

Evaluation of a change programme: model of nursing care delivery

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Abstract

Primary nursing as a framework within which nurses deliver patient care has been a nursing care delivery system of choice in New Zealand for the last two decades. A number of studies have been carried out, with a review of the literature suggesting inconclusive support for this delivery system over other functional nursing care models. However, there is support for the philosophy underpinning this model, with documented evidence that this framework can help nurses achieve a degree of professional development and autonomous practice that other models cannot.

Yet 2004 saw a major hospital in New Zealand introduce a nursing care delivery model based on a collaborative team approach. As a result of this, the existing Primary Nursing care model within which one identified nurse (the primary nurse) was allocated to a patient for an episode of hospital care was replaced in this particular hospital.

This event provided the opportunity to investigate the rationale behind major change, describe the model of nursing care introduced (the major change) and evaluate the appropriateness of data that were collected to measure success. To do this in a systematic and recognised way, methodology identified within *evaluation research* was used.

Evaluation is a methodological process that is typically divided into formative and summative evaluation. The formative provides information around the drivers for change, describes the change and how it was implemented. Summative examines the appropriateness of the data used to inform the outcome of the change. Using documented information created during the move from one model of nursing care to another this work evaluates what were the drivers for the change, how it was managed and what the outcomes were.

Findings indicated that this change project was a success. Analysis of the data collected pre and post implementation indicated some positive shifts, but more importantly it was the information gathered from both patients and nurses that gave credibility to the new model of nursing care.

1.0 Introduction

Organisations today are exposed to a continuous process of change and development; change has become the norm rather than the exception. The success or failure of planned change depends to a very large extent on staff attitudes to and engagement with the process. Evaluation research, the methodology used in this body of work, aims to establish the rationale for change, a description of the change and the outcomes of that change.

The way in which nursing work is planned and allocated has a considerable influence not only on the continuity of care patients receive but also on the satisfaction nurses experience with their roles (Chavasse, 1981). For many decades, considerable writing and discussion has occurred about models of nursing care, and the relevance for, and impact they have, on the practising nurse. Yet ambiguity exists both within the literature and outside it about the way nurses describe which model they use when organising their work. Despite this ambiguity, it was the primary nursing model of care that captured the imagination of the nursing workforce, providing in the 1980s a process that promoted a continuous patient-centred approach to nursing care (Rigby & Leach 2001).

Primary nursing has been described as “the assigned, fixed, visible accountability for 24-hour care by one registered nurse for a group of patients throughout their hospital stay” (Ciske, 1979 cited in Rigby & Leach, 2001, p. 525). It entails assigning one nominated registered nurse as the ‘primary nurse’ who develops a plan of care for individual patients. The ‘associate nurse’ continues this plan when the primary nurse is not on duty. The associate nurse or nurses (as invariably, due to the 24-hour nature of required care more than two nurses are needed), are not charged with the responsibility of developing major changes to the plan of care unless the clinical condition of the patient requires this.

Despite the positive literature on primary nursing and the fact that it had been the model of nursing care since the early 1980s, one New Zealand tertiary hospital in

2004 elected to change this established model. This new model of nursing care focused on a nursing team, where responsibility for care delivery was shared rather than held solely by the individual nurse.

In chapter 2 the literature review of models of nursing care gives background information and understanding around how nurses deliver care. The way in which that care is delivered affects both the nurses' and patients' experiences. The change management literature review gives an overview of what "change" means and how managing change affects the nurse's environment. Chapter 3 provides a description of evaluation methodology. The literature covered here reveals application of this methodology to other areas where it has been used.

Using evaluation research, the Methods chapter (chapter 4), describes how *the formative phase* of evaluation research was applied to the change project being studied. It describes the new model of nursing care, how the change was implemented and what data were utilised to indicate levels of success. Chapter 5 discusses these data and their relevance to this particular change programme and thus forms *the summative phase* of evaluation in this research.

Finally, chapter 6 provides the discussion around how the change was implemented and what difference the new model of nursing care had on nurses and patients. It is not the intention of this study to recommend a preferred change process or model of care delivery; rather, to describe the change project in its entirety and evaluate the appropriateness of data that were collected to measure success. This is achieved by investigating the drivers for change, the methods used to achieve the change and the outcomes of change.

2.0 Literature Review

This chapter provides a literature review of two areas. The first uses published literature to give a history of models of nursing care and the way these models influenced nursing practice and culture. By giving this overview, a platform is provided that enhances understanding around why the way care is delivered is important. The second brief review of the published literature relates to change management. Change management occurs across all organisational spectra. This literature review has not focused purely on health change management but is inclusive of change as it relates to both health and other related arenas.

2.1. Models of Nursing Care

Models of nursing care in the context of this study referred to the way in which nurses organised their working environment in order to deliver patient care. A nursing model referred specifically to the practice domain of nursing, whereas a model of care described the wider delivery of health care within the broadest context of the health system (Davidson, Halcomb, Hickman, Phillips, & Graham, 2005).

Nurses cared for patients in the context of their eclectic cultural, educational and specialty nursing backgrounds. Personal values and beliefs influenced the work culture and in turn influenced the way in which nursing care was delivered. Studies carried out around this topic indicated that nurses viewed the relationship they have with patients as essential in order to deliver nursing care and establishing that relationship depended on how the care delivery system was structured or, as used in this work, how the model of nursing care was structured (Carruth et al., 1999; Nelson, 2002).

For many nurses involved in this particular change programme confusion existed around exactly which model of care their work area was using. This confusion also existed within the literature with terms and titles often being used interchangeably while describing disparate processes. Each system did, however, encompass a reasonably distinctive set of practice features relating to work requirements, continuity of care, division of labour and individualisation of care.

In hospital settings, a focus existed on theoretical models that organised nursing care delivery into functional nursing, team nursing, patient allocation and primary nursing (Adams, Bond, & Hale, 1998; Makinen, 2003). This chapter reviews published literature and describes these models of nursing care, identifying both benefits and disadvantages.

2.2. Functional Nursing

Functional nursing as a model of nursing did not have one uncontested definition within the literature and could be described under the headings of task allocation and hierarchical nursing. There was, however, consensus around its main features (Adams et al., 1998; Chavasse, 1981; Webb, 1981). Patient care was viewed as a series of distinct tasks for each individual patient. These may be clumped together allowing the nurse to deliver that task to a number of patients; thus separating work into its constituent elements. Wound care would be delivered by one nurse to all patients in the ward, observation rounds carried out by one or two nurses to all patients and rather than individual medication administration, a “medication round” occurred.

Braverman (1974) described this as a labour process, divorced from special knowledge and training. This meant that a selected and smaller number of workers could then be freed up from the obligations of simple labour tasks and be given the training and special knowledge required for more advanced tasks.

While the above description related to industrial production lines, it had much in common with the clear delineation of nurses’ work within a functional model. The major difference was that tasks were graded in order of complexity and assigned to the nurse who had achieved a skill level matching the required task. In practice, this process was often lost, as allocation could just as easily have been based on the nurse’s length of service rather than skill level (Adams, Bond, & Hale, 1998)).

For the patient, the functional model of nursing care meant there was not one identified nurse as her/his principal care giver. Patients were visited by a number of

nurses delivering different aspects of their care. The more junior nurses were doing the temperature rounds with the more senior nurses doing the dressing and drug rounds. The result is that the patient could be descended upon for a succession of tasks by a succession of nurses.

As no specific nurse had the overall knowledge and responsibility for the patients, reliance within this nursing model was placed on the Charge Nurse (the most senior appointed nurse in the ward or department) for decision making, communication with medical, allied health and family and the final responsibility of care. These functions might be delegated to other senior nursing staff with the allocation of tasks and responsibilities reflecting a hierarchical chain of command present within the nursing structure (Adams et al 1998).

The functional model reflected nursing's hierarchical, ecclesiastical and military roots. It was a mechanistic approach to nursing care delivery, being characterised by the narrow space of control each nurse maintained. Individual nurses operated within rigid compartmentalisation of their nursing work, having a limited information network and little participation in decision making at the bedside/direct patient care level (Robbins, Bergman, Stagg, & Coulter, 2000). Task completion and ward routines took precedence over actual individual patients' needs in functional nursing. Garbett (1996), suggested that such emphasis along with the division of jobs demeaned nursing care. With the risk of not being able to assimilate the skills needed to complete these separated tasks, the nurse reduced their overall understanding of patient care.

From the time hospitals were established, functional nursing was the model of choice, which very much reflected nursing's roots (Abel-Smith, 1979). However, as nursing enquiry and knowledge expanded and strengthened so the desire to investigate those models of nursing care that may better utilise nurses' contemporary skills and reinforce a view of patients as individuals requiring individualised care, rather than as recipients of batched, processed care.

While the functional model is no longer the model of choice, at times of crisis aspects of this model are still brought into practice. A crisis can be immediate and short term

such as a sudden influx of patients into a ward, or an increase in patient acuity alongside lower numbers of available nurses. “As their workloads increased, nurses focus on the immediate tasks necessary to stabilise patients and are less able to focus on the ‘big picture’ of caring for patients” (Weinberg 2003, p. 144).

2.3. Patient Allocation

Within the patient allocation model, the nurse was allocated to patients, as opposed to the functional model where the nurse was allocated tasks. The allocation of patients to nurses could change on a day-to-day basis meaning the patient could easily be cared for by different nurses during their hospital stay (Adams et al., 1998; Wilkinson, 1994).

Again, as seen with the functional model, the nurse was allocated to patients according to the perceived hierarchy of skills necessary for patients’ care. “Patient allocation is based on ensuring delegated care is completed. If problems arise, the staff nurse confers with the sister (Charge Nurse), who decides how to rectify the situation” (Wilkinson, 1994, p. 680). So while the nurse may be deemed as having the appropriate skill to match the patient’s needs, autonomy, authority, accountability and responsibility were vested in the Charge Nurse or ‘Sister’.

For the nurse caring for the patient within the patient allocation model, the chances of being allocated the same patient day by day were not great. This was attributable to the fact that as the patient’s condition changed, so do the skills needed to meet these changes. The more experienced senior nurse was allocated to the sicker patient, the less experienced junior nurse being allocated that same patient as their health improves.

Patient allocation could reduce the exposure the nurse had to communicating with the multidisciplinary team, as this communication was channelled through the Charge Nurse. This aspect, according to Metculte (1982, cited in Wilkinson, 1994), did not seem to detract from the benefits nurses enjoyed, as the individualised care of the patient became more of a focus within this model as opposed to the functional model. The nurse’s role was to have the responsibility and authority to meet the

patient's needs while in their temporary care, as delegated by the Charge Nurse, but only until the end of that shift. Matthews (1975), Pembrey (1975), and Webb (1981), argued that this aspect of patient allocation did nothing to encourage the professional status of the nurse but rather, encouraged role passivity. Fragmentation of consistent allocation practices as identified by Wilkinson (1994), could create difficulties in both identifying patients' problems and in the development of a therapeutic relationship with patients.

2.4. Team Nursing

The introduction of team nursing in the 1950s-1960s could well have been influenced by the studies undertaken at the Tavistock Institute, USA. The results of this social research as described by Adams et.al.(1998) showed that working in teams to complete all tasks was more likely to provide meaningful work, and develop a sense of responsibility while satisfying the human need for relationships and social interaction. These findings were considered relevant to many work settings, including nursing.

The team nursing model involved a system whereby groups of nurses working together planned, implemented and evaluated care for a group of patients. This system was a deliberate move away from the division of labour into tasks, as seen in a functional model, and a move towards patient-centred care. This model promoted a flatter ward structure. Each team consisted of nurses with complementary and appropriate skills and experience to deliver care to a given group of patients. The accountability of the Charge Nurse in relation to clinical decision making was reduced as more responsibility for managing work and staff was placed onto each registered nurse. The more senior registered nurses were assigned as team leaders who coordinated the care provided by the team and shared responsibility with the Charge Nurse for any communication with other health professionals, families and hospital departments (Adams et al., 1998; Chavasse, 1981).

