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Enabling the transferability of the magnet hospital concept to an Australian context

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ENABLING THE TRANSFERABILITY OF THE MAGNET HOSPITAL CONCEPT TO AN AUSTRALIAN CONTEXT

A thesis submitted in fulfilment of the

requirements for the award of the degree

DOCTOR OF PHILOSOPHY

from

UNIVERSITY OF WOLLONGONG

by

JOANNE THERESE JOYCE - McCOACH

FACULTY OF HEALTH & BEHAVIOURAL SCIENCE

2010

CERTIFICATION

The work contained in this thesis is, to the best of my knowledge and belief, original, except as acknowledged in the text. The material has not been submitted, either in whole or in part, for a degree at this or any other university. All the raw data pertaining to the studies reported in this thesis, as well as the analyses, have been retained and are available on request.

…… ……

Joanne Joyce-McCoach Date

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The encouragement of my family and friends has been pivotal to my capacity to preserve my resolve through the challenging times of this work. It is their loyalty to me that has been the most significant motivation.

Colleagues and fellow students have been regular allies in my endeavours to accomplish the skills necessary to complete this project. Their assistance and continued interest in this work has been invaluable.

The participants in this research are the foundation of all achievements that have resulted from this project. It is their investment that has facilitated the outcomes of this research.

The School of Nursing, Midwifery and Indigenous Health, Faculty of Health and Behavioural Science and The University of Wollongong have all contributed to the development of this research through an ongoing support for research.

Finally, to Brendan, Daniel, Rebecca, Rhiannon, Taylor, you define me.

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GLOSSARY

American Nurses Credentialing Center (ANCC) Magnet Nursing Services Recognition Program: a professional peer review of nursing services, based on the formula of the original magnet hospital program.

ANCC Magnet hospital: a hospital designated by the American Nurses Credentialing Center (ANCC) to be a Magnet Nursing Service (ANCC 2000-1).

Health facility: an institution that provides health care.

Intention to leave: an employee's perceived likelihood of leaving the organisation (Boyle et al 1999).

Job satisfaction: the degree of positive affect towards a job or its components, particularly determined by how work is organised within the work environment (Adams & Bond, 2000).

Magnet hospital: as a good place to work, capable of attracting and retaining qualified nurses and supportive of professional nursing practice (McClure et al 1983, Aiken & Havens 2000; Upenieks 2003).

Nursing practice environment: organisational characteristics of a work setting that facilitate or constrain professional nursing practice (Lake 2002).

Registered nurse: a person licensed to practice nursing under an Australian State or Territory Nurses Act or Health Professionals Act Australian Nursing & Midwifery Council (ANMC 2006).

Retention: an organisation's ability to retain staff.

Turnover: the voluntary cessation of membership of an organisation by an employee of that organisation (Morell, Loan-Clarke & Wilkinson 2001).

DISSEMINATION RELATED TO THIS THESIS

Publications

Joyce, J & Crookes, P 2007, 'Developing a tool to measure 'magnetism' in Australian nursing environments', *Australian Journal of Advanced Nursing,* vol. 25, no.1, pp. 18-23.

Joyce, J & Crookes, P 2011, 'Measuring 'magnetism' in Australian health facilities', *Australian Journal of Advanced Nursing*, vol. 29, no. 2, pp. 13-22.

Peer Reviewed Presentations

Lowe, J, Joyce, J & Crookes, P 2009, 'Magnet in aged care: attracting and retaining aged care staff', poster presented at 6th Health Services & Policy Research Conference, Brisbane Convention & Exhibition Centre, Brisbane Australia, November.

Joyce, J & Crookes, P 2005, 'Change Champions: Skill Mix and Workforce Development', paper presented at Change Champions Conference, Melbourne, Australia, November.

Joyce, J & Crookes, P 2004, 'Magnet concept in Australia', paper presented at the Asia Pacific Nursing Congress Conference on Nursing, Sydney Australia, November 2004.

Joyce, J & Crookes, P 2004, 'Transferability of the Magnet concept' paper presented at The Royal College of Nursing Australia, National Conference and the 38th Patricia Chomley Oration, Nursing Leadership, Policy and Politics, Alice Springs, Australia, July 2004.

Invited Presentations

Joyce, J & Crookes, P 2009, *Magnet in Australia,* The Health Roundtable Nursing Workforce Sustainability on Magnetism in Australia: Strategies for Improving Retention Group, Brisbane, Australia.

Joyce, J & Crookes, P 2009, *Magnet concept as a strategy for retention of nursing staff,* Northern Territory Nursing and Midwifery Executive Leadership Group on Magnetism in Australia: Strategies for Improving Retention, Darwin, Australia.

Joyce, J 2007, *Magnet Concept,* at South Eastern Sydney Illawarra Area Health Service (SEIAHS), International Nurses Day Conference, May 2007, Wollongong, Australia.

Joyce, J & Crookes, P 2005, *Magnet Concept* , at SESIAHS International Nurses Day Conference, May 2005, Wollongong, Australia.

Consultancies

Collaborative research project undertaken with *UnitingCare* Ageing South East Region 2005: Invited to present to *UnitingCare Ageing Regional Mangers Meeting* on magnetism in aged care. Sydney, Australia.

Consultation with the Australian Council on Healthcare Standards (ACHS) 2005: Invited to discuss application of magnet in Australia.

Membership of NSW Magnet Hospital Working Party 2003-4: Completion of business case for implementation of magnet hospital program in Australia.

ABSTRACT

Background: It is increasingly apparent that the existing health professional workforce is insufficient to meet the growing demands of health care. Within Australia and globally, an increasing demand for quality health care workers will impact substantially upon the future of the industry (International Council of Nurses (ICN) 2010). Driven by this trend, some healthcare stakeholders are giving consideration to the magnet hospital structure as a framework for the development of effective professional practice environments. The identified features of a magnet hospital include a decentralised administration, participation in decision making, supportive managers and autonomy and career development opportunities (McClure Poulin, Sovie & Wandelt 1983). There has been extensive research evidence illustrating the success of magnet hospitals in retaining nursing staff, which has been found to contribute to positive patient outcomes (Aiken, Smith & Lake 1994; Aiken, Sloane & Lake 1997; Aiken et al 2001; Upenieks 2003). However, the transferability of the concept to Australia has yet to be comprehensively examined.

