategy for making the redesign a reality. From the observations and conversations, it became apparent that the managers, rather than the nursing staff, drove the redesign of the model of nursing

practice. This manager-initiated change is an example of professional rather than participatory action research method (Dick, 2001).

The change in the methodology from the original approach of action research to case study design occurred as a consequence of the managers' perceptions of the need for rapid implementation. As a result the active participation of nurses in the redesign process was reduced. An action research approach would have facilitated the nurses' participation to a greater extent because of its participatory nature (Dick, 2001). Therefore, in the pre phase, the change of methodology prevented optimal participation by the ward nurses in the redesign process.

The conversation findings were used specifically to gain insight and understanding of the ward and the process of the introduction of the new model of nursing practice. At the time of each conversation, the data were expanded to describe the process of the redesign. These findings illuminated the evolution of the process of change on the ward as well as providing descriptions of the ward at each phase of the redesign process.

7.1.4 Project implementation

Project implementation, the fourth sub-process of the redesign process, is concerned primarily with the actual changes instigated in relation to the new model of nursing practice. Implementation occurred in the mid phase of the study. The two major changes that were implemented were the team nursing model and the introduction of the new role of CAC.

The first change was the shift from the patient allocation model of nursing to the team nursing model. This involved an alteration in EN numbers and RN numbers and a re-organisation of the rosters accordingly. Examination of the ward rosters showed that the numbers of nursing staff employed on the ward during the phases of the study altered. The number of ENs doubled during the mid phase and the number of RNs reduced slightly from the beginning of the mid phase till the end of the post phase (see table 4.8). In order for the new model to work effectively there needed to be more ENs and less RNs

rostered to the ward. This adjustment to the ratios of the two main categories of nursing staff was necessary for the successful implementation of the team nursing model.

According to Ellis and Hartley (1991) a team nursing model is associated with more ENs joining the team and fewer RNs being employed. Apart from the change to the roster, there was no other preparation or instruction for the implementation of team nursing, how it worked or how it was different to providing nursing care under a patient allocation model of nursing practice. These factors may have influenced the fact that there was controversy about the replacement of ENs for RNs as indicated in the interviews and this may also explain, as discussed later, the nurses' negative feelings associated with the new model of nursing practice.

The second major change during the implementation of the new model of nursing practice was the development and implementation of the CAC role. As illustrated in the literature, the nurse managers saw this new role as pivotal to improving clinical practice in the new model (Mathena, 2002; Spilsbury and Meyer, 2001).

7.1.4.1 Factors that influenced the project implementation sub-process

According to Zawyrucka (2002), the ward environment has the potential to influence implementation during the redesign process. Therefore, it was important to determine ward factors that might have influenced this redesign process. These factors were bed occupancy, DRG caseload, type and number of nursing staff working on the ward, staff sick leave and nursing attrition during each phase of the study. It was anticipated that significant changes in these factors during the phases of redesign could impact on both the redesign process and the nurses' experiences of that process. These factors are discussed in the following paragraphs.

The bed occupancy profile showed that patient transfers and discharges increased in the pre phase (see tables 4.3) and the number of admissions doubled in the mid phase when the team nursing model and CAC role were being implemented. However, in the post phase admissions, discharges and transfers were reduced. This reduction can be considered to result in less nursing work therefore; it is possible that the nurses could

have developed a more positive response to the redesign process. The potential existed for the nurses to interpret this decline in their workload as a consequence of the implementation of the new model of nursing practice. Conversely, nurses may have evaluated the pre and mid phases of the redesign unenthusiastically as a consequence of a higher workload associated with an elevation in the numbers of patients being admitted, transferred and discharged.

The DRG caseload showed that variability and weightings of particular DRGs were highest in the mid phase (see tables 4.4 and 4.5). Nurses' evaluation of the redesign process during the mid phase may therefore have been influenced by the higher workload associated with the diversity and intensity of patient care resulting from increased DRG variability.

Sick leave taken by the nurses employed on the ward remained relatively stable. In a comparison of nursing sick leave rates for the previous year, it was found that there was marginally less sick leave during the three phases of the study than in the previous 12 months (see tables 4.9 and 4.10). Sick leave can be considered a determinant of nurse contentment. It was anticipated that the sick leave rates might increase if nurses were dissatisfied at work. The findings, however, indicate that the nurses were not taking sick leave any more than was usual for the ward over the three phases of the study.