The usual composition of a nursing team included a senior registered nurse as the nominated team leader with more junior nurses contributing towards the planning and care implementation. The team was maintained for the duration of the patient's

episode of hospital care. Abts, Hofer & Leafgreen (1994) indicated that while the philosophy of team nursing was aimed at an holistic approach providing consistency of care, it evolved further, especially in the United States, as nursing shortages occurred. The team, rather than having solely registered nurses as members, included untrained assistants who were delegated lower-level tasks. As this change developed, team nursing resembled a revision or reversion back to the functional nursing model and was criticised by Weinberg (2003) and Hoover (1998) for its task orientation and hierarchical structure, which limited the time and opportunity the registered nurse had for direct patient care. Weinberg (2003) described the distress nurses felt when, following the amalgamation of the Beth Israel Hospital with the New England Deaconess Hospital in 1996 to form the Beth Israel Deaconess Medical Centre, team nursing became inclusive of patient-care technicians. These technicians carried out many of the observational tasks nurses had been expected to do within team nursing.

Watkins (1993) expressed concerns, which were later supported by Weinberg (2003), that team nursing, with a team leader taking overall accountability of the clinical decision-making, did not encourage the professional status of nurses, nor facilitate autonomous thinking or practice. Despite these concerns, team nursing was reported as being successfully in place within many hospitals. Warden & McKenna (1998) and Darby (1999) described systems where a team was responsible for the care of an individual throughout their hospital stay rather than for one shift, and as described by Weinberg (2003), the New England Deaconess Hospital built a reputation as a pioneer in hospital organisational structure using team nursing as the foundation.

2.5. Primary Nursing

As an organisational concept, the primary nursing model of care emerged during the late 1960s and early 1970s, coming into prominence in the USA and Britain in the 1970s (Black, 1992; Pontin, 1999). Primary nursing was, according to Pontin (1999) and Weinberg (2003), a way of organising nursing care so that professional nursing practice could be exercised. Primary nursing involved patients allocated to an individual nurse rather than a team of nurses. The nominated nurse became the

“primary” nurse, taking responsibility for a given patient throughout their hospital stay.

Responsibility for the patient was provided by the primary nurse developing a plan of care. Continuity of care was maintained by adherence to this plan by any nurse assigned to the patient during the primary nurse’s off-duty time. These nurses were given the title “associate” nurse. The associate nurse may also simultaneously have the responsibilities of a primary nurse, attending to the 24-hour care requirements of another patient. In this model the primary and associate nurses’ responsibilities could be assigned to a number of nurses within the ward setting.

Nurse autonomy, authority and accountability were considered pre-requisites for this model (MacGuire, 1998; Thomas & Bond, 1990). In addition to these pre-requisites, primary nursing as a model of care focused on individualised, holistic care encouraging patients’ and their relatives’ participation in care planning (Adams et al., 1998). Decisions around care planning were made by the primary nurse after discussions with the patient, whereas in the team model care decisions were made within that team. The interaction with other nurses in the team model certainly allowed for a wider clinical consultation whereas, as pointed out by (Wilkinson, 1994) and supported by (Adams et al., 1998), primary nursing could lead to nurses practising in isolation, which contributed towards feelings of alienation within the working environment.

An examination of the literature surrounding primary nursing indicated that the term “primary nursing” could be used to refer to different concepts (Black, 1992; Chavasse, 1981; Pontin, 1999). It was used as a means to describe a care delivery model, a philosophy of nursing and a combination of the two. It was therefore not surprising that many nurses claimed to be delivering care within a primary nursing model, yet were doing little more than providing a name against a patient for that shift, with minimal expectations that the care plan was adhered to, or any changes discussed with the patient (Boitshwarelo, 2003; Wilkinson, 1994).

Despite the confusion that existed, it was clear that primary nursing was different from other nursing care models in that it did have these two components. It was a

“model of organising care and a philosophy of nursing” (Pontin, 1999). The model of care was the way in which nursing care was organised within an institution that allowed for professional nursing practices to be carried out. This referred to the allocation of a designated “primary” nurse with the “associate” nurse continuing care delivery in their absence. The primary nurse carried a caseload of patients from their admission to discharge. This nurse assessed, planned, implemented and evaluated care. Gillies (1982) described this aspect of primary nursing as a system of nursing service that was characterised by a strong and continuing bond between the patient and the nurse.

This delivery system could be seen as a direct response to the failings of bureaucratic delivery systems such as team and task allocation. Fragmentation of care, complex channels of communication, shared responsibility and accountability with an assumption that if all tasks were completed on time then good care had been delivered, were an underlying theme in these models of nursing care or delivery systems. Primary nursing removed these aspects and placed the ultimate responsibility of nursing care with the nurse in partnership with the patient (Davidson et al., 2005; Pontin, 1999; Wilkinson, 1994).

The philosophy of primary nursing referred to the inclusion of the patient and family as care was planned and implemented (Adams et al., 1998; Boitshwarelo, 2003; Pearson, 1989). The patient was accepted as an individual requiring tailored care to meet their individual needs, which were achieved with the delivery of effective and therapeutic nursing interventions. This holistic approach to planning care and the promotion of the nurse as a decision-making professional elevated nurses’ involvement and visibility within the work environment and distinguished it from functional or team nursing.

Primary nursing was viewed as the care delivery of choice for the majority of British hospitals, a way of putting the ideals of nursing into practice (Pontin, 1999; Rigby & Leach, 2001). Nurses were increasingly viewed as skilled professionals offering a depth of research-based knowledge that contributed to the planning and implementation and assessment of patient care and the primary nursing model

provided a structure within which these attributes could be recognised and operationalised.

2.6. A Critique - Models of Nursing Care

Having described the essence and characteristics of nursing care delivery models using published literature, it is pertinent to identify the differences and explore why different models are used and what may have underpinned such choices. Certainly, when reading the body of literature published around this topic it would appear that for many decades nursing and non-nursing administrators have searched for the ideal nursing delivery model. A model that would yield high quality patient care, satisfied nurses and if not reduce costs, at least contain costs.

While much had been written and researched about this topic, inconsistency around models using quality, satisfaction and costs as outcome measures existed. This was mainly due to the fact that many wards or units studied did not or could not clearly identify what nursing care model was used or what distinctive characteristics comprised the model being used (Gardiner & Tilbury, 1991; Mark, 1992; Wilkinson, 1994).

Thomas and Bond (1990) conducted a survey to identify if nurses did in fact organise their work according to specific nursing care models. Using a questionnaire and supported by interviews, 36 Charge Nurses working in acute wards and rehabilitation areas in the Newcastle area (UK) were asked to respond. The questionnaire was designed to identify and to discriminate between task allocation, team, and primary nursing models of care. Results of this small study indicated that very few Charge Nurses organised care delivery according to any particular model of nursing care. Results from this survey were later upheld by Adams et al.(1998) and Waters and Easton (1999), showing that out of 21 wards surveyed only one indicated that they organised nursing work according to one model. What was apparent in those studies, as in research published by McLaughlin, Thomas and Barter (1995), was that a number of characteristics from differing models of nursing care were used, and

in fact depended on the shift (time of day) and workload, which could change over a 24-hour period on the same ward. The night shift often reverted to a team or task model, due to the reduced number of nurses present.

This mix-and-match practice was also reported by Thomas and Bond (1990) and Redfern (1996), who also found that while nurses identified a particular model was in use, in reality their system was a mixture of several. This could well be exacerbated by the fact many nurses did not display an in-depth knowledge of what created the model they reported themselves using, being more likely to be influenced by the culture and leadership of the ward. Shepard (2000) suggested that while many wards may use the terms team and primary nursing to describe how they delivered care, this terminology often masked a system of care delivery that continued to focus on task completion within rigid routines and timeframes. This particular facet of terminological differences and the nurses' understanding of what different models of nursing care meant could well be influenced by the workloads nurses experienced on a daily basis. Melville (1995) suggested that a reversion to task allocation would often occur during acute staff shortages or because of an increase in patient acuity. While this may be viewed as a source of frustration for those supporting a change away from this aspect of care delivery, for nurses at the "coal face", task allocation allowed them to reach the end of a shift with a sense that priority patient care requirements had been achieved.

In a study aimed at ascertaining patients experiences under different models of nursing care Thomas, McColl & Priest (1996) used individual and focus group interviews. During this study comparisons were made between wards using primary nursing and those using other models. Twenty randomly selected wards in five general hospitals recruited patients on the day of their discharge. The participants were asked to scale their experiences within two themes.

Experiences of nursing care

Satisfaction with nursing care

Demographics were also collected about details of the patients' age, length of stay and also whether or not they could identify a nurse who was in charge of their care.

Results showed that primary nursing did not generate more positive experiences of nursing care for the patient, rather knowing who their nurse was produced a more positive and satisfying experience for the patient. While reportedly not statistically significant, patients in wards practising primary nursing were less likely to be able to identify a single nurse in charge of their care. As this component was one of the expected results of primary nursing the number of patients reporting not to know the nurse in charge of their care suggested those wards had for one reason or another moved away from this model without realising it. So given these findings it would appear that patient satisfaction was influenced more by how nurses delivered care rather than within which nursing model, care was delivered.

These results were supported in a later study undertaken by, Wu Min-Lin, Courtney & Berger (2000) who used patient satisfaction surveys as a measure. The surveys were sent to 137 patients discharged over the previous four weeks and included 56 items covering five major themes:

- Patients' feelings and perceptions
- Nurses' skills
- Nurses' behaviours and attitudes
- Nurses' communication and educational skills
- Continuity of care experienced

From the 80 surveys that were returned, patient satisfaction was mainly influenced by what nurses "do" to patients. Results found that individual nurse behaviours influenced levels of patient satisfaction far more than any model of nursing care. Rather it was the standard of nursing care, nurses' attentiveness and availability that played a very important role in patient satisfaction.

As identified by Wu Min-Lin et al. (2000), the sample size of patient surveys returned meant generalisation to the general population would be difficult. However, upon reviewing published research, nurses could well find it beneficial to their practise to take note of patients' comments and concerns. These comments primarily are around the levels of communication between both themselves and the patient as well as with other health professionals. The ability of nurses to assess, and then assist with pain levels, activate appropriate management plans and their attentiveness to

prioritising issues of privacy were identified by patients as areas of concern (Carruth et al., 1999; Thomas et al., 1996; Wu Min-Lin et al., 2000).

2.7. Change Management

One of the research questions guiding this work, “How was the process of change managed?” requires that a brief review of the literature surrounding change management occurs. Change, as described by Perkins (1997), Nickols (2000) and Nilakant and Ramnarayan (2006), is a constant process with the need being driven by either internal or external influences. Internal influences lie within the organisation and the changes to be made lie within the control of that organisation. External influences may require change to occur as a response to legislation, social and political upheaval, actions of competitors or shifting economic tides, and hence the changes required may not lie within an organisation’s control.

Nickols (2000) suggested that there were three basic components of change management: the task of managing change, the area of professional practice and a body of knowledge. While these components were not duplicated exactly within other literature, there was a generalised theme that promoted a similar view and supported the differentiation between the process of change management and the theories that underpin that process. (Iles & Sutherland, 2001; Kotter, 1996; Nickols, 2000). and Nilakant and Ramnarayan (2006) viewed the separation between the process of change management and the theory that underpinned the process of change as a relatively new discipline. This then moved away from the earlier focus of purely providing advice, and sets of practical descriptive and prescriptive tools, to an evolving discipline using theoretical and empirical research in order to create frameworks and models for the sole purpose of supporting the management of change.

The area of professional practice referred to those consultants who, independent of organisations, managed change for client groups and organisations. Such consultants referred to their area of practice as change management.

Change could be deliberate, following conscious reasoning and actions (Iles & Sutherland, 2001). Wieck and Quinn (1999) described this as being either episodic or continuous. Episodic change is infrequent with a defined beginning and end. Continuous change by contrast is ongoing and evolving as people and organisations constantly adapt to ideas, external and internal influences, thus creating what at times can be substantial change.