Aim: The aims of this research were to: (1) adapt a tool for measuring magnet features that relates to the Australian context; (2) test the reliability and validity of this adapted tool; and (3) use the tool to measure magnet features and investigate their relationship to measures of job satisfaction and staff intention to leave, among a sample of nurses in Australian health facilities.

Research Design: The research included qualitative and quantitative research approaches and mixed methods approach in the adaption and testing of an Australian tool for measuring magnet features. Three inter connected studies were undertaken to address the research aims and questions. The first study involved focus groups with registered nurses who reviewed an established North American tool to assess its applicability for use in the Australian context. The second study was a pilot survey

that tested the Australian tool 'The Nursing Work Index–Revised: Australian (NWI-R:A)' establishing it as a credible measure of magnet features. The third study, a larger scale survey, examined the NWI-R:A as a descriptive measure of magnet features in four Australian facilities in conjunction with measures of staff job satisfaction and intention to leave for the purpose of exploring relationships between these variables.

Results: Overall the findings suggest that the NWI-R:A is a valid and reliable measure of magnet features with statistically acceptable internal consistency (Cronbach Alpha 0.76) for the tool. Study One established that the Australian version of the tool needed to address issues with the language, presentation and meaning to improve the transferability to the Australian context. In studies two and three the perceptions of the registered nurse sample (n=326) consistently showed that these cohorts viewed the quality of care, nursing management and leadership, and collegial relationships of their respective workplaces favourably, but perceived that nurse participation in decision making; staffing; and resources were lacking. Finally, Study Three results identified statistically significant relationships between registered nurses' perceptions of magnetism, job satisfaction and their reported intention to leave.

Discussion: The establishment of a tool for the reliable measurement of magnetism in Australian facilities enables the magnet concept to be effectively transferred to the Australian healthcare environment. A more comprehensive understanding of the ways in which nursing staff perceive existing magnet features in their workplace potentially informs targeted development of nursing practice environments in Australian health facilities. If the magnet framework was to become central to the development of organisational structure and governance, healthcare facilities in Australia would be well positioned to improve nursing staff retention.

CHAPTER 1. INTRODUCTION

"Pleasure in the job puts perfection in the work"

Aristotle

One does not have to be a philosopher to be acquainted with the belief that people who are contented in their work tend to be more productive that those who are not. Job satisfaction is generally understood to be an essential feature of a productive workplace and a committed workforce (Zangaro & Soeken 2007). It is a premise of this research that if the job satisfaction of Australian nurses were to improve from views such as "(I want to) *find a more fulfilling and respected career"* (Survey respondent, Study Two) then the significant problem of staff retention in the nursing workforce could diminish.

This chapter briefly outlines the background to the development of this research, identify the problems facing health care services as a result of workforce shortages and asserts the relevance of the magnet concept as an organisational structure for improving nursing staff retention. Subsequently, a brief overview of the research stating the purpose, scope and outcomes of the project is provided. Finally the chapter will describes the structure of the thesis and details the organisation of the remaining chapters.

BACKGROUND

The development of this research was influenced by concerns about the global shortfall in nursing staff. It is widely acknowledged that the current health professional workforce is insufficient to meet the demands of health care (World Health Organisation (WHO) 2006; National Health Workforce Taskforce (NHWT) 2009; Health Workforce Australia (HWA) 2011). The NHWT (2009) stated that Australia will continue to experience an increasing demand for health care workers

over the coming years. Discussion of the inextricably linked issues of recruitment and retention in the health workforce are; and will continue to be; at the forefront of debate.

It is no surprise that health care stakeholders are considering a range of responses to the workforce issues facing health services globally. The 'Magnet Hospital' concept and related credentialing program have been proposed an appropriate and relevant option for improving the health workforce issues.

A magnet hospital as defined by McClure et al (1983) is "a facility that is a good place to practice nursing; with low turnover and vacancy rates; in a competitive locality" (p.45). The features identified as forming the foundation for magnet hospitals are: participatory management practices; effective leadership; autonomy of practice; existence of quality care; collegial relationships; plus career promotion and education opportunities (Kramer & Hafner 1989; Aiken & Havens 2000; Jones-Schenk 2001; Upenieks 2003). The research literature demonstrates that practice environments of magnet hospitals have higher staff satisfaction and retention rates and improved patient outcomes (Aiken & Havens 2000; Laschinger, Shamian & Thomson 2001; Upenieks 2003) than non-magnet institutions. The idea of the magnet hospital offers a viable conceptual framework for policies seeking to address the immediate need for professional nursing staff in Australia.

The foremost challenge identified by the researcher was to determine whether the North American developed magnet hospital concept and it's related credentialing program were applicable and transferable to other countries and environments. The magnet hospital concept had established a substantial foundation in North American and developed a positive international profile with regard to improving patient outcomes and staffing challenges. The American Nurses Credentialing Center (ANCC) (2003a, b & c) identified this as an issue to be addressed in order to make its credentialing program relevant to the international market. While this credentialing

program demonstrated merit evident by the improved patient outcomes and staff retention in Magnet designated facilities (Aiken & Havens 2000; Laschinger et al 2001; Upenieks 2003) the overarching magnet concept broader potential for was dependant on its transferability was dependent on its utility in Australia and internationally. Working toward the expansion of the magnet concept in Australia, this research used a different but aligned process to the ANCC credentialing program which was developed by the ANCC to assess magnet hospital status. The ANCC Magnet Nursing Services Recognition Program, which is explained in more detail in Chapter Two, is awarded to hospitals evaluated against standards for excellence in nursing. The researcher contended that a thorough investigation into the transferability of the magnet concept into Australia required the development of a measurement tool capable of measuring magnet features in the Australian context. The development of such a tool also allowed an examination of the link between magnet features and staff retention. Australian health services have finite resources available to invest in the recruitment and retention of staff. In these difficult circumstances there was strong evidence supporting the introduction of the magnet concept as a way of improving the numbers, quality and stability of the healthcare workforce.