Nursing staff attrition did not change significantly over the three phases in comparison to the previous 12 months. In the previous 12 months 10 staff left the ward and during the three phases of the study, 12 nurses left the ward (see tables 4.11 and 4.12). It was anticipated that there might be an increase in the number of nursing staff leaving the ward during the three phases of the study if they were dissatisfied with the redesign of the model of nursing practice (Barry-Walker, 2000; MacPhee, 2000). Conversely, and as it so happened, the rates of nursing staff leaving the ward did not vary significantly across the phases of the study in comparison to the previous 12 months (Murphy et al. 1994).

In this study it was evident that most of the factors that could have influenced the implementation sub-process of redesign, were found to have remained constant for the most part. However, two factors that could have impacted during the implementation phase were the different categories of nursing staff and bed occupancy. The number of RNs decreased while the number of ENs increased; and during the mid phase the ward experienced a significant increase in admissions, discharges and transfers.

7.1.5 The milestone step

The milestone step incorporates re-consultation with the nurses. Re-consultation was organised based on the nurse managers' perception of the nurses' needs. Re-consultation occurred in the form of staff meetings held in the post phase of the study.

The nurses' comments during the post phase meetings reflected overall dissatisfaction with the new team nursing mode and the introduction of the CAC role. The nurses' primary concerns were that the CAC role needed to encompass a more clinical role and that team nursing was not working as effectively as initially anticipated. The reasons for the difficulties associated with the team nursing model were attributed to staff preference to work independently and increased patient load for each RN who now had overall responsibility for 10 patients instead of five. This dissonance can be considered to arise from the difference between a patient allocation model of nursing practice and a team nursing model of practice. Such dissonance might have been reduced with increased preparation of the nurses for their new role in the new model.

While this sub-process of re-consultation did not appear to be of paramount importance to the nurse managers in this study, some minor changes such as the implementation of some suggestions were made as a consequence of the meetings held in the post phase of this study. This lack of re-consultation may be one of the factors that influenced the negativity of the nurses as discussed later in this section.

7.1.6 Project modification

The managers or the ward staff conducted no evaluation during this study. Some informal evaluation was attempted during the research process using the data from observations, posters and interviews.

The key findings generated from the observations as seen in table 5.1 was that the work organisation of the RNs and ENs included nurses' activities and these interactions were relatively unchanged after the implementation of the new model of nursing practice. This is contrary to the principles of team nursing which involves teams of nurses with varying skills and qualifications working together to deliver holistic care to the patient with each member of the team performing tasks according to their levels of training and expertise (Adams et al. 1998; Anonymous, 1996; Garbett, 1996a; Roper et al. 1996 and Waters, 1995). While the nurses formed teams, there was no delineation in the work tasks of RNs and ENs. This may indicate the nurse's inability to work within his or her own boundaries or the fact that there was no education or preparation for the change. Herrington (1996) and London (2001) both state that education is imperative for the process of change in the workplace to be effective.

As the new model was team nursing it was reasonable to anticipate that the roles of the two main categories of nurse would become more defined and the way in which the nurses interacted would change with the introduction of the new model of nursing practice. Since neither of these changes occurred, some further doubt is raised about the degree to which the nurses were working within the new model of nursing practice as well as their level of understanding of the team nursing model. It is apparent that the nurses involved in the study were not working within the recognised definition of the team nursing model.

The findings of the observations were reinforced by the findings of the posters. It was interesting to note on the posters that many of the tasks that have been traditionally carried out by registered nurses were recorded on the enrolled nurses' poster and vice versa. For example, patient and relative education and the supervision of students are

tasks that have generally been the responsibility of the registered nurse. Alternatively, the registered nurses identified tasks that have generally been identified as the role of the enrolled nurse, for example, the measuring of blood sugar levels. It is relevant to note here that although the same tasks may have been carried out by both the RNs and the ENs, the level at which the task was carried out may differ. This again reaffirms the necessity to instruct nursing staff about role delineations during a process of redesign.

7.1.7 Conclusion

The conclusions drawn from the above discussion highlight a number of aspects of the process of redesign. Firstly, the nurse managers drove the process and this had significant consequences in relation to the outcomes of the project. Secondly, there was no measurement of the quality of nursing care delivered to the patients on the ward. Thirdly, the financial implications of the redesign and finally, three specific recommendations generated directly from the findings.