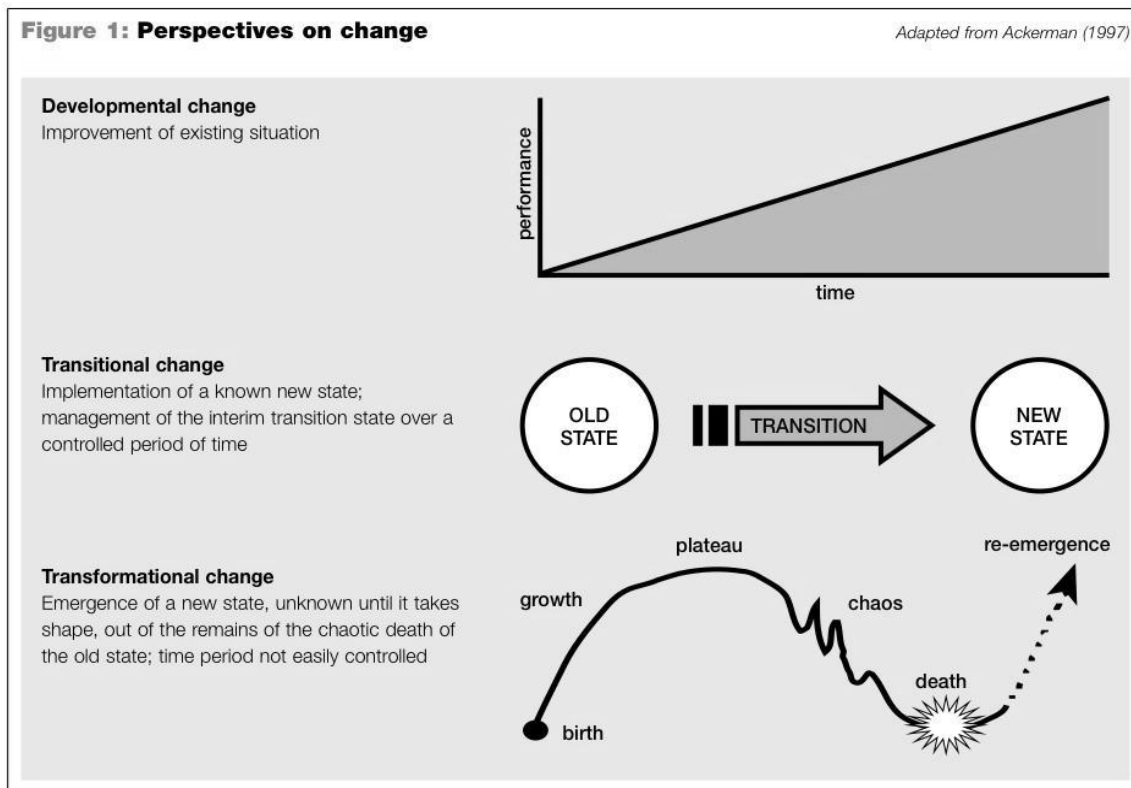
Planned, deliberate change was also described by Ackerman (1997) as transitional change. The process sought to achieve a known and desired outcome. Transitional change had its foundation in the work of Lewin (1951), who first identified the science of change and aligned this to human systems and conceptualised change as:

- Unfreezing - the existing state
- Moving - to a new state
- Refreezing - embedding that new state

These three definitions permitted further exploration by many others interested in how change occurred. Schein (1987) further explored these three stages from the perspective of the individual, suggesting that unfreezing occurred when anxiety or expectations were frustrated and were then converted into motivation for change. For that individual, the second stage of moving to a new state was then helped by identifying a new role or mentor. Refreezing happened when that new role was integrated into significant relationships and the acceptance of where the individual was within that relationship.

Transformational change as described by Ackerman (1997) was the third type. This was viewed as radical and required large shifts of attitude, culture, and processes by individuals and / or organisations, and could well result in an organisation that operated within a developmental mode of change; one that fostered continuous learning, adaptation and improvement.

The diagram below, adapted from Ackerman (1997), provides a pictorial description of change, moving from the old state to the new state.



2.8. Change Process as Problem Solving

Change literature, whether it focused on the theory, tools or processes of change, identified the need to be sure that a problem existed as a barrier to attaining the desired outcomes (Esler & Nipp, 2001; Maurer, 2000; Nickols, 2000; Smyth, 1996). Managing change was seen simply as moving from one state to another. Diagnosis or problem identification was essential, so that goals were then set that clearly articulated the new state; these could well be at various levels of a system or organisation. Each smaller goal identified must be related to one another and then connected to the final goal.

Change agents (those driving the management of change) according to Beckhard and Harris (1987) needed to identify which specific groups and individuals would be required to support the change. However, Senge (1990) suggested that while it may make the process of change easier it was not necessary for every individual to be as

fully committed as each other. This was described as the commitment, enrolment and compliance continuum. Individuals positioned themselves along the continuum as a response to the proposal change. Senge (1990) went on to suggest that ascertaining what level of support was required from individuals was more important than persuading everyone to fully commit.

2.9. Types of Change within the Health Sector

Shortell and Kaluzny (1994) identified three different types of change seen within the health sector. Technical change involved methods used to deliver health care, including patterns at work, patient flow through an episode of care and the responsibilities of professionals. Service or product change involved the introduction of new procedures or services. Administrative or structural change focused on the organisational structure required to ensure the integration of clinical, financial and managerial systems. The third type of change was Human Resources change. This referred to change as it attempted to influence attitudes, behaviours and values of the organisation's employees.

2.10. Adoption of Changes

As the single largest professional group in health care, nurses have been and continue to be central to the efforts required in order to achieve successful change in health care delivery systems (Leeman, Baernholdt, & Sandelowski, 2006). Yet nurses have reported difficulties in actually implementing change in their work place. According to Funk (1995) and McCaughan, Thompson, Cullum and Thompson (2002), insufficient time and lack of organisational support were identified as key reasons. Intense levels of activity where the burden of day-to-day care provided little respite that allowed dedicated time to activate change has led to frustration and disengagement from the organisation (McCormack, Manley, & Garbett, 2004).

Dawson (1998) argued that while managers and professionals have lived by different rules, valuing different outcomes and tending to use their differing power bases to enforce change, their working worlds are now beginning to overlap. Each group has improved patient services as the desired outcome and purpose, and their desire to learn how to affect appropriate change means more and more health professionals and administrators learning together about change management

theories and the tools and skills required to achieve successful results. Maurer (2000) suggested that the difference between changes that were successful and those that were not had little to do with the actual idea but rather the human factor as it relates to planning and implementation.

If the success or failure of planned change depends on the attitudes of the staff who implement change and those on the receiving end of change, then engagement and active involvement must be an expectation if degree of success is to occur.

Although, as Smyth (1996) noted, an individual's basic attitude can be difficult if not at times impossible to change, it is possible if the conditions or the environment allows for views to be expressed. When these views were then converted to supporting the original change concept or idea and that idea was adopted as the individual and or team's own, change had a greater chance of succeeding and being of benefit (Esler & Nipp, 2001; McCormack et al., 2004).

2.11. Summary of Change Management Literature Review

Change places demands on individuals and teams. Change is a constant process and can occur as small incremental alterations to large purposeful projects (Iles & Sutherland, 2001; Nilakant & Ramnarayan, 2006; Wieck & Quinn, 1999). Change is also an absolute certainty in the health care sector; it is the norm and is expected by most health care workers. Rather than the change idea itself, the way change is managed influences the ultimate success and ongoing acceptance of further change.(Esler & Nipp, 2001; Leeman et al., 2006; Smyth, 1996).

Change management is viewed as a discipline focusing on why and how organisations change. Offering practical advice, independent consultants use theory and research to support and advise organisational managers on how to develop, implement and then embed specific changes. Dawson (1998) identified that managers and health professional used different methods of influence to achieve change. Emerging now within the health sector is a desire and acceptance for all groups of workers to learn about the theories, tools and skills needed to effect good change (Iles & Sutherland, 2001). This consistent understanding across management and health professional groups aids to breaking down the silos that can

impending change and encourages cross-disciplinary involvement for enhanced success.(Nilakant & Ramnarayan, 2006).

3.0 Methodology

3.1. Evaluation Research: a Description

The aims of the project were met through evaluation research design. Evaluation research provided a critical approach, examining ways of working and, as discussed by Davidson and Tolich (1999), was used to measure the effectiveness of a policy or project. While not being based on theory or leading to theory development it did, as noted by Seaman (1987), affect the applied aspects of professions, and was being viewed increasingly as an important method to determine the impact of new policies on nursing (Polit & Beck, 2004). The practical nature of this method allows it to be used as a political tool, since the possibility always exists that if results of an evaluation are deemed positive and effective, then further implementation of new ways of working may occur over a wider population.

Evaluation or rather the evaluative process is distinguished from normal clinical or managerial audit by using defined frameworks, or as Ovretveit (2003) described them, 'evaluation perspectives'. These evaluation perspectives are further broken down to experimental, economic development and managerial perspectives (Ovretveit, 2003). Experimental perspectives aim to identify if an intervention had been effective and what the consequences of these effects were. This process very much follows the model of scientific experiments. Economic evaluation aims to discover what the financial implications are of an intervention. Developmental evaluation engages systematic methods to ascertain the effectiveness of one's own services. In this situation an issue generally has been identified, and staff want to explore potential interventions (Patton, 1997). Managerial evaluations are used by managers to monitor the performance of a service.

These perspectives are further broken down into designs or models and used to achieve identified aims. These designs or types of evaluation ask different questions and focus on different purposes (Patton, 1997). Patton (1997) provided a very full description of the various evaluation models. Table 1 presents these Models.

Table 1: Using Evaluation Models to Answer a Question

Focus of Evaluation	Defining Question
Accreditation focus:	how does the programme meet minimum standards?
Developmental evaluation:	the evaluator is part of the programme design team, working over the long term for ongoing programme development.
Effectiveness focus:	to what extent is the programme effective in attaining its goals?
Product evaluation:	what are the costs, benefits and market for a specific product?
Utilisation focused evaluation:	what information is needed by the primary users that will be used for programme improvement and decision making?

Ovretveit (2003), describes six design models and these are presented in table 2.

Table 2: Models of Evaluation and their Use.

Designs	Description
Descriptive:	A description of features of the intervention or actual intervention process.
Audit:	a comparison of what is done against specified standards
Before-after:	the before measures or indicators compared with the same set after the intervention.
Comparative – experimentalist:	a comparison between the before and after of two groups of people receiving the same intervention.
Randomised controlled:	a comparison of defined criteria before and after two groups of people receive either the intervention or a placebo.
Intervention to an organisation:	the before and after state of an organisation, staff and or patients following an intervention/change to a service.

This body of work follows two models. The first is Patton's (1997) effectiveness focus, within which the data collected informs the extent to which the change programme achieved its goals, and the second is Ovretveit's (2003) 'before and after' state of an organisation following a change programme.

The ultimate goal of evaluation is to assess the outcome or impact of a service's delivery on the population (St. Ledger, Schnieder, & Walsworth-Bell, 1994). This reference to goals indicates a need for the evaluation process to compare any achievement with some defined standard. While evaluations are more often than not carried out by external evaluators such as researchers or consultancy firms, internal evaluations evaluating treatments, services or policies can be carried out by the organisation. Evaluators, as described by Patton (1997) and St Ledger et.al. (1994), are expected to be guided by principles such as a high degree of systematic inquiry, competence, integrity, respect and responsibility for the welfare of people involved in or affected by the evaluated programme / service delivery. The Joint Committee on Standards for Educational Evaluation (1994) in California, USA, supports the concept by identifying that the evaluator must be viewed as both trustworthy and competent. The persons conducting an evaluation should be credible in order that the findings can be optimal. However, as mentioned earlier, teams may also participate in self evaluation as they evaluate their own practice, usually appointing an evaluator who facilitates rather than collects objective data for analysis. The aim in this process is to consult widely, involve and encourage participation in the evaluation process (Koch, 1994; Ovretveit, 2003; Walsh, Duke, Foureur, & MacDonald, 2007).

Traditionally, evaluation has focused on scientific inquiry aiming to collect and then produce data that are measurable and repeatable (Davidson, 2003). This approach is well regarded and continues to have many applications; it is, however, seen as less appropriate when evaluation needs to take into consideration the emotional and behavioural responses of participants (Walsh et al., 2007). Health care programmes are expected to be evaluated and such evaluation is increasingly expected to involve a diverse range of stakeholders. Inclusion of diverse perspectives necessitates the use of qualitative methods. As such, "contemporary evaluation research is able to

utilise a variety of methods for example interviews, focus groups, case studies, ethnography and life histories as a means of collecting data” (Walsh et al., 2007). Clarke (2001), supported by Hall (2004), also advocates the collection of subjective data about the experiences and views of those involved in a service and views these responses as an essential component of the final outcomes that will inform decision making in nursing and other contexts.