STATEMENT OF PROBLEM

In Australia, as in other countries, there is an identified shortage of practicing nurses (WHO 2006; HWA 2012). HWA (2012) projections for the health workforce identify a 27% shortfall in the nursing workforce by 2025. Despite an ongoing increase in the actual health workforce numbers, several trends are impacting on the availability and participation of health care workers. These trends include the ageing of the workforce; lower average number of working hours; and reduced job satisfaction resulting in a number of health professionals choosing not to practice in their profession (Preston 2003; Duckett 2005; Duffield et al 2011). The increasing demand on the health workforce is also impacted on by the rising life expectancy of the Australian population, which between 1989 and 2009 increased 5.1 years (HWA 2012). Further to this the escalating incidence of chronic illnesses also a significant impact on

expected health workforce numbers and required services (Duckett 2005; Australian Bureau of Statistics (ABS) 2012).

A wide range of factors contribute to nurse shortages and migration, including political, economic, social, legal, historical, cultural, and educational. Mejia, Pizurki, and Royston (1979), described push and pull factors impacting on the migration of the global nursing workforce. Significant push factors that influence nurse migration and act as barriers to workforce retention include low wages, the unemployment of trained workers, limited career development opportunities, increased workloads (Dussault & Franceschini 2006; Nguyen et al 2008; Gross et al 2011). Key pull factors include enhanced compensation, the nursing shortage, active recruitment and lower patient-to-nurse ratios (Dussault & Franceschini 2006; Kingma 2007). Health services are advised to enhance nursing workforce supply through workforce planning and improved retention (Kline 2003; WHO 2010).

The impact of these issues is already becoming evident and projections for the future are pessimistic (WHO 2013). Nursing shortages and reported dissatisfaction by nurses are evident in a number of countries including Canada, the United Kingdom (UK) and Australia (ICN 2012). The utilisation of the magnet hospital concept as part of a strategy to address these trends of deteriorating retention and is an option which warrants further exploration. Aiken et al (2001) reported from an extensive survey of 43,000 nurses in the United States, Canada, England, Scotland and Germany that, despite the differences in the respective health systems, the fundamental issues were the same. Western countries are faced with a long-term shortage of professional nurses as a result of the high levels of job dissatisfaction, an aging workforce, and the inability to retain new graduates. Aiken et al (2001) asserts that the challenges facing nurses and nursing are global in nature, and that solutions found to be successful in one country are also likely to work in others. The magnet concept presents itself as atleast one component of a possible solution.

RESEARCH PURPOSE

This research was designed to engage a sample of Australian health professionals in the development of a valid and reliable tool to measure magnetism in the Australian healthcare context, adapted from an existing North American tool. Following on from this, the tested tool was used to measure the status of magnet features in a number of Australian health care facilities and examine possible links between these magnet features, nurses' job satisfaction and their expressed intentions to leave their current employment.

The research questions were:

1) Can a 'magnet hospital' tool be adapted and to what extent can the tool be used in an Australian healthcare context?

2) What are the perceptions of a sample of Australian registered nurses regarding the presence of magnet features in their Australian health facility(ies)?

3) What relationship/s exist between the registered nurses' perceptions of magnetism, job satisfaction and intention to leave their Australian health facility(ies)?

Outcomes of the research were:

1) The adaptation of a tool for measuring magnet features that relates to the Australian context.

2) To use the adapted tool to measure magnet features present in the Australian facilities surveyed.

3) The use of the adapted tool to investigate the possible relationship/s between magnet features and the staff retention variables of job satisfaction and intention to leave.

4) In addition this research will facilitate the dissemination of key findings, recommendations and conclusions throughout educational and health professional agencies, as well as via publicatons in journals and conferences, regarding the measurement of magnetism in Australian hospitals.

RESEARCH SIGNIFICANCE

McClure et al (1983) identified 41 US hospitals known to be successful in attracting and retaining nursing staff and described these hospitals as magnet hospitals. The original research by McClure et al (1983) and subsequent work by Kramer and colleagues throughout the nineteen eighties established the basis for the magnet concept (Kramer & Schmalenberg 1988a, 1988b; Kramer & Hafner 1989; Kramer 1990). Magnet hospitals consistently produce better outcomes for staff and patients as demonstrated by increased job satisfaction and improved quality of patient care (Aiken et al 1994; Aiken, Sloane & Klocinski 1997). Aiken has made a significant contribution to the progression of the research into magnet hospitals with the report of a survey across five countries substantially informing the global discussion of health workforce issues (Aiken et al 2001; Aiken et al 2008).

Due to the limited number of magnet hospitals outside of the US and with only one accredited hospital in Australia (The Princess Alexandra Hospital Brisbane), the opportunity for comparative research between magnet and non-magnet hospitals in Australia, was limited. This research used qualitative and quantitative research paradigms advocating the view that increased knowledge and understanding of the magnet concept in Australia could be achieved through a mixed method measurement of magnet organisational features in Australian facilities. The existence of an Australianised tool adapted from the North American prototype (Aiken & Patrician 2000; Taunton et al 2001; Lake 2002) for measuring magnet features has provided information relevant to the development of measuring magnet features in Australian health facilities.

This research examines the impact of the nursing practice environment on an organisation's ability to retain staff and improve job satisfaction. The research uses the constructs of the magnet hospital concept in its expolration of of the nursing practice environment. The nursing practice environment is complex to define (Estabrooks et al 2002), however for this research, the definition of the nursing practice environment used is taken from Lake (2002) "as the organisational characteristics of a work setting that facilitate or constrain professional nursing practice" (p.178).

To ensure an accurate examination of the constructs of the field of study, operational definitions of the research concepts: 'magnet hospital', 'job satisfaction' and 'intention to leave' have been informed by the literature. In the context of this research, a **magnet hospital** is defined as a good place to work, capable of attracting and retaining qualified nurses and supportive of professional nursing practice (Aiken & Havens 2000; McClure et al 1983; Upenieks 2003). **Job satisfaction** is defined as the degree of positive affect towards a job or its components, particularly determined by how work is organised within the work environment (Adams & Bond 2000). **Intention to leave** is defined as the perceived likelihood an employee to leave the organisation (Boyle et al 1999).