It was established that the nurse managers ultimately owned the process rather than the nurses in the ward and that the managers controlled the decisions made in relation to the process itself. The formal planning of the redesign was organised by the nurse managers without consultation of the nursing staff. However, this may have occurred as a consequence of a delay in starting the project due to leave taken by the researcher. Nurses were not acceptant of the redesign possibly because of the power relations during the process.

It was impossible to determine if the quality of nursing care delivered to the patients on the ward had changed as a consequence of the redesign. There were no data collected that would substantiate a change in the quality of nursing practice.

The redesign process was introduced without any additional financial costs incurred to the ward or hospital. This is significant in terms of the initially determined financial constraints of the project.

Four specific recommendations were borne out of the findings. Given that change is a difficult process all stakeholders need to be involved in the redesign process to facilitate compliance and ownership. Redesigning the model of nursing practice required nurses to be able to delineate their clinical roles and this was somewhat fragmented due to their significant lack of involvement. Interaction between nurses and managers is essential for effective redesign. Finally, education and debriefing during redesign is imperative to promote open communication and maintain continuity of the process.

Overall, there were a number of limitations and advantages of the process of redesign in this project. The NUM's role was very broad and encompassed management as well as clinical functions. ENs were unable to provide some of the more technical nursing care and therefore relied on assistance from RNs. The RNs were tired and stressed and ENs expressed dissatisfaction.

The design process in this project also facilitated the identification of some advantages. The NUM's role has been refined and an EN 'clinical skill register' has been developed. RNs state they are less tired and stressed and ENs are more satisfied. There was less sick leave taken by nursing staff and fewer resignations from the ward. A new level of nurse was created (CAC) and an opportunity was also created for an undergraduate nursing student to work as an AIN. Some staff were involved in the development process of the new model and therefore feel 'ownership'. The redesign was achieved without impacting on the ward budget and the model is transferable to other wards.

7.2 The nurses' experiences of the redesign process

Through the process of interviews and meetings, data were collected to describe the nurses' experiences of the redesign of the model of nursing practice on their ward. The emphasis in this description is focused on the nurses' perceptions and experiences of the process rather than the evaluation of the new model.

7.2.1 Introduction and background

The data generated from the interviews illustrated the nurses' feelings and ideas about the new model of nursing practice and how it affected them. Although the nurses expressed their feelings and ideas during the interviews, this information was not shared with the managers of the ward during the process and therefore was not taken into consideration when implementing the final changes in the post phase of the study. The interviews were confidential and occurred towards the end of the study and therefore the data were utilised purely for gaining and understanding the experience of redesign from the nurses' perspective.

The meetings provided data on two main aspects of the redesign process. Firstly the meetings provided multiple opportunities for nurses to express their thoughts and feelings in relation to the redesign of the model of nursing practice and secondly, they enabled the nurses' experiences of the process of redesign to be tracked.

The major findings from this study were that the nurses were not satisfied with the new model, particularly the way in which the CAC role had evolved. They felt unsupported by the nurse managers, continued to experience work-related stress, perceived that they were working in an unsafe environment at times and felt that the patients continued to receive poor nursing care. The nurses expressed some positive feelings associated with the redesign and these included specifically their enthusiasm to try something new. The major issues, however, that affected these experiences, as described by the nurses, were the nurses' resistance to the change, the need for the nurses to be involved in the change process and the need for communication and education of the nurses in relation to models of nursing practice in general. These three issues will be discussed in relation to the research findings and the literature in the following paragraphs.

7.2.1.1 Nurse's resistance to change

Resistance to change in the workplace has been documented prolifically in the literature (Baileff, 2000; Carney, 2000; Crotty 1996; Telles, 1996; Tingle, 2002; Willmott, 1998). Ingersoll et al. (1999) identified that nurses struggle to cope with the demands of change

in the workplace and resistiveness is identified frequently. The major finding of the study in relation to resistiveness to change was the way some nurses refused to work within the new model. Although their resistance was passive, their opposition affected the success of the new model of nursing practice. The nurses were allocated by the team leader or CAC at the beginning of each shift according to the new (team nursing) model but would then go about their work according to the old (patient allocation) model.

It meant that evaluation of the new model was somewhat distorted. During the interviews, some of the nurses expressed their concern that the model would not work and that they were unwilling to change the way in which they delivered nursing care. This same attitude was heard at the meetings.