For example, evaluation research has been utilised within the clinical area by Ventura, Fox, Corley and Mercurio (1982), who evaluated the use of primary nursing in an orthopaedic unit. Patient satisfaction surveys were used to gather patients’ perceptions of how or if primary nursing improved the care delivered. Caswell (1999, as cited in Davidson, & Tolich, 1999), used evaluation research in her study around supports placed in the community to reduce alcohol harm.

Evaluation methodology was also used to evaluate the Magnet Recognition Programme (Triolo , Scherer, & Floyd, 2006). Originating in the USA this particular programme incorporated key processes, working relationships and organisational structures that claimed to enhance patient outcomes while creating an environment that supported loyalty, commitment and professionalism within healthcare organisations (MacClure & Hinshaw, 2002). Hospitals that adopted this programme were described as having the key characteristics of a decentralised organisational structure, a commitment to flexible working hours, an emphasis on professional autonomy and a focus on systematic communication between management and staff (Buchan, 1994). These hospitals were able to demonstrate good practice in human resource management with a corresponding reduction in nursing turnover costs (Kramer & Schmalenberg, 1991; McClure, Poulin, Sovie, & Wandelt, 1983; McKibben, 1990). Increasing interest in this programme had meant that the point had been reached in its development where evaluation was needed (Triolo et al., 2006). The primary purpose of this evaluation was to help those with an interest in the Magnet Programme to make judgements or decisions about adopting the programme. As evaluation seeks to describe and leads to judgements, rather than research which seeks to find conclusions, causal relationship and or laws, evaluation provided the process needed for this particular activity (Fitzpatrick, Saunders, & Worthen, 2004).

It was this aspect of evaluation (described in the methods chapter) that provided the most appropriate process to assess the level of success for the change project described in this body of work.

This research design also supported nursing quality assurance activities as a mechanism for an evaluation of the following:

- *Assessing the level of achievement surrounding specified outcomes*
- *Identifying specific failures and successes*
- *Potential for improved effectiveness by identifying appropriate techniques*
- *Identification of the principles which support a successful programme* (Lo Biondo-Wood & Haber, 1994)

The generic goal for most evaluations is to provide feedback to the audience. This feedback is expected to be useful so that the audience can use the information to aid further decision making and or policy development (Trochim, 2006).

Three phases are included in evaluation research when used to investigate programmes or projects:

- 1) *programme planning,*
- 2) *programme implementation and*
- 3) *programme success or effectiveness* (Mateo, & Kirchhoff, 1999).

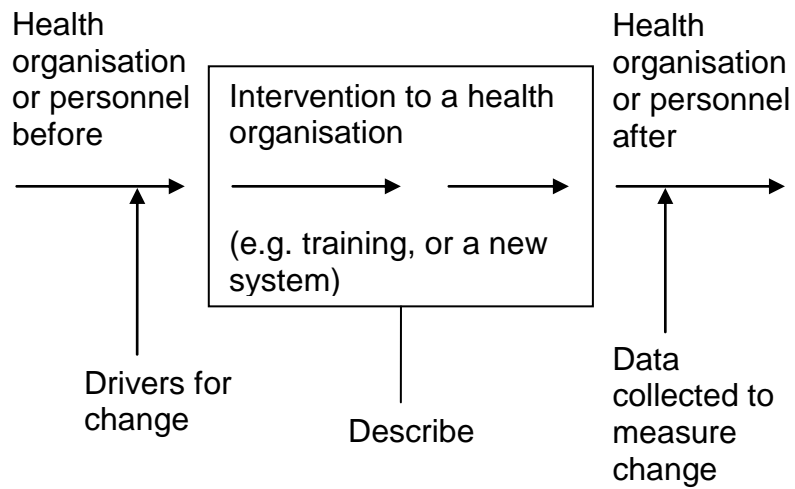
The first two are viewed as formative evaluation, being used to assess the planning and implementation stages. This process within evaluation research occurs around the planning and implementation, informing the investigator about the approach taken with no attempt to generalise findings beyond the specific context (Patton, 1990; Woods & Catanzara, 1988). Formative evaluations assess, monitor and report on the development and progress of the programme or change being implemented. This has the benefit of reporting as the change is happening, focusing on appropriate educational requirements, and continuing to ensure that the stated goals or outcomes remain achievable and realistic (Mateo & Kirchhoff, 1999). As discussed by Trochim (2006), formative evaluation can strengthen the new programme or

change by examining the quality of the implementation and how individuals and teams are reacting to change.

Summative evaluation is carried out once the incorporation of any changes suggested by the formative evaluation has occurred. This evaluation can be carried out at different stages following implementation, not necessarily at the completion of the project (Mateo & Kirchhoff, 1999).

Trochim (2006) viewed formative and summative evaluation as being completely separate and that they should be used depending on what is being evaluated and the purpose for the evaluation. Formative evaluation aimed at strengthening the programmes being evaluated, and summative evaluation to examine the effects or outcomes. Ovretveit (2003), also described how formative and summative evaluation could be used independently. Formative was used to provide information and assistance to those making the change so they were more able to make any further improvements as the change was implemented. Summative evaluations were aimed at supporting decision makers in deciding on the future of that change. This work is using evaluation research design as a framework to investigate the change from primary nursing to a newly introduced model of nursing care, and is using both formative and summative evaluation. The evaluation will be focused on what were the drivers to change, how the change was implemented and what were the outcomes.

Figure 2: Intervention to a Health Organisation. (Adapted from Ovretveit 2003).



The diagram included in figure 2 is the visualisation of the basic concept of any evaluation. It also helps to describe the design used for this work, which is evaluating an intervention within an organisation (refer p. 25). The measures (criteria / data) are identified prior to the change or intervention. The intervention is then described and the same criteria / data are measured post introduction.

4.0 Methods

As indicated earlier, evaluative research procedures involve two components: formative and summative. Using evaluation research methodology, an evaluation of the change programme was undertaken. In this chapter 4.2 and 4.3 are devoted to the formative phase, while the next chapter provides the analysis and findings derived from the summative phase of this body of work.

The formative evaluation phase (see Table 3), focuses on the design stage of a project, aiming to identify and describe what takes place in a given project (Walsh et al., 2007). This includes a description of the drivers, the change programme, and educational support as well as the change management process used (Ovretveit, 2003; Patton, 1997).

The summative phase (see Table 4) focuses on the outcomes of the change programme. The data collected for the change project is described and analysed. Based on components of Patton's (1997) and Ovretveit's (2003) models, the data will be analysed by comparing pre- and post-change data, critiquing the quality of data and identifying what data arising out of the project under study can indicate potential improvements for any further, similar change programme.

Table 3, titled 'The Formative Stage' and Table 4, titled 'The Summative Stage' show the steps taken during the process of this dissertation using evaluation design. Column 1 displays the steps performed in this evaluative study, whilst Column 2 & 3 displays the components of the hospital based project studied for the dissertation. These tables are provided to guide the reader in the process applied in this study.

Table 3, the Formative Stage (see Chapter 4.2 to 4.3)

Column 1 Formative activities performed in this study	Column 2 Elements of change programme evaluated	Column 3 Sources of Information used within the project under study
Description of the change process in its entirety.	Drivers for change	Emails Patient feedback Workshops Focus groups Questionnaires
	Set up of the project	Senior nursing management team Minutes from Advisory Committee. Minutes from Project Group.
	Description of Collaborative model of nursing care.	
	Change process used	Minutes from Project Group Ward-based communication books

Table 4, the Summative Stage (see Chapter 5.2 to 5.5)

Summative activities performed in this study	Elements of change programme evaluated	Sources of Information used within the project under study
Comparison of before and after data	All data collected and either analysed or commented on by the project group that formed part of the summative conclusion.	Minutes from Project Group Evaluation report of the change project.
Critique the quality of the data used	Factors that influenced data results.	Evaluation report of the change project.
Identifying appropriateness of data collected to inform on outcomes of the change project	Status of data within the project (eg, whether unique or divergent)	Evaluation report of the change project Ward-based communication books.

As described by Triolo et. al.(2006), to achieve good evaluation the evaluator must become grounded in the project. This can be achieved via a number of processes, and in the case of this study was achieved through access to items indicated in both

Columns 2 and 3 of both tables. These were the minutes of the Advisory Committee meetings set up to oversee the change programme; reports written following the trial of the change programme; and comments written in the ward communication books, all of which gave additional information. These sources of already available data provided a history of the complete change programme and as such were acceptable materials and processes with which to evaluate a project (Ovretveit, 2003; Patton, 1997; Polit & Beck, 2004; Triolo et al., 2006).

4.1. Ethics

Ethics approval for this work was not required. As data and documentation from the Advisory Committee, the nurses and patients presented as part of the change programme to the Advisory Committee were publicly and freely available, no direct contact with participants of the change was needed for this work.

4.2. Formative Evaluation Stage

As described above, within evaluation research, the formative phase of evaluative research is *descriptive* in nature, providing a means of enhancing the understanding, in this case, of the model of nursing care change programme. Phase 1 of the change programme was identified (see Table 3 Column 2 and 3 p. 31), and evaluated using all related documentation.

4.2.1. Evaluated Change Programme: Collaborative Model of Nursing Care.

This section describes the entire change programme. It includes the drivers for change, the change management process used, and a description of the collaborative model of nursing care. The following section is about the formative component of evaluation research.

4.2.2. Drivers for Change.

As in all organisations such as hospitals, many meetings occur at different levels and various projects are carried out. These meetings can often provide a venue for complex issues to be discussed and possible solutions identified. Over a period of two years from 2002 to 2004, as Director of Nursing in a large hospital, during many gatherings, both informal and formal such as nursing staff forums and study days run by the hospital, I was witness to a degree of frustration expressed by nurses about their working environment. This frustration arose from the increased work activities of their wards, contributing to this was the increasing admission rates with a corresponding expectation around reducing the length of stay for patients. These factors are now a reality of working as a nurse in an acute hospital and certainly need to be addressed in ways that may include higher nurse-patient ratios, and improved nursing support in the form of administrative or clinical assistance and roster management (Alison, 2006). Each of these possible solutions are worthy of much research, discussion and debate; however, what was of concern was the number of conversations that happened between nurses and were then often communicated to the Director of Nursing around the isolation and loneliness many nurses experienced within the ward environment while they provided care, treatments and support to patients and their families. There appeared to be a widely held perception by nurses that nurses should be capable of managing their work in isolation of each other. To ask for help or even guidance was viewed as that nurse not being able to “cope”, making that nurse feel unsupported and even embarrassed that they had felt the need to ask for help.

Patient feedback via regular collection and collation of surveys by Customer Services indicated that a number of patients complained that when asking a nurse in the ward for help they were greeted with the words, “Sorry, I am not your nurse; I will get them for you”. While this can be frustrating to the patient, what was more of a concern was that should their nurse not be found, whatever need the patient had at that time was not met.

Doctors were also beginning to express their concerns around their inability to find the patient's nurse. Correspondence in the form of emails to the Director of Nursing and discussion points at various meetings highlighted staff frustration at the length of time it was taking to identify the correct nurse, and find them in order to participate in planning patient care. This did however demonstrate a clear understanding by doctors of the importance that nurses' knowledge had in directing patient care. And ways of working needed to be developed that enhanced rather than blocked doctors' access to nurses' knowledge. Zwarenstein and Bryant (2000) suggested that better collaboration between doctors and nurses would improve patient care and staff satisfaction and this concept of collaboration with its links to staff satisfaction was supported by McClure et al. (1983) as it related to magnet hospital principles. These principles, or as they are also referred to, essentials of magnetism, were identified following an American study in 2001. The study consisting of 279 nurses identified eight essential components of a nurse's environment as being essential to maintain and retain this workforce. One of these was good nurse-physician relationships and communications (McClure and Henshaw (2002).