The conceptual parameters developed by Lake (2002), which are described in Chapter Four, inform the analysis and interpretation of the findings of the current research project. This research has adhered to the conventions of Lake's (2002) work and reports the findings of the Australian tool in accordance with the conceptual subscales established by Lake (2002). These subscales are titled: Nursing Foundations for Quality Care; Nurse Manager Ability, Leadership and Support of Nurses; Nurse Participation in Hospital Affairs; Staffing and Resource Adequacy and Collegial Nurse-Physician Relations.

As previously noted, one of the outcomes of the project was the adaptation of a tool for measuring magnet features that is specific to the Australian health system. The re-generation of this tool has provided a mechanism for the establishment of an Australian database on the magnet features present in the Australian facilities surveyed. Additionally, through a review and evaluation of this and other Australian data, it is posited that healthcare facilities will have an increased understanding of the magnet features present in their practice environment. As a result of this increased understanding and contribution of new knowledge, healthcare administrators would be in a stronger position to formally and reliably examine the relationships existing between magnet features and staff retention variables of job satisfaction and intention to leave within their facilities.

This thesis may also contribute to the professional development of health workers through dissemination of research findings in both professional and academic contexts; for example, in informing the content of pre-registraiton and post graduate education programmes in nursing with respect to developing effective and useful leadership and management attributes. It aims to foster research excellence for the School of Nursing, Midwifery and Indigenous Health and the Faculty of Science, Medicine and Health by extending the research priorities of the University of Wollongong in the area of workforce research utilisation. In addition, it provides the foundation for the collaborative of research work amongst the university members,

stakeholders and external partners as it is applicable to health service environments within Australia.

RESEARCH DESIGN

The research design incorporated a mixed methods approach to collect data to address the research aims and answer the research questions. The design included three interconnected studies: (1) a qualitative study to adapt an existing North American tool for measuring magnet featuresinto one capable of measuring magnet features in Australian health settings (2) a quantitative study to test the reliability and validity of this Australian tool and (3) a quantitative study to use the adapted tool to measure magnet features and investigate their relationship to measures of job satisfaction and staff intentions to leave, among samples of nurses in Australian health facilities. A detailed account of the specific details of each study's design is discussed in each of the relevant chapters (Chapters 3, 4 and 5 respectively).

RESEARCH OVERVIEW

Figure 1.1 provides an overview of the three studies in this thesis, outlining the purpose of each of the studies and the research methods used. Study One and Study Two were designed to address the first research question while Study Three addressed questions two and three of this research.

Research Overview

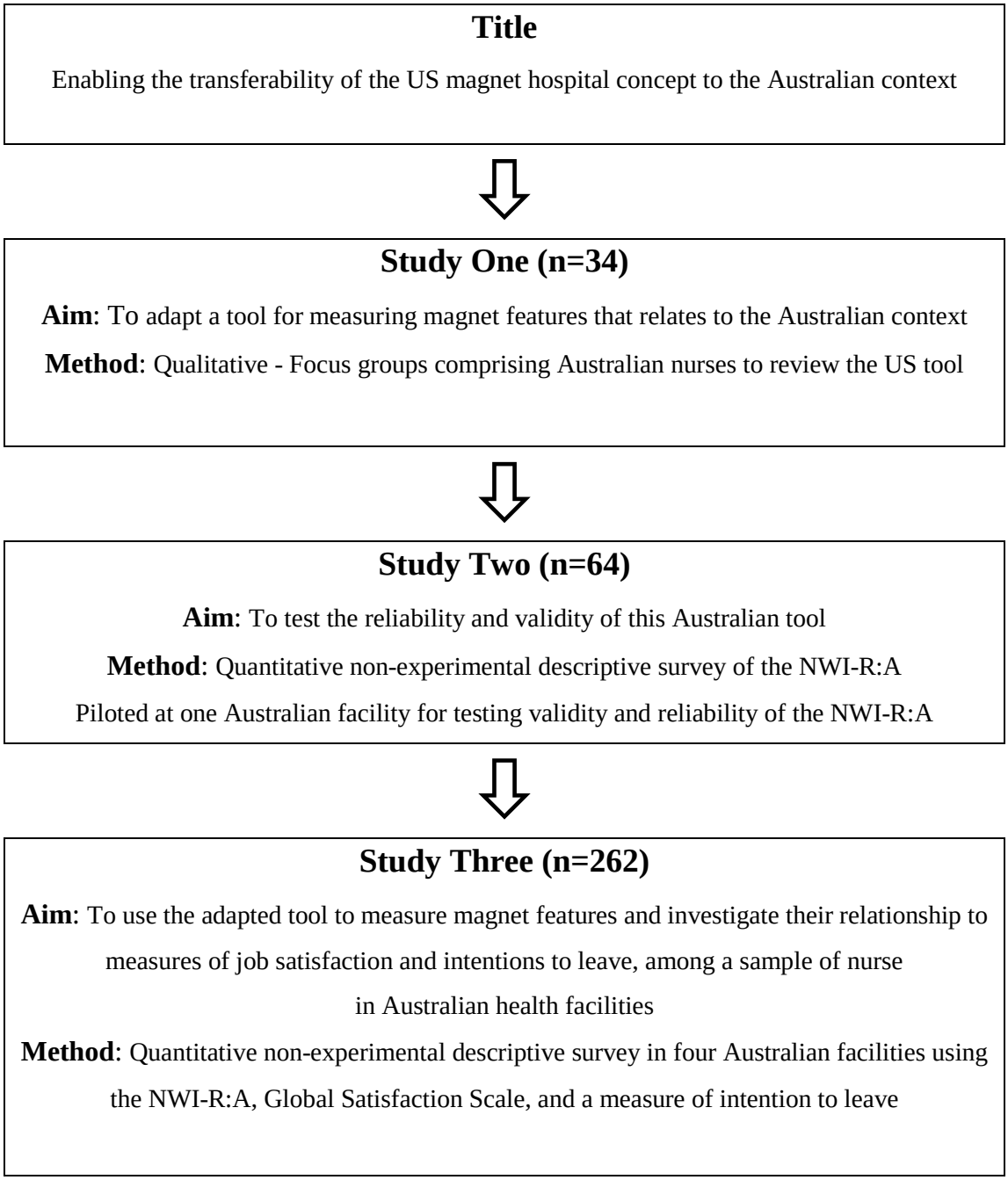

Figure 1.1: Research Overview

STRUCTURE OF THESIS

This chapter outlined the study background, presented a brief overview and defined key concepts for the thesis. In Chapter Two, a comprehensive review of the relevant research literature is presented. An exploration of the substantial body of US based research is followed by a review of the international literature available on magnet hospitals. In addition, issues related to the attraction and retention of nursing staff is discussed with a specific focus on the Australian context.