7.2.1.2 Nurse's involvement in the change process

The involvement of workers in the successful process of change in the workplace has been substantiated in the literature (Baileff, 2000; Crotty, 1996; Richards, 1999; Strandell, 1997; Wright, 1989). In this study, the original plan was for the nurses working on the ward to actually drive the change process. They were to be involved in the changes and have a voice in the decisions made regarding how the new model would develop. This did not occur and instead the managers primarily generated the new model of nursing practice and how it would be implemented. Whilst this was not an intentional diversion from the original plan, it became necessary as the nursing staff expressed extreme concerns about their ability to cope with the clinical caseload of the ward. Redesign was to evolve via a change process that involved the nurses on the ward making suggestions and decisions to bring about that change. However, as a direct consequence of their inability to cope with increasing demands of their nursing work, these decisions were made hastily for them. This led to a situation where the nurses did not own the new model of nursing practice and this probably led in part to their resistance. No time was available for them to work through the stages change in the process (Crotty, 1996).

7.2.1.3 Nurse's need for education and communication

The need for education and communication throughout the change process is verified in the literature (Carney, 2000; Herrington, 1996; London, 2001; Keleher, 2000; Palmier, 1998; Shoptaw, 1996). In this study, the process involved communication in terms of the meetings but it fell short of enhancing the nurses' feelings of active participation within the process of redesign. Education was obviously lacking as the nurses consistently questioned the meaning of the term, 'model of nursing practice'. While they worked within a defined model of nursing practice they did not recognise it as such.

7.2.1.4 Conclusion

From the nurses' experiences in this study it can be concluded that their perceptions of the research design was stressful because of lack of preparation, understanding, ownership and support. The nurses described the process as unsuccessful as the primary aim of the redesign was to reduce work related stress, and that was not achieved. They also expressed that the process was not participatory and therefore did not enable them to empower themselves. Interestingly the nurses communicated that the quality of patient care was unaffected by the redesign, although this was never formally measured.

7.3 Implications of the study

The study clearly shows that there are a number of implications for nursing managers, clinicians and educators.

- Managers must assess and identify the needs of nurses involved in a redesign process
- Managers need to adopt a collaborative approach involving participatory decision making when introducing redesign
- Managers must consider context when introducing a new model of nursing practice. This context analysis should include the characteristics of the nurse and patient population and the allied health and medical services
- Nurses are not always open to change and therefore preparation and debriefing during the redesign process is imperative

- Nurses need to be involved in the change process, particularly when the change directly affects the way in which they carry out their nursing work by ensuring the nurses' continued involvement, issues such as resistance can be limited if not avoided
- Nurses need to be encouraged to work towards a vision of nursing practice through debate and education
- Nurses and managers need to identify common outcomes when undertaking redesign
- Nurse and managers must share an effective communication process during redesign
- Educators must be used to support the redesign process by preparing nurses to undertake the change, providing information on models of nursing practice and change theory

7.4 Strengths and weaknesses of the study

The strengths of the study are as follows:

- The major contribution of this study to nursing knowledge has been the description of the nurses' experiences of the redesign process which has not been documented previously in the Australian context
- The study has shown that the process of redesign involving the sub processes of consultation, implementation, re-consultation and evaluation could be applied in a clinical setting if managers and nurses work together
- Existing health databases can be used effectively in studies of redesign of nursing practice

The weaknesses of the study are as follows:

- Generalisation cannot be made as the process only incorporated the experience in one ward. However, the documentation of the nurses' experiences should help managers and nurses undertaking similar redesign processes
- The short pre phase interviews did not allow full exploration of the nurses' expectations of the redesign process

- The short pre phase that was instigated by the manager rather than researcher planned. However, this was probably as a consequence of a lag time in the start of the project because of unavailability of the researcher

7.5 Recommendations for future research

The following areas could be considered as areas of research coming from this study:

- An evaluation of the role of education in the introduction of a new model of nursing practice
- A descriptive study of nurse managers' experience of redesign in a clinical setting
- An evaluation of redesign from the patient perspective
- A descriptive study of the RNs and ENs resistance to change
- An investigation of the roles of RN and En in acute care service delivery and factors influencing their enactment.

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Appendix 1: Information and consent form

Appendix 2: Observation Visit proforma