The ward round has long been acknowledged as a valuable time for health professionals to come together and discuss the patient's plan of care. It provided a time for the patient to be involved as well as teaching opportunities for staff. Not having a nurse present at the ward round may have been caused by a number of factors such as ward round times, the number of different medical teams presenting on the ward or the reduced importance nurses were placing on their participation. Manias and Street (2001), in their study around nurse-doctor interactions identified that many nurses acted passively during these sessions and displayed a lack of confidence about asserting themselves during any discussions; therefore, it became easier to be absent. Yet, as described by Nelson and Gordon (2006), doctors freely admitted that nurses amplified the value of the brief patient encounters senior doctors had with patients by virtue of the nurses' extended bedside presence.

The practice and expectation that nurses move between specialties or wards as work loads and the need to prioritise staffing levels against acuity was increasing. Nurses were not expected to be the expert, as they may have been within their own area of speciality, but rather use that transferable body of nursing knowledge. As this

practice and need increased, nurses began feeding back discontent around their lack of integration into the nursing team of that ward for that shift. Many felt unwelcome with little ability to ask for help and support. Workshop or study days, were used as opportunities to discuss with colleagues and the workshop co-ordinator about what it was like for them as nurses to work in non familiar areas.

The following comments extracted from workshops and study days were documented in the minutes of the Advisory Committee (described on p. 31) and contributed to the drivers for change.

“ I felt I was given a load that was OK but when I went to ask for help the response made me feel inadequate, which made me think that there was no way I would ask again.”

“When I arrived in the ward I was told we use primary nursing here so you will have to sort your patients out yourself. We won't have time to babysit.”

These experiences mirrored those reported by nurses in the New Zealand Ministry of Health's report the *First Year of Clinical Practice* (2004), which identified how the newly qualified nurse felt marginalised. This marginalisation, caused by the experienced nurses of the new nurse was attributed to the many perceived pressures the experienced nurse felt she was under, leading to self preservation behaviours and a minimal display of inclusive behaviours.

These informal conversations, discussions, emails and feedback created the platform to start investigating which model of nursing care was being used and if there was a better way care could be delivered that would enhance the working environment of the nurse and be better for patients. In order to ascertain what nursing delivery systems were being used, two information gathering methods were used. These were locally and nationally distributed surveys, as well as focus groups.

Surveys were sent to all Charge Nurse Managers (CNMs) within the organisation with the same survey being sent to other District Health Board nursing leaders for

their input. The response to the questions provided solid information that helped inform the next stage of research for this project.

Following on from the questionnaires completed by the individual CNMs, a cross sectional sample was taken of the various nursing care systems identified in use. Focus groups were then invited to convene for each selected nursing model.

Focus groups were held that included different categories of nursing staff who may have had varying degrees of involvement with models of nursing care and were assumed to be affected by them.

- 1 Pool nurses (these nurses are employed to provide cover for sick leave, and increased acuity).
- 2 Clinical Nurse Specialists
- 3 Nurse Managers
- 4 Duty Nurse Managers
- 5 Staff Nurses
- 6 Enrolled Nurses
- 7 New Graduate Registered Nurses

Within the change programme a thematic analysis was undertaken for both the survey information and the information obtained via the focus groups. The following themes emerged from the data:

Models of Nursing Care Delivery

Approximately 75% of the areas identified they were using a combination of patient allocation and modified primary nursing and were satisfied with this system. What was interesting from the information gathered at this time was that no nurse was able to articulate what was meant by a modified primary nursing model. This confusion around primary nursing is also evident in the literature, wherein there is no generic definition but rather a variety of descriptions that mostly encompass the philosophy underlying this model to the exclusion of how to actually operationalise it (Davidson et al., 2005; Rigby & Leach, 2001). Areas of dissatisfaction occurred when the boundaries of these two systems were not made clear. There were no clear criteria

for when a patient was allocated a primary nurse and what processes were developed to ensure the continuity of this, e.g. rostering patterns, or robust nursing care plans. Comments noted in the project report were:

“it was a bit messy”, “could be improved” and “would work better if we had guidelines and they were followed”.

The two areas using a team system were satisfied, as were the three areas using a geographical system. The latter referred to the co-location of patients assigned to each nurse.

Continuity of Care

All staff participating stated continuity of care was the most important factor to be considered with any model of nursing care, again with all areas confirming they strove to achieve this regardless of which nursing care delivery system they used.

“time-saving as, you know, the patient and the care required”

“patients get a better level of care”

Continuity was seen as particularly important within areas that had patients re-admitted with the same complaint.

4.2.3. Setting up the Change Programme

The information gained from these methods described above was presented to the Senior Nursing Management Team with an expectation they would either see the merit of continuing to investigate the potential models of nursing care to address the areas of concern, or see no merit and discontinue the project. From this group there was enough concern and interest to continue to the next stage.

The Senior Nursing Management Team recognised that the continuation of this project would include investigation and discussion of and possibly changing some fundamental nursing concepts associated with different models of nursing care. This would require input from all areas of nursing and to this end, an Advisory Committee

was established, consisting of the Director of Nursing, New Zealand Nurses Organisation (NZNO) Professional Advisor, NZNO work place delegates, the Charge Nurse Manager (CNM) from each trial ward and one identified change champion from each trial ward. These change champions were registered nurses who had identified a desire to be a ward-based leader for this project.

Prior to the first meeting of this Advisory Committee all information including a literature review of Models of Nursing Care and the results of the surveys and focus groups were distributed to them. The information allowed them to be informed and reflect on the way forward and as noted at the Committee's first meeting, it was agreed to continue with the programme.

A Project Group was established, charged with devising and then presenting a project plan to the Advisory Committee. The Project Group consisted of a Project Leader (dedicated resource), change champions from each trial ward and a Nurse Educator. The Advisory Committee was linked to the Project Group by advising them around any wider issues that impact on the change programme and provide corporate support during all stages.

This group would at times increase in representation depending on the issues that required discussion and solutions. The change champions on each trial ward also linked closely with the Advisory Committee either by being present at the meetings or through written updates.

4.2.4. Collaborative Model of Nursing Care: A Description

Using information gathered from publicly available reports released by the Advisory Committee, cross referencing these with the minutes of meetings and information distributed to the Senior Nursing Management team, the following is a description of the collaborative model of nursing care.

The model was developed following a literature review, surveys and the focus groups (described earlier), and using the following principles:

- Patient / family focused
- Continuity and quality of care
- Supportive / collaborative working environment
- Facilitated nursing career development
- Fair and manageable workload assignments

4.2.5. Organisation of the Nursing Team

The nursing team was divided into modules consisting of two, three or four nurses working together, communicating, planning and carrying out the care of their patients for a shift. Each nurse was to be allocated their own patients but with some knowledge of the other patients within their module. Compilation of the modules took into account the skill mix required to deliver care to allocated patients, and also recognised the need to support knowledge sharing and leadership development. This expectation meant a high degree of planning was required when the nursing roster was developed. It should be noted that each module contained only nurses, rather than a mix of nurses and other roles such as the Hospital Aide or Health Care Assistant. The model was to be used throughout a full 24-hour cycle, acknowledging that on some wards during the night shift there would be one module in operation.

4.2.6. Leadership

Having identified that a leader of each module was a requirement, a designated nurse leader with a minimum of two years' full time post-registration practice and who was familiar with the ward was identified. The decision about which staff became module leaders was made by the CNM. A role description was established to aid the CNM in making the choice. This role did not necessarily need to be filled by the most skilled or senior nurse but rather by a nurse who understood the project and had the skills to lead a small team of colleagues. This component helped to facilitate leadership development in a safe, supported environment, as a junior nurse who fitted the role's criteria could assume responsibility and be supported by a more experienced nurse who was a member of their module.

To ensure overall cohesion of the ward, particularly after-hours, the established practice of identifying a nurse in charge of each shift continued. The CNM undertook this role during normal hours. Out of these hours a nurse in charge was identified for each shift.

4.2.7. Patient Allocation

Patients were allocated to a module, and then further allocated within that module to individual nurses. The term module was chosen by the Advisory Committee rather than team, to indicate the "freshness" of the model. The nurse-patient ratio was based on what had been set for that ward, being based on the acuity of the specialty and using the hours of nursing time each patient required over the 24-hour period. Allocation of patients to a specific nurse within the module meant that the nurse allocated to those patients would have an in-depth knowledge of the patients' conditions and plans of care. The module the nurse worked in would have a superficial knowledge of that patient but an in-depth knowledge of their own allocated patients.

.Allocation of patients occurred in two ways:

1. Conducted by the nurse in charge of the previous shift before handover.
2. Conducted by the nurse in charge of the shift after handover with input from the nurses rostered for that shift.

Whichever method was utilised, areas needed to ensure allocation of patients took into consideration nurses' level of skills and expertise, continuity of patient care, acuity and geographical location of the patients. Consideration was required when a module included either a casual nurse, a nurse from another specialty and there on the ward for only one shift (usually required if patient requirements could not be met by the core staff) or a nurse either on orientation or reasonably new to the area.

Geographical co-location of patients was considered during the allocation process. The close proximity of groups of patients provided for easier access, increasing the times each patient had visual contact with their nurse and their module.

Geographical proximity amongst the module promoted the ability for each member to make contact with each other, and the availability of support around tasks or consultation was easier when working in the same area. This could be as simple as working down one end of a ward, or being allocated patients who were all in three, four-bedded rooms side by side.

4.2.8. Allocation of Modules

Modules and their leaders were specified in the allocation books currently used by wards in this hospital. While originally it was planned for this to happen several days ahead, because of staff fluctuations this was completed the shift before. The nurse in charge carried out this task with consistency of the module make-up taken into consideration.

4.2.9. Handover

Emphasis was on a brief verbal handover providing an overview of all the patients in the ward, with a more detailed account also obtained verbally from the nurse on the previous shift if required, or from the patient's written clinical record. Each ward could decide if the leaders of the modules, each nurse or the nurse in charge

conducted the brief overview at handover.

4.2.10. Breaks

Breaks were co-ordinated within each module, overseen by the nurse in charge to ensure appropriate skill mix and adequate nursing cover was on the ward at all times. Members of a module could not all take the same break with care of patients being handed over to other module members. This decreased the clinical risks that could occur when nurses handed over patients to nurses who were unfamiliar with that patient.

4.2.11. Educational Support

Information contained in the reports describing the educational support delivered prior to and during this change programme informed this next stage of evaluation. Staff who would hold the responsibility for developing educational supports were included from the beginning of this project. They provided feedback around the initial proposal and were able to identify those resources that would be ideal should the proposal go ahead. As this did go ahead they then planned and implemented the agreed educational package.

The initial focus was to provide training for the CNMs and the identified project leaders for the pilot wards. This package included in-depth information around the soon-to-be-introduced collaborative model of nursing care and a brief outline of how to manage change. The sessions were delivered within four hours and timed for six weeks prior to the change being introduced at ward level.

Two weeks prior, all staff were scheduled to attend a four-hour session that covered

- Knowledge of the project

- Working in groups/teams

- Problem-solving.

These sessions had been augmented with pre reading packages sent out to all enrolled participants.

Staff were asked to complete a Likert Scale based feedback survey following the four-hour session. The average score of 4.45 (5 indicating the highest support) provided a positive indication to the project team that a commitment and understanding did exist within the nursing staff. Participants' comments supported this result:

This is exactly what nursing is about

Looking forward to going live

Hope this project works as the framework is supportive and makes for happier workforce

Great timing as I feel the knowledge will be fresh when we change

The bringing together of staff created a venue for other issues to be discussed. The time allocated was not sufficient, however, for the facilitator to allow them to be resolved, with the following comments from staff.

Issue that was not discussed – inappropriate language between staff on the ward

I think it will work well but it will depend on the attitudes of others not enough time to really sort this out

Need more skills on assertiveness and problem solving lines of communication

When nurses want to discuss concerns and they feel they are in an environment safe enough to freely discuss issues that impact on their working environment, but these additional issues are not taken up, further frustration and disengagement from the ward and organisation could occur (Buchan & Calman, 2004). However, as there was a tight time frame, follow up at this point did not occur.