Chapter Three provides an outline the Australian tool as a result of its adaptation which was undertaken in Study One. This section includes a detailed explanation of the approaches used to revise the US magnet tool, and how this tool was critiqued in order to adapt it and thus develop the Nursing Work Index-Revised: Australian (NWI-R:A) tool. In addition to the presentation of the results of Study One focus groups, the chapter provides a detailed consideration of the factors that impacted upon the research and it's findings to this point. The chapter concludes with a discussion of the implications and recommendations resulting from Study One.

Chapter Four provides an in depth discussion and explanation related to the testing of the newly adapted NWI-R:A tool, undertaken in Study Two. It provides detail regarding the collection and analysis of the data resultsing from the use of the NWI-R:A to survey registered nurses of a pilot hospital site undertaken in Study Two. It also discusses the reliability and validity issues relevant to this research. Chapter Four concludes with a discussion of the implications and recommendations resulting from the findings of Study Two.

Chapter Five outlines Study Three of the research project. It provides a description and analysis of the results on the magnet features of the surveyed Australian facilities surveyed and examines the possible links between magnet features and, job satisfaction and intention to leave.

Chapter Six identifies and reviews the key findings of the research overall and discusses these findings in the context of the research literature on magnet hosptials. In doing so it presents a discussion of the key findings in light of the developments that have occurred in Australia and internationally since the collection of data in this project. An outline of the limitations of the project is then provided that examines the specific issues that impacted on the research. Finally a summary of the conclusions drawn from the research and recommendations for further practice, policy, research and education are presented.

In summary, this research allowed for the adaptation and testing a US tool for the Australian context to measure organisational features of `magnetism' in healthcare facilities. It provides a mechanism which could facilitate the application and the transferability of the magnet hospital concept to Australia. It achieved this outcome through the generation of a tool which has been shown to be capable of reliable measurement of magnetic attributes in Australian facilities. By examining the impact of magnet features on staff satisfaction and nurses' intentions with regard to leaving their current employment in Australia the study builds and extends upon work undertaken internationally. Given the increasingly competitive recruitment market for suitably qualified staff in health care, any factors impacting upon staff recruitment and retention require the close attention of the health industry. Organisational magnetism for registered nurses' is a key concept.

CHAPTER 2. LITERATURE REVIEW

Currently the health care sector is characterised by a chronic patient to staff ratio imbalance as increasing demands on services are exacerbated by decreasing numbers of practicing qualified staff (HWA 2012). In this employment climate, it is imperative that any strategy shown to be effective in addressing the issue of staff retention be fully explored. This literature review outlines the significance of the magnet hospital concept in creating work environments that are successful in the attraction and retention of nursing staff.

The review begins with an examination of the increasing demands on Australian and global health services as a result of the ageing population, providing specific information on the escalating impact of a workforce insufficient to meet these demands. The review then focuses on the key aspects of workforce retention, differentiating this from recruitment and expanding on the key factors impacting on nursing staff retention. Specifically, this section of the review will explore a range of factors including the work environment, remuneration and job satisfaction impacting on the retention of nursing staff. Finally, the review focuses on the relevance of the magnet hospital concept as a possible solution to the continuing issue of nursing staff retention. It does this by providing an overview of the development of the concept in the US, its expansion internationally and discuss contemporary views on the relevance of including this concept as part of planning to address ongoing health care workforce issues.

SEARCH STRATEGY

The literature relevant to this study was acquired from an orderly review of library catalogues, databases and grey literature as well as text and electronic resources. The following section outlines the process undertaken to locate relevant material to review. A librarian was consulted in the initial planning of the search to provide

guidance on the selection of databases and to assist in developing strategies to ensure a thorough search of the relevant literature was undertaken.

The databases accessed in the search were from the domains of health, science and business as each was considered relevant to the research topic. These domains were relevant because of the concepts informing the research topic included health workforce, practice environments and, staff and patient outcomes.

The databases included in the search strategy were:

- CINAHL: Cumulative Index on Nursing and Allied Health Literature,
    - International health; peer reviewed; nursing and allied health literature

- Index Medicus: via Medline,
    - International health; peer reviewed; medical and nursing literature

- AMI: The Australian Medical Index,
    - Australian health; peer reviewed; medical and nursing publications

- APAIS: The Australian Public Affairs Indexing Service,
    - Australian newspapers, government reports and popular media sources

- Sociofile and Psycology INFO:
    - International health; peer reviewed; sociology and psychology related research

- Business Source Complete:
    - International business; peer reviewed; business related research

- Science Direct:
    - International science; peer reviewed; multidisciplinary scientific

- Proquest 5000 and Synergy:
    - International science; peer reviewed; multidisciplinary scientific database

The database searches were expanded through a search of key journals in health, nursing, science and business relating to the topic areas. The key journals were: International Journal of Health Studies; Journal of Advanced Nursing; Journal of Clinical Nursing; Journal of Nursing Administration; Medical Care; Nursing Economics; Collegian; Nursing Research and the Journal of Nursing Management.

The initial keywords were established from the research area and reflected the project aims. The keywords included in the search strategy initially were: magnet hospital(s); Australia; outcomes; nursing; attraction; retention; job satisfaction; and patient. Results of keyword combinations varied across the different databases. CINAHL/Medline produced the largest number of results for magnet hospital(s) (124), nurs* and job satisfaction (239) and nurs* and hospital and retention and job satisfaction (51) with Proquest 5000 the only other database to provide new material for nurs*and job satisfaction (103). At this stage of the search duplicates were removed and all the remaining resources pertaining to the research area were retained for review.

Following the initial identification of keywords appropriate alternate and substitute terms were identified from the specific database thesauri. The three additional key words identified using these methods were: ‘turnover’, ‘organis/zational’ and ‘outcomes’. The use of database thesauri to inform alternatives for the initial keywords also identified the importance of including both the English and US spelling of any keywords. The results of searches using the new keywords and in combination with existing words were, nurs* and turnover (713) and magnet hosp* and organis/zational and outcomes (32). All the identified databases were retained in the ongoing search strategy except for APAIS as this database failed to produce any results. The search strategy continued to use truncations of key words in an attempt to

capture all relevant resources from the databases. Tools used to limit the initial combinations of keywords that generated large unmanageable numbers included: English language, peer reviewed research articles and removal of duplicates.

Analysis of the initial material collected identified a number of key authors and additional resources were identified using the following authors' names as search terms: Aiken (57), Kramer (36), Lake (17), Laschinger (12), Buchan (4) and Needleman (2). In addition, the Nursing Work Index (NWI), a tool developed to measure magnet hospital features, was identified as a search term. Inclusion of this term resulted in a total of (239) publications being located, however, this did include a number of duplicates of previously accessed material. These words were subsequently added to the keyword list that was used in a routine monthly automated search conducted to identify any updated material on the topic area.

In addition to the journal databases, a search of grey literature, unpublished and published government reports, statements, theses and bulletins was undertaken focusing on the topic areas of health workforce, staff retention and Magnet Hospitals. This identified a number of government documents pertaining to the topic areas. This search was repeated in the World Wide Web (www) using the Google AND Google Scholar search engines, where a number of international and Australian-based government policy materials were located. These resources were particularly relevant to the area of workforce shortages. A search of the www also produced relevant information on the US Magnet Hospital Credentialing Program as well as keynote presentations from key authors.

Articles excluded from the review were: those pertaining to recruitment of individuals to nursing rather than retention of existing staff; non-English and prior to 1980. These resources were dominated by North American publications and the key author (Aiken) on magnet hospitals. The time span of literature is across an extended period of time and warrants the inclusion of references dated as far back as the early 1980s to provide a comprehensive account of the development of the magnet hospital concept.

The search strategy was routinely repeated throughout the research period and additional resources were added to the thesis as they were identified. The final number of resources used in the literature review included resources up to the final revisions completed in June 2013.

HEALTH WORKFORCE SHORTAGES

The workforce shortage facing global health services has implications for future capacity to provide essential health services (WHO 2006; 2010). Internationally it has been established that current health workforce models and supply systems will not supply sufficient numbers of health professionals to meet the increasing demand on health services (WHO 2006). The World Health Organisation (2006) profile of the global health workforce identified a shortage of 4.3 million workers across both rich and poor countries. The estimations are that across 57 developed and developing countries, including Australia, there is a shortage of 2.3 million physicians, nurses and midwives. In Australia the future projections for the health workforce also show a 27 percent shortfall in the nursing workforce by 2025 (NHWT 2009; HWA 2012).

The increased burden on health care services can be attributed to a number of variables, particularly increasing life expectancy, ageing and growth of the population (WHO 2006; OECD 2010). In addition the declining disability-free life expectancy rates that have resulted from the increasing incidence of chronic illnesses and extended longevity have changed the composition of the burden of disease (Duckett 2005; ICN 2010).

The Australian Government Productivity Commission (2005) stated that defining the extent and nature of health workforce shortages is complex. From as early as 1999, the Australian Department of Employment, Workplace Relations and Small Business affirmed that shortages existed in several nursing occupations including operating theatres, critical/intensive care, aged care, midwifery and mental health (Australian

Government Productivity Commission 2005; Jackson & Daly 2004). Despite a continuing growth in the number of professionals per head of population in Australia, shortages are still evident in most health professions and particularly in the nursing profession (Duckett 2005; Australian Government Productivity Commission 2005; NHWT 2009).

Nurses deliver the majority of health care services and make up the largest group of health care providers with 302,245 nurses registered from June 2011 (APHRA 2012). Therefore shortages in the numbers of practising nurses threaten the delivery of health care overall (Bednash 2000; ICN 2010). Studies from across the globe confirm that the nursing profession has faced ongoing workforce challenges that will continue to worsen in the future (Buchan 1994; Buerhaus, Staiger & Auerbach 2000; Bednash 2000; Preston 2003; North et al 2005; NHWT 2009). In addition to the increasing demand for health services, several trends are impacting on the availability and participation of health care workers. These trends include the workforce ageing, lower average working hours, and issues in the work environment, all of which result in a considerable number of health professionals not practising in their profession (Wickett, McCutcheon & Long 2003; Preston 2003; Duffield, O'Brien-Pallas & Aiken 2004; Australian Government Productivity Commission 2005).

It has been identified that a contributing factor to the aging Registered Nurse (RN) workforce has been the reduction in the number of women choosing nursing as a career (ICN 2010). A retrospective cohort analysis of US population surveys from over 60,000 RNs aged between 23 and 64 years undertaken by Buerhaus, Staiger and Auerbach (2000) established that in the US, there was a decrease in the numbers of individuals born after 1955 entering the nursing profession. One of the conclusions drawn from this study was that the continued aging of the RN workforce will result in an inability to meet future workforce requirements. Duckett (2005) reported on the workforce issues in Australia and identified that the shortage of nurses has also been contributed to by the lack of school leavers entering the profession. In addition, improved career opportunities for women have resulted in an increased level of

competition in most labour markets (AIHW 2008; ICN 2010; AIHW 2012). Subsequent, research using US Current Population Surveys (CPS) by Buerhaus, Auerbach and Staiger (2009), showed a changing trend with an increase in the employment numbers of registered nurses in the US between 2001 and 2008. However despite this increase the projections for the nursing workforce continue to indicate a shortage in the future.

The AHPRA (2012) report a 7% increase in the total number of nurse registrations in 2011 however despite this increase the HWA (2012) project significant shortages in the Australian nursing workforce, similar to these other countries. The Australian data also confirms that there are a number of impacting factors and that a multi-level response is required to address the shortages (NHWT 2009).