The survey results indicated a strong level of support for both the project and the level of educational support delivered. After reviewing the documentation related to this aspect of the project, the following recommendations would support the continuing success of the educational component of this project.

Close collaboration and engagement between the facilitators of the educational plan and the CNMs around releasing staff to attend sessions would increase attendance and decrease resentment from the CNMs that they were expected to “*perform miracles when their areas were already busy and suffering from unfilled vacancies*”. A level of expectation from the Director of Nursing needed to be communicated in order to dispel a belief by the CNMs that they could still choose to opt in or out.

As described earlier, the issues raised around behaviours and communication styles existing in the wards needed to have time to be described, discussed and resolved. Future consideration should take into account this need and either allow for flexible time during the educational sessions or commit to further team-building type sessions. Providing support, guidance and mentoring for the CNM around how to help the team create a good environment added to successful outcomes (Parsons & Stonestreet, 2003; Sherman, Bishop, Eggenberger, & Karden, 2007).

The role of the project leader, also referred to at times as the “change champion”, based in each ward was pivotal. Selection training and ongoing support for the person and the role contributed to ensuring an easier implementation and increased understanding of processes. This role while pivotal was needed for a relatively short period of time, until the Collaborative model of nursing care became embedded in normal practice, and thus it is recommended that in any further role out of this programme the role would be a necessary consideration.

4.2.12. Change Process Used

The introduction of the collaborative model of nursing care was planned and managed as described by Sullivan and Decker (1992) around seven steps. Based on the nursing process that provided a framework for planning patient care, encompassing assessment, planning, implementation and evaluation, this change model used language and processes already familiar to nurses.

Using information documented in the report of the collaborative model of nursing care as described by Williams (2004), the problem or opportunity was identified, and

data were collected and analysed. The results were given to the Senior Nursing Team who supported a need to change or at the very least not maintain the status quo. The newly created Advisory Committee supported this decision (p 38) and a plan created for the change programme. This included the model of nursing care to be introduced as well as a communication strategy and the educational support needed. The next stage saw the implementation of the change with the final two stages being to evaluate and then to stabilise the change.

The seven steps of Sullivan and Deckers' change model can be aligned to Lewins' (1951) model. Assessment, data collection and analysis are similar to the unfreezing stage of Lewins' model. Planning and implementing the change is similar to Lewins' moving stage and evaluation and stabilising are similar to Lewins' final stage of refreezing (Sullivan & Decker, 1992).

From the documentation it was clear that time had been taken to plan what was required to implement change. The collaborative model of nursing care was developed, then described and an educational plan developed with the expectation that all nursing staff within the pilot wards would participate. Extra resources were put in place during the implementation and the CNMs' leadership skills came to the fore as a new way of working came into play.

The formative component of evaluation research, being a description of the drivers for change, the change itself, including the educational component and the change management process used, was well served using the sources of documentation derived from various study days attended by nurses, ward communication books, the Advisory Committee and the Project Group. As described by Ovretveit (2003), formative evaluation aimed to give information and assistance to people who wanted to and were able to make changes to an intervention so improvements could be made. This information provided the basis for the next stage: summative evaluation.

5.0 Data, Findings and Evaluation

5.1. Summative Evaluation

The following section provides a brief overview of the data collected during the change programme and in keeping with the formative phase is descriptive rather than analytical in nature.

Summative evaluation supports the descriptive nature of the formative evaluation phase by informing the decision makers and or organisation about the efficiency of an intervention or change. Using data it measures the general effectiveness of a programme or change (Davidson & Tolich, 1999). Data identified prior to a change are measured and then that same data measured once implementation has been completed.

The following criteria were selected by the Advisory Committee, who charged the Project Group with the responsibility to collect, measure and determine if any change had occurred. Movement in the criteria was viewed as an indication of the level of the change programme's success. The measured criteria / data for the introduced model of nursing care were divided into nursing and quality indicators.

- | | |
|------------------------------|--------------------------------|
| 1. <i>Nursing indicators</i> | sick rate |
| | nursing retention rates |
| | nursing costs |
| 2. <i>Quality indicators</i> | patient falls |
| | medication errors |
| | pressure areas since admission |
| | patient injury |

Nursing indicators (quantitative in nature) are available in the majority of New Zealand hospitals and are used to monitor the movement, costs of nursing and health of nursing staff. While these indicators are no doubt influenced by much more

than a change programme they do provide supportive data and may indicate the degree to which nurses are involved and engaged with a process.

Quality indicators are included in a wider set of criteria viewed as *Nursing Sensitive Outcome Indicators*. A term originally described by Maas, Johnson and Morehead (1996), it helps reflect how patient outcomes may be affected by nursing practise. These tend to focus on negative outcomes such as patient falls, medication errors; such outcomes may be influenced by conditions beyond and or outside nursing. To account for this, Needleman, Buerhaus, and Mattke (2001) refer to these indicators as “outcomes potentially sensitive to nursing”. However they are viewed, these indicators help define the impact nurses have on patient outcomes and as such were identified by the Advisory Committee as important measures of any possible outcome derived from the change programme.

This chapter describes the data that were collected for the change project and the summative phase of evaluation. In undertaking summative evaluation, an analysis (as identified in table 4,p. 31 and described on p. 30), is provided by focusing on the differences between the data collected pre- and post-change project, the quality of the data as they relate to the change project and the appropriateness of these data as they relate to the change project. Each section describes the data being evaluated that were collected within the change project and then provides summative conclusions around that set of data.

5.2. Data Collection and Analysis

To answer the first component of the research question, ‘*Why change an established and seemingly supported model of nursing care*’, the following describes the information that was gathered and used as the foundation for identifying whether change was needed. Anecdotal evidence was clearly the primary method, derived from staff meetings, forums, email discussions, and face to face conversations between nurses and between nurses and doctors. The latter was usually as a result of the doctor being unable to find patients’ assigned nurses to accompany them on the ward round. While these conversations and interactions were not documented,

they did stimulate debate. Increasingly, the focus was on how nurses were organising their work and how this impacted on the nurses, doctors and patients' experiences.

The data for the second research question, '*How was the process of change managed*', were derived from the Advisory Committee's minutes, including how the model of change process was used. Comments written by nurses in the trial wards' communication books were collected and used to provide a sense of the experiences in real time as the changes occurred.

The Project Group, as mentioned earlier, used data to measure the results of the collaborative model of nursing care trial. These data were used to measure and validate the level of success associated with the process and the outcomes of the change. The third research question, "*how successful was this change programme*", made use of these data. Data collected prior to and following the completion of the trial were accessed. These were found within organisational published documents, namely, minutes of the Advisory Committee's reports that documented results of the change programme, and communication books sited in the wards participating in the change.

Data were derived from patient satisfaction surveys, nursing satisfaction surveys, communication books and nursing focus groups. Contributing to the qualitative data were results derived from nurse sensitive indicators; these, described earlier, are patient falls, medication errors and pressure ulcers.

Data were also derived from nursing turnover rate, sick leave and nursing costs. Both nurse sensitive indicators and the measured quantitative data in New Zealand are collected as a normal practice in most tertiary-level hospitals contributing to the National Hospital Benchmarking programme (District Health Boards New Zealand, 2007). These local data were readily available for this study

5.3. Analysis of Data Used to Drive the Change.

The change programme data collected

The data or information that began the drive to consider the model within which nurses were delivering care was collected mainly from anecdotal evidence. Discussions occurred at staff meetings, some email correspondence and forums, about how nurses were feeling in their working environment appearing as a reasonably frequent topic. Supplementing this feedback, questionnaires were sent to other hospitals and to the participating hospital's CNMs asking for information about which model of nursing care was in use. Minutes from the Advisory Committee and the Project Group indicated a level of scepticism around whether or not changing an embedded model of nursing care was going to make a measurable difference. What was clear, however, from these minutes is the recognition from the collective groups that to do nothing in light of nurses' concerns was not an option. So acknowledging this, the data collected and what it showed, the Advisory Committee considered there were reasonable grounds to move forward with change.

The findings of the literature review around different models of nursing care provided the foundation for creating a model of nursing care that was then endorsed by all key stake holders and named the collaborative model of nursing care. The Advisory Committee decided on this name so as to highlight that this model would include what they considered were the best components of various nursing models.

Summative Conclusion

When analysing the documentation from staff meetings, emails etc. what was not documented was the strength or level of conviction underpinning the concerns being expressed about the way, or the model within which nursing care was being delivered. Therefore, an assumption must be made that there was enough commitment, even at this early stage, from the nursing staff to investigate different ways of doing things. This very early gathering of data would need to be expanded

on in order to add robustness should this change programme be considered for wider implementation.

The survey data gathered from this and other hospitals did not give an opportunity for the respondents to comment on different models or if in fact the model being used delivered positive results. So these data, rather than providing further impetus for change, or informing on improvements to the proposed change, gave information only about what existed.

When analysing the depth and quality of the data and then considering the enormous change this programme would create, the evidence that the existing model of nursing care was not working was scant. There was a possibility that if seriously challenged the data may not have been able to provide a level of evidence that would be considered worthy of such a change. However, in the minutes of the first meetings what clearly came through was the importance placed on anecdotal evidence coming from various nursing staff supported by medical staff and patients' perceptions of who and where their nurse was. The commitment from the senior nursing group supported by the representative of the New Zealand Nurses Organisation, the major professional and industrial nurses' organisation in New Zealand, provided the impetus needed to ensure the idea gathered momentum and was seen as a worthwhile project or programme of work.

5.4. Analysis of Data used to implement the Change.

The change programme data collected

Using the results and findings documented by the Project Group the implementation process will be described and analysed. The proposed model of nursing care was written up and distributed to the CNM group, and volunteers for pilot sites were called for. This communication process was well received with a number of wards identifying their willingness to be involved. Four wards were selected to participate, again using the minutes from the Advisory Group they were selected by identifying from the CNMs if other conditions existed that could derail this particular project such as a ward already involved in a number of other changes. This early positive

involvement supports the belief that recognition of and engagement with the team at every stage of change will influence positive outcomes (Nilakant & Ramnarayan, 2006; Walsh et al., 2007).

Working closely with Nurse Educators, an education plan was developed with time lines indicating when the education sessions were to be held. This plan was agreed by the Project Group and disseminated to the pilot wards. The onus was on the CNM to create a roster that would facilitate attendance. This proved more difficult for some than others. Support was provided by skilled roster writers for those who viewed roster changes as a difficult process. The programme called for some dedicated time to be allocated to an identified nurse in each pilot site. This nurse was assigned as the workplace champion, with expectations they would provide further education to and support the nurses on the floor as the model was introduced. Support was given for this to occur via the hospital nursing pool. This could not have happened as easily without commitment to the project from the Senior Nursing Management Team to the nurses working in pool and in the wards.

Evidence derived from the documented Project Group minutes indicated an escalation process was used if the Project Group came across issues that they themselves could not correct. This would then be taken to the Advisory Committee for resolution. This process added depth to the ongoing commitment and connection between participants of the trial and the Committee.

Summative Conclusion

The data that described how the change project was managed have the potential to further inform on improvements should there be a roll out of the project more widely. The change process used, described earlier (4.13) based on Sullivan and Decker's (1994) model, ensured that consideration was given at each stage to any issues that would either cause concern or change what the next step would be. When the education plan was submitted to the Advisory Committee the participating CNMs indicated that the timeline for implementation would place undue pressure on the wards. Consideration was given to this issue and the timeline extended. This process added to a sense of control and ownership that was commented on by the

nurses in the pilot sites, as can be verified from communication books and the education sessions' own evaluation process.

At least we know about this change and have had a chance to learn about it.

Training gave positive understanding of my role in the group.

Even though the impact of this project can only be known once tried and tested on the ward, knowing a little about what is coming our way definitely helped.

We already work like this but maybe this will make sure we have even workloads.

These communication books were also used as a source of communication between the workplace champion and the staff. Queries could be noted by staff and would then be answered by the workplace champion.