A wide range of factors contribute to nurse shortages and migration, including political, economic, social, legal, historical, cultural, and educational (Flood & Fennell 1995). Factors that influence the nursing workforce and that act as barriers to retention include the perception of low wages, the unemployment of trained workers, limited career development opportunities and, increased workloads (Dussault & Franceschini 2006; Nguyen et al 2008; Gross et al 2011). Factors found to have enhanced attraction are adequate compensation, nursing shortages, active recruitment and lower patient-to-nurse ratios (Dussault & Franceschini 2006; Kingma 2007). Situations such as the Global Financial Crisis have also been seen to have had a major impact on nursing retention (HWA 2012) with historically low separation rates from nursing post crisis.

A restructuring of the work environment that recognises and values the contributions of nurses in the delivery of quality health care has been continually heralded as essential to successfully reducing shortages in nursing (Bednash 2000; Aiken et al 2001; Duffield et al 2011). In order to achieve these outcomes, it is suggested that reforms need to be made that provide nurses with attractive and rewarding career

environments (Aiken & Fagin 1997; Aiken et al 2001). The comments of these authors were directed to the US health system; however, they are relevant to the current situation faced by most western health systems. Bednash (2000) stated that inflexible working hours, increased workloads and lack of recognition of qualifications and skills influence the insufficient numbers of nurses in the health care workforce. Shields and Ward's (2001) UK study surveyed 9625 nurses and reported that a lack of training and dissatisfaction with promotion opportunities significantly influenced staff employment intentions.

The nursing profession has historically been challenged by the large number of part-time employees, which is a continuing trend (Buchan 1994; Preston 2003; HWA 2011; AIHW 2012). The work environment has also been consistently identified as impacting more on job retention than pay or promotional opportunities (Aiken et al 2001; Shields & Ward 2001; Duffield et al 2004). Given the circumstances identified above, health decision makers across all levels of authority and service delivery, across the westernised world, are faced with the challenge of developing strategies to successfully address the continued shortages in the nursing profession (WHO 2013). A community expectation for a quality health care system that is effective and efficient establishes a strong imperative for action by health services (HWA 2012). Health services are advised to enhance nursing workforce supply through workforce planning and improved retention strategies (Kline 2003; WHO 2010). A key element in the development of effective and sustainable strategies for addressing these shortages is to ensure that an integrated approach is undertaken. This approach should acknowledge the complexity and multi-dimensional nature of the factors influencing the shortages in the health, and especially nursing workforce.

RETENTION OF NURSING STAFF

The retention of nursing professionals is a significant issue across health services internationally (Buerhaus, Staiger & Auerbach 2000; Buchan, Ball & Rafferty 2003; Jackson & Daly 2004; North et al 2005). In Australia, a number of reviews have been

undertaken in an attempt to identify how to retain the existing nursing workforce. These include: Preston's (2003) review on Australian nurse supply and demand; the Australian Health Workforce Advisory Committee overview of planning for the nursing workforce and the Australian National Health Workforce Taskforce (2009) Health Workforce Research review. Whilst the inability to retain nursing staff is a financial concern for health care providers, it has also been shown to impact significantly on staff morale, work practices and on patient care (O'Brien-Pallas & Baumann 2000; O'Brien-Pallas 2001; Hogan 2013; Tillott et al 2013).

Traditionally the factors influencing staff turnover have been explored from three perspectives: economic, psychological and sociological (March & Simon 1958; Mobley et al 1979; Price & Mueller 1981; Morell et al 2001; Day, Minnichello & Madison 2007). Economic perspectives relate to the impact of the issues of labour supply and demand, employment opportunities and job searching. Economic factors focus on the balance between employee remuneration and employment opportunities in the labour market (Morell et al 2001). Psychological perspectives are concerned with the factors which influence decisions that may lead to turnover, such as the employee's response to the organisation and job conditions within it (March & Simon 1958; Mobley 1979). Sociological perspectives incorporate a combination of organisational commitment, job involvement, career development, role stress and the organisational environment as experienced by the employee (Price & Mueller 1981).

March and Simon (1958) seminal work on staff turnover identified job satisfaction as the "principal lever impacting on employee perceptions of the desirability of movement" (pg 45). This conceptual view has substantially influenced the debate on employee turnover, and informed the development of turnover models (Morell et al 2001). Mobley et al (1979) identified three determinants impacting on an individual's decision to leave their employment: (1) job satisfaction, (2) utility of alternate roles within and outside the organisation, and (3) the values and personal roles of the individual. In this model Mobley et al (1979) emphasises the significance of employee perceptions of the workplace in determining their level of job satisfaction.

An extensive review of the literature specific to retention of nurses by Price and Mueller (1981) established a model of key predictors that are relevant to nursing staff turnover. A few years later Price and Mueller (1981) identified the key determinants of voluntary turnover to be both organisational and individual job satisfaction. Numerous studies have been undertaken since this work to better understand the factors that impact upon the turnover of nursing staff, with evidence of a strong link between job satisfaction and staff turnover (Price & Mueller 1981; Mueller & McCloskey 1990; Shields & Ward 2001). The determinants of staff turnover identified in these historical studies have continued to be found to be contemporarily relevant (Moore 2001; Day et al 2007).

The determinants of staff turnover, job satisfaction and intention to leave employment can be grouped into four areas: salary or benefits, convenience, work schedule and job-related stress (Adams & Bond 2000; Dorion & Jones 2006; Duffield & Roche 2010). Kramer and Schmalenberg (1991) proposed that salaries and remuneration benefits are only a partial component of is attractive to nurses. Cavanagh and Coffin (1992), in a study of 221 full time hospital nurses in England, used structural modelling techniques to examine the aspects impacting on turnover and found that job satisfaction and sense of participation at work were the most important factors in the turnover of staff. Further research findings indicate increased job stress and reduced job satisfaction heighten the intention of staff to leave (Barrett & Yates 2002; Tzeng 2002). In a survey of Taiwanese nurses (n=648) from three hospitals, Tzeng (2002) using regression analysis to explore job satisfaction and found dissatisfaction with salary and promotion, educational background and age to be key predictors of intention to leave amongst nurses.