The clear and defined manner in which the change model was used to implement the collaborative model of nursing care certainly allowed for consistency and coordination of each stage. This would not, however, have been as effective if a dedicated resource in the form of the workplace champions had not been put in place. Often there is an assumption that existing roles can take on the responsibilities of a change manager or facilitator, with this usually being the CNM. It was clear from the description derived from the Project Group minutes that while their role was to be involved positively in the change there was a greater expectation that they were to lead and help provide the vision, tone and direction for change. The role of the workplace champion as described by Asselin (2001) was expected to help staff understand the practicalities of the collaborative model of nursing care, how they would all work together, make decisions, and be there to enhance staff understanding of the overall vision.

As the new model of nursing care was introduced, what is clear from the documentation is a theme of not only expected participation but actual participation

from the majority of nurses occurred within the trial areas. As described by St.Ledger et.al.(1994), evaluation can be difficult if the service or programme to be evaluated is not well defined. In this case the model, the implementation process and the expected outcomes had been documented and communicated to all staff ensuring a sense of ownership and influence in shaping the final model.

Comments taken from one of the communication books supporting this engagement were:

There is no hard and fast rule for allocating patients, so let's try and get enough time so each shift can allocate for the following shift.

As mentioned previously this is a good system, but today my workload increased dramatically and what would have helped would have been to have all my patients close. Let's look at cohorting our patients.

These comments indicated a sense of involvement and ownership that would influence how the model could evolve to better meet the needs of nurses and patients.

5.5. Analysis of Data that Measured Success.

The data collected pre and post the implementation provided the information that informed the degree of success. The Advisory Committee identified specific key measures (described on p. 43) and these were augmented by measuring Nurse Sensitive Indicators. As previously described these are recognised as measures that are influenced by nursing care practices (Maas et al., 1996). Using the data documented in the evaluation of the change programme the following are a summary of the results.

The change programme data collected: *Patient Satisfaction Surveys:*

The analysis of the returned surveys was done on mean scores and 99% confidence intervals for each rating (Williams, 2004). A confidence interval gives an estimated range of values from a given set of data. Samples repeated from the same

population, as in this case, are then computed in such a way that the estimated confidence in the results can be expressed as a percentage (Easton & McColl, 2007; Lane, 2007).

Surveys were distributed to inpatients pre and post the trial. Over a period of four weeks prior to the introduction and the four months into the trial period of six months a sample size of 25 patients were asked to complete the survey. These patients needed to have been in the ward for a period of at least 24 hours, have the ability to complete the survey and be over 16 years of age. The survey asked a series of questions related to nursing care and satisfaction. Using a five point scale, (1 = strongly disagree and 5 = strongly agree) scores were converted to express satisfaction by way of a percentage. Obtaining support from the hospital's business unit, the overall results were calculated using the mean of all the raw scores.

Summative Conclusion

When comparing pre and post data the overall results indicated little difference between the trial wards. All wards did however show significant positive results post-implementation. These results were related to patients knowing which nurse was responsible for their care, a decrease in the number of times patients needed to repeat their health history and an increase in patients' confidence with their nurse.

While these are positive results, what must be remembered is that there were two completely different sets of patients involved in the pre and post implementation surveys. This was an outcome due to the time period required to implement the collaborative model of nursing care, meaning the set of patients initially surveyed had been discharged.

The change programme data collected: *Nursing Satisfaction Surveys*

The analysis was carried out as per the patient satisfaction surveys, with 99% confidence intervals completed on the percentage levels for each response pre and post the implementation of the new model of care. The nursing satisfaction survey tool was developed using information and knowledge within existing literature

(Williams, 2004). This was then supported and signed off by the Advisory Committee. The survey was distributed to all nurses working on the trial wards with an explanation sheet included, which gave more information about what would happen to the information provided and what was to be achieved.

Summative Conclusion

Unlike the patient surveys, the same population of nurses were included in the pre and post implementation surveys. While this provided more confidence in the results, the response rates were small with a total of 54% responding pre trial and 41% post implementation. The descriptive nature of these data reduced their ability to be generalised to another context; however, within evaluation research the sensitivity of the method and quality of collected data achieved what was intended. This was the ability of the data to detect any change caused by the 'intervention', which in this case was the new collaborative model of nursing care (Ovretveit, 2003; Patton, 1997).

When critiquing the results of the nurses' satisfaction survey, although a general increase of satisfaction was noted in the mean scores when comparing the pre to post implementation stage, the highest satisfaction scores came from the more senior nurses post-trial. These nurses enjoyed providing leadership and support to their teams and it could well be a possibility that those nurses opting into this trial showed more readiness to accept change and therefore may not be a true representation of the general nursing population. This could impact on the level of success expected based on these results should the project roll out to all wards. To balance this potential bias, however, a strong increase was noted in nurses feeling that the way they delivered care promoted a more efficient use of their time, and junior nurses feeling more supported in their practice while having their learning needs met. Thus, despite the possibility that this particular group of nurses may not be a true representation of the general population, these data are still appropriate to inform any further roll out of the project.

The change programme data collected: communication

Communication Books: These were placed in each trial ward and gave the nurse an opportunity to write comments about any aspect of the collaborative model of nursing care, the education provided and the reality of working in a new way. Comments were collected by the Project Group and rather than being analysed in any formal sense did provide further evidence that helped inform the final decision about whether or not to continue following completion of the trial. As noted in the report of the collaborative model of nursing care by the Project Leader there was, overall, a positive inflection around the comments (Williams, 2004). Sourced from the communication books the following extracts provided a sense of what it was like for nurses in the trial wards.

System worked well with the opportunity to work together for two consecutive shifts.

Less tiring, easy to find buddy, easier to keep an eye on patients.

Some great feedback from Pool Staff yesterday, found the new system and the ward extremely supportive, found staff approachable and both really enjoyed being on the ward.

The communication books also provided a way of informing the project champions, who were based on the pilot wards, of any concerns and therefore allowed an opportunity for early action. For example:

Great system but we need to be more mindful to communicate with our buddy.

Please liaise with your buddy if you can't get to lunch on time. Maybe your buddy can.

If a patient needs change, re-communicate with your buddy. People need to think more broadly and even outside their team if a patient becomes acutely unwell. Patients may be passed over to another team so the patient's nurse can focus on that acutely unwell patient.

Comments from the books were taken to the Project Group meetings, thus allowing this group to maintain a sense of what the nurse was experiencing.

Summative Conclusion

As shown by the results, this particular set of data highlighted there were a relatively small number of comments from nurses expressing discontent around being expected to work in a team situation. However, the quality of this data may have been influenced unduly as there was always the possibility that the authors of the comments could have been identified. This could well have deterred more negative comments. What does need to be remembered, though, is that the nursing survey data were anonymous, therefore, they would be considered more reliable than the non-anonymised data and both sources (comments in the communication books and the survey data) indicated similar results.

The change programme data collected: *from the nurses*

Nursing Focus Groups: All staff were invited to attend, with sessions being offered at different times. The participants of these focus groups were asked to think about and discuss how they worked within the collaborative model of nursing care compared with the previous model / models they were using. Holding focus groups sought to provide more in-depth understanding of the work practices and to further examine issues that were raised in the communication books with the project leaders on each ward and with the CNMs. A series of focus groups were held in the pilot wards and another separate one with the CNMs and project leaders of these wards. The transcribed data collected from this avenue were themed and summarised as follows:

Satisfaction with the new system of nursing care delivery: Overall, participants from both wards expressed satisfaction and indicated support to continue with this model.

More aware of each other

Encourages staff to work more as a team.

It seems easier to find help.

However, comments were made from each area that in times of extreme busyness the system fell down.

Excessive workload means you are too busy with your own patients to meet up with your buddy.

To counteract this feedback, staff also commented that despite the busyness checking in with each member of the team can help.

Even just asking each other if you are okay is still supportive.

Leadership development was also commented on with the feedback indicating that the new way of working provided for new people to be exposed to leadership opportunities.

Allows for leadership to be nurtured through the co-ordinator role.

The CNMs made comments that staff were now going to their buddy and issues were discussed and solved within the teams.

Recommended changes: Comments from the focus groups related to recommended changes concentrated largely on the process of introducing the collaborative model of nursing care. Suggestions were made that ward comparisons should not happen as this was creating a sense of defensiveness that did not help. The initial stages of the implementation supported a supernumerary project leader. It was recommended

that this person should also be the nurse in charge when the CNM was not on site, otherwise confusion existed.

Positive changes to practice: Feedback related primarily to communication and organising workloads with an acknowledgement that the model now made nurses think more about other patients, not only their allocated patients.

Feel more supported.

Helped me organise my workload better.

Others while seeing there had been benefits felt that the collaborative model of nursing care was not totally different to the way they already worked but rather built on what was there before

Negative changes to practice: Comments were documented on how when working in teams, and being expected to plan together, the individual personalities could make that process quite difficult. The success on a shift by shift basis was at times very reliant on who was working with whom. Nurses felt that it was not the collaborative model of nursing care that caused these personality issues, rather these had always been there but working in isolation reduced the impact on the other team members.

Personalities make it difficult particularly if you are buddied with someone who wants to work in isolation.

Support from colleagues: The dominant theme was positive with both wards noticing an increase in support, most making comments on how it was becoming normal for nurses to check on each other within the teams and within the wider nursing staff on duty. As with the previous section there were continuing comments about individuals who were not prepared to try a different way of working making it unnecessarily difficult for those wanting to try.

Not everyone is playing the game.

Improvement in time management: This particular focus had a mixed response. While comments were noted that time management had improved through good role modelling, others felt that more education and support would be needed to change well entrenched behaviours.

Summative Conclusion

The data collected via these focus groups provided an excellent source of comparing pre and post information. The changes were noted and discussed, with these then informing or driving improvements to the change project.

From comments noted during the focus groups, an increased sense of team was formed with evident desire to continue this. Therefore an unexpected consequence of the focus groups was to enhance the team's positive sense of how they worked together regardless of which model was being used. The use of focus groups can bring participants together and promotes engagement in the project and is supported within evaluation research as a good method to add to data informing the final recommendations. "The very process of working together on an evaluation has an impact on the group's collective identity and skills in collaborating and supporting each other" (Pattern 1997, p. 102). One of the difficulties of using focus group data is that in gauging the strength of opinions from the group, these opinions are often viewed as a consensus but in fact may be influenced by the strength of some individuals' personalities rather than overall agreement (Kitzinger, 1995; Webb, C., Kevern, & J., 2001). This particular concern was not discussed in any particular detail as shown in the minutes, but rather the focus groups were viewed as providing a process that would give extra information about the way the nurses were using the collaborative model of nursing care.

The change programme data collected: *Items related to nursing workforce*

Nursing turnover rate: This data was collected from the Human Resources Department. As one of the aims of the introduction of the collaborative model of nursing care was to reduce turnover and the costs associated with this, both in the economic sense and nursing satisfaction, this particular data set was viewed as very

important. The results indicated a slight decrease in resignations following the introduction of the new model.

While these results were on the positive side, in reality resignations are often planned in advance, and as these data were measured only over the period of the trial, it would be difficult to establish a true and sound link between the turnover rate and the new model of nursing care. However, there was validity in using such data as they measured what they were supposed to; therefore, within evaluation research these data can continue to be used should the project extend its timeline.(Ovretveit, 2003).

Sick Leave: The level of sick leave taken can be indicative of the state of morale within a team and / or organisation (Page, 2004; Zurn, Dolea, & Stilwell, 2005). Therefore it was decided by the Advisory Committee to include these data. The sick leave rates were obtained from the Human Resource Department and a decrease in one of the trial wards was noted but remained the same in the other three wards.

As with the turnover data, sick leave rates are influenced by more than a single factor, but are a useful indicator of the morale and stress levels staff may feel. What should be taken into account whenever using this particular set of data is that unlike many other industries the nursing service continues to consist of mainly women who continue to be the main care givers for sick children and aging parents. The leave taken may be due to others' needs rather than as result of their own health needs or feelings of discontent.

Nursing Costs: The data to establish nursing costs were collected from the Finance Department. These costs were those associated with the number of hours paid to the nurses working in the trial wards during the pilot. Costs are collected as a normal part of financial reporting. These were inclusive of the CNM, the registered and enrolled nurses working at any time on the wards as well as the cost of the hospital aides who worked on the wards.

The data collected indicated a consistent cost assigned to nursing when compared with the same period from the previous year. With no other variables that could have

influenced this set of data it can be reasonably assumed that the introduction of the collaborative model of nursing care did not have an adverse effect on the cost of nursing.

Nurse Sensitive Indicators: These indicators are described as being influenced by nursing care (Maas et al., 1996). Three sets were measured and as with the other data comparisons were made before and after the implementation of the collaborative model of nursing care. The indicators used were patient falls, medication errors and hospital acquired pressure ulcers.

This data are collected as part of quality indicators by the Quality and Risk Department. No changes over the trail period were noted related to patient falls, medication errors or hospital acquired pressure ulcers.

Summative conclusion

The data collected and described in this last section have a depth to them and are recognised as being indicators of nursing morale, quality of nursing care and the cost of nursing.(Aiken, Clarke, & Sloane, 2002). Within the context of the summative phase, these data could be considered as not as appropriate as other data, because of their wide applicability beyond this change programme.

5.6. Summary of Data Analysis and Findings

Formative evaluation used the data or information that described the change programme, and the implementation process. Using the information documented in the minutes of the Advisory Committee and Project Group meetings, and the report of the actual change programme by the Project Leader (Williams, 2004) a solid basis was created from which an understanding of the drivers for change, what the change was and how it was implemented were gained. The ability for other organisations to utilise this change programme and apply to their own changes around models of nursing care has been made easier by the rigour with which all aspects of the process has been described.

Summative evaluation, as with formative evaluation, used the data or information described and reported on in the minutes of the Advisory Committee and Project Group meetings and the report of the change programme by the Project Leader (Williams, 2004). The data evaluated for this phase dealt with the results, impacts and outcome of the introduction of the collaborative model of nursing care. These data, while wide and quite varied, did make use of data that was already being collected by different departments within the hospital. The unique collection of data was the surveys delivered to patients and nurses that asked questions related only to this change programme.

It could be argued that the information collected through this method had the potential to be influenced by more than just the introduction of the collaborative model of nursing care, but it was the only set of data that focused on the implementation and the way it was for the patient and the nurse as part of the collaborative model of nursing care. Within evaluation research these data or this information form an important aspect of the summative phase as it informs the evaluator about the impact or the outcome of a change in service delivery concerning an identified group (Ovretveit, 2003; St. Ledger et al., 1994).

The results of the summative phase of evaluation tend to have the most influence on managers whose main focus is on the cost and efficiency of service delivery. It is summative evaluation that helps the decision makers to decide if the project/programme being evaluated made enough of an impact to warrant further replication (Ovretveit, 2003; Walsh et al., 2007). However, using the information gained from both formative and summative phases gives a rounded picture of the whole project and can better inform how it can be replicated in a way that removes identified barriers, improves worker engagement and satisfaction (Page, 2004; Patton, 1997).

As described earlier, the results derived from the data were not overwhelmingly indicative of a completely successful change programme. They were, however, positive enough to seriously consider investing in further roll out of the collaborative model of nursing care. The data collected made use of already collected material

which was then augmented by data collected from focus groups, communication books and surveys that focused solely on the project. This collection and documentation of processes and results allowed for sound and credible evaluation of the collected data.

6.0 Discussion and Conclusion

6.1. Discussion

Evaluation research, as described by Triolo et.al.(2006) and supported by Walsh (2007), is increasingly being used in nursing. The use of evaluation, as described in chapter 3, is used in response to nurses needing to meet both policy and organisational requirements. They also need to be able to demonstrate the cost and clinical effectiveness of practice interventions and the models of care being used to meet service demand (Chang, Price, & Pfoutz, 2001; Triolo et al., 2006). Using the information contained in the change programme reports, following the introduction of the collaborative model of nursing care, the use of evaluation research allowed evaluation to occur focusing on the why, the how, data comparison, data quality and the appropriateness of that data to inform the outcomes of the change programme (summarised in tables 3 and 4, p. 31).

When reviewing the documents that informed the evaluation, thin themes of minimal support as well as discomfort around the need to change flowed through the narratives. While this could be interpreted as negative, these themes have been used as drivers to further improve the environment and provide extra support to groups and individuals.

The quantity of literature written about the different ways nurses can organise themselves when delivering care, is evident from the literature review in chapter 2. The way work is organised can be driven from a hierarchal model, task allocation, or individual patient allocation. What was evident in the literature and in comments from focus groups was the deep emotion that nurses attach to the model within which care is delivered. It can be assumed that nurses perceive they have control over this aspect of their work and for some this was a component they did not particularly want to share with other colleagues. To be supported and commended, was the way in which the patients were involved in this change project, indicating that there was an acceptance that the way nurses organise and deliver care affects patient experiences. As described by Thomas et.al.(1996) and Ingersoll et.al.(2002),

this involvement counteracted the negativity from some nurses, as any changes to care delivery supported by patients could be rightly viewed as being patient centred.

When embarking on any form of change, as evidenced by the literature review in chapter 2, strong leadership during all phases was required. The opportunity existed to really focus on promoting the competencies the organisation expected from leaders. While it was clear from the documentation that the CNMs were expected to and did lead in the change programme, the ward based champions felt they were at times the ones left to deal with behaviour and attitudes not conducive to effective team work, and felt they did not have the skills to manage these.

These comments are supported by the wider nursing profession. Many nurses have reported that moving into a Nurse Manager role was more of an accident rather than a planned move. If robust education and required competencies are clearly outlined, then capturing the interest of nurses who want to be and enjoy being engaged and leading teams will contribute to improving the quality and number of nurse leaders (Parsons & Stonestreet, 2003; Sherman et al., 2007). The need for succession planning and training into leadership roles was taken up by the hospital's Professional Development Unit. Aimed at intermediate and senior registered nurses, sessions were developed that provided an introduction to leadership, and while not a planned part of this particular change programme, the increased development and participation in these sessions was as a result of feedback from participating staff.

The process of change during the introduction of the collaborative model of nursing care did however also provide an opportunity to give support and guidance to those in existing leadership roles. This was mainly in the form of one-to-one meetings with the Project Leader, discussion opportunities with their CNM colleagues and Advisory Group members. According to the CNMs, however, it was the creation of a common goal through the change programme that gave added impetus for them to effectively manage issues of team cohesion. The resulting, more cohesive team strengthened the role of CNM. Thus confidence around leading teams grew and the role itself became more enjoyable. This increase in confidence expressed by the CNMs and the common goal felt by the teams has been identified as a positive outcome from any change project (Rosen, 2009; Sherman et al., 2007; Sullivan, 2004).

The development of the collaborative model of nursing care was partially influenced by comments received by doctors around the difficulty of knowing who to find and then finding the appropriate nurse or nurses to accompany the ward round. It was not clear from the documents how much or if in fact there had been any involvement with the medical teams as the collaborative model of nursing care was implemented. Zwarenstein and Bryant (2000) and Hendl, Fish and Berger (2007) suggest that there is a growing level of evidence that indicates collaborative healthcare partnerships may be a very strong strategy in controlling healthcare costs and contribute to improved patient care and job satisfaction. The working relationship nurses have with doctors is an influencing factor in how well nurses are retained in workplaces, and including doctors in the implementation phase would have been a prime opportunity to rediscover the benefits of true inter disciplinary collaboration (Buchan, 1994; McClure & Hinshaw, 2002; Zurn et al., 2005).

The title collaborative model of nursing care was decided upon so as not to be seen to be the same as the “old team nursing”. As more areas of the hospital adopt the collaborative model of nursing care and begin to understand how it works then it may be a good move to change to a title that is less clumsy and acknowledges that nurses do work and must work and should be proud to work in a team setting.

The collaborative model of nursing care can easily be further developed to be inclusive of the second level nurse and the health care assistant role. While not actively being employed at this hospital during the trial period there was already in existence indications that a shortage of registered nurses was necessitating different ways of working (McClure & Hinshaw, 2002; Page, 2004; Weinberg, 2003). Again while not being an active component of this change programme, by nurses working within the collaborative model of nursing care, the inclusion of less skilled nurses could be easier to manage. This more integrated experience would improve patient care and because of the increase in nurse to nurse support it could be assumed retention rates would improve as well. Further education would be required around registered nurses’ responsibilities related to supervision, delegation and direction;

however, this would be an easy fit with the already existing focus on effective communication and team work.

The amount of data and the places data were collected was wide, and much of that data may have been influenced by factors other than just the changes brought about by the introduction of the collaborative model of nursing care. Reducing and refining the data collected would have decreased the amount of work needed to analyse the results and yet still give a good picture of how successful it was. The data most valuable to this project were the nurse and patient surveys. The patient data indicated an improvement in patients knowing who their nurse was, and the nurse data indicated an improvement in team support and an improved working environment.

When reviewing comments from the wards' communication books, a theme of increasing team cohesion and a consequential improvement in ward functioning could be seen. As mentioned earlier, the acceptance of and engagement with a common goal created to a large extent by this change programme contributed to the willingness of nurses to work together and communicate at a level that became more inclusive and supportive of each other.

Changing the way nursing care was delivered was for some nurses easier than for others. For some nurses within this change programme, letting go of old practices and even rituals was a true commitment to wanting to create a better way of delivering care. The process all staff went through gave them a chance to collect their thoughts participate in discussions, plan how it was to be done and enjoy the companionship a team can give. Understanding the process of change and their part in it empowered them to not only get involved but more importantly take ownership. This aspect, identified in the change management literature discussed in chapter 2, is an extremely important marker of any success when change is embarked upon. These nurses created links with each other and the wider organisation during the education and focus group sessions, and then went on to influence the introduction of further leadership training programmes. They felt pride when the patient survey results, post introduction of the collaborative model of nursing care, indicated that

what they were doing as nurses had improved the patients' experiences. These results added to a collective commitment to the goals of the change project.

6.2. Conclusion

Evaluation research is a methodological process that has the primary aim to provide useful feedback to a variety of audiences including administrators, sponsors of projects and those involved in the projects. The information is gathered systematically and the assessment of the information can be used to influence decision making and / or policy formation whether at a local or national level. Using the documentation that was created before, during and after the introduction of the collaborative model of nursing care, evaluation research investigated the drivers for change, the development, implementation and outcomes. Evaluation research provided a clear framework that allowed for the assessment of the worth or merit and outcomes of the introduction of the collaborative model of nursing Care.

Since the 1950s, Mark (1992) suggested nursing has been searching for an ideal practice model, a model that would provide quality patient care, satisfied nurses and patients and be delivered within acceptable costs. The way in which nurses are organised and deliver care has been regarded as affecting both the quality and experience of the care patients receive (Thomas & Bond, 1990). The collaborative model of nursing care development and implementation acknowledged these requirements and using well recognised change management processes engaged nursing staff and created a new way of delivering care. This new way of delivering nursing care is clearly a combination of various concepts, but by revamping knowledge around working in teams, retaining some of the principles of primary nursing as described in the literature review, such as the named nurse planning the care, implementing the care and evaluating that care, a sense of modernisation was created.

With changing expectations and pressures being experienced by the nursing workforce, driven by technological influences, increasing patient acuity and a present nursing workforce shortage working in different ways may help to proactively

manage changing expectations and pressures. The collaborative model of nursing care has created a framework that will allow for changes in skill mix to be incorporated into the modules. If there is in the future a decision to re-introduce another level of trained nurse or the non-regulated health care worker into the acute practice setting then, with education around registered nurse direction and delegation the collaborative model of nursing care is positioned strongly to provide the mechanism for this to occur. This model provides a sense of belonging, value and contributing to improving the patients' experience.

The minutes from the Advisory Committee meetings identified during the early development of the collaborative model of nursing care that leadership would be needed and this should be as close to the bedside as possible. The development of these leaders exceeded any expectations. Nurses became involved in the change as active participants and as champions of the change influencing the level of engagement from their peers. This will have future benefits as these younger leaders expand out and provide a wider sphere of influence to the nursing workforce. The creation of a shared goal and the participation of the patients in the change programme created a link giving a more intense sense of belonging to the team for the nurses. Healthcare organisations are challenged constantly to provide improved care for patients, attract and retain nurses in a rapidly changing complex environment. The merit of the collaborative model of nursing care and how it works is such, that nurses and nurse leaders would be encouraged to investigate how implementation of this into their area of work could contribute significantly to meeting this challenge.

7.0 References

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