A survey of 1,237 nurses across 60 wards across 30 hospitals in Canada by Dolan, Van Ameringen, Corbin and Arsenault (1992) showed, through a multiple regression analysis of intention to quit predictors, that intention to leave was linked to self-perceived restricted autonomy. The findings from a study by Francis-Felsen (1996) of 281 nurses employed in long term care settings identified that a number of the factors

influencing the respondents' intentions to leave were factors that could actually be reformed by managers and administrators. Finn (2001) in a quantitative study (n=178) of Australian nurses' working in a Queensland hospital, found that increased recognition of the value of nursing work and autonomy of practice were influencing factors for job satisfaction and consequently intention to leave employment. A study by Majd (2004) examined the impact of nurse managers on the autonomy of hospital nurses in the US, Canada and UK. The majority of the 317 respondents were from the US (n= 264) and as a result the analyses were presented as US and non-US findings. These findings further support earlier research which identified a relationship between participatory management style and job satisfaction amongst staff. This significant correlation between management style and job satisfaction supports any undertaking to identify and implement participative management styles in nursing settings because they have been proven to improve job satisfaction amongst nurses.

It has also been established that a link exists between reported intentions to leave and the 'quality' of the practice environment of nurses as perceived by those nurses (Cavanagh & Coffin 1992; Price & Mueller 1981). The impact of the work environment on staff turnover has been consistently highlighted by research (Rafferty, Ball & Aiken 2001; Laschinger, Almost & Tuer-Hodes 2003; O'Brien-Pallas, Duffield & Hayes 2006). In a study of Australian nurses (n=154) no longer employed in the nursing workforce, Duffield et al (2004), identified that issues associated with the employer, the team and the work environment all contributed to their reasons for leaving the profession. These findings indicate that often, organisational structures influence nurses' decisions to leave the profession. The reasons nurses were leaving related specifically to autonomy of their practice and decision making, as well as their ability to influence policy development.

In contrast to the majority of studies, Moore (2001) identified that professional commitment influenced intention to leave nursing more than working conditions, burnout, poor management and communication style. Similarly, a study of Brazilian nurses by Angerami, Gomes and Mendes (2000), determined that despite poor pay

conditions nurses remained in their job because of their commitment to nursing. Despite these dissenting voices, overall, it would appear from this literature that the most important factors in the attraction and retention of nursing staff are: involving nurses in the management and coodination of their work, fostering environments with high standards of professional practice, and providing opportunities for career development. Such factors are key components of the Magnet Hosptial concept.

The nursing staff shortages challenging most health services require managers and administrators to develop and support practice environments that are both efficient and effective. The magnet hospital concept has been shown to build work environments that are successful in attracting and retaining staff. As such the magnet hospital concept could be instrumental in developing environments which may produce better outcomes for staff and ultimately also improve outcomes for patients. A detailed exploration of the concept of magnet hospitals now follows.

MAGNET HOSPITALS

The original work on magnet hospitals was a study commissioned in the 1980s by the American Academy of Nursing (AAN) to review the issues of nursing staff shortages and the high turnover rates of nurses in the US. The problem facing the majority of US hospitals at that time was that over eighty per cent of hospitals lacked adequate nursing staff, resulting in deficits in the day to day running of many hospitals (Aiken 1981; Aiken 2003). Prior to the AAN study, most research into nursing staff turnover relied upon information gathered after the event and focussed upon the reasons why nurses left their positions. The magnet hospital study differed in that it looked at why nursing staff stayed in their current position. It sought to identify the specific factors that influenced satisfaction and contributed to the retention of qualified nursing staff. These factors were defined as magnet characteristics and informed the definition of a magnet hospital “as a good place to work, capable of attracting and reataining qualified nurses and supportive of professional nursing practice” (McClure et al 1983 p. 36). The anticipated outcome of this original magnet study was the development of

successful approaches to improving staff attraction and retention that could be adopted by hospitals interested in resolving staff shortages.

The AAN commissioned study - undertaken and published by researchers McClure, Poulin, Sovie and Wandelt (1983) - identified a national sample of 'magnet hospitals' described as those being successful in attracting and retaining nursing staff. The hospitals identified for inclusion in the original study were selected according to strict criteria. Selected AAN fellows in eight health care regions in the US nominated up to ten hospitals in their region that were identified to demonstrate success in recruitment and retention of professional nursing staff. The researchers appropriately identified that, because the selection process was based on self-nomination and reporting, there was a potential for bias in the study sample. However, as set out below, the selection criteria used for the inclusion of hospitals in the survey limited the impact of this potential bias.

Three key criteria were used for the selection of hospitals in the 1983 magnet study. The first was that staff interviews had to show that nurses working in these hospitals considered the hospital a good place to work. Secondly the hospital had to be able to demonstrate the ability to recruit and retain professional nursing staff; the researchers established this from a review of the Hospital Index Form that reported personnel and hospital statistics. The hospitals included in the study needed to be able to demonstrate that at least eighty-five per cent of their budgeted registered nurse positions were filled on an annual basis. The third criteria for the hospital to be included in the study was that it had to be located in a geographical position that meant it experienced direct competition for staff from comparative facilities.

The researchers clearly identified that the goals for the AAN magnet study were to identify hospitals in the eight US regions that demonstrated an ability to recruit and retain nurses. The study examined the organisational features identified as promoting job satisfaction so the defined magnet features could be replicated in other organisations. The 1983 study, which is a seminal piece of work also examined the

hospital organisational features that professional nursing staff identified as central to workforce retention. The researchers reviewed the combination of these features that resulted in an environment where the nursing staff perceived professional and personal satisfaction (McClure et al 1983).

The original magnet hospital study used a descriptive approach to the qualitative analysis of nursing staff interviews. The individual interviews undertaken at the selected hospitals involved a purposive sample of two groups, the nursing managers and the general staff nurses (registered nurses). It was anticipated by the researchers and supported by research principles (Tongco 2007) that the purposive sampling of staff to be involved in the interviews would be the most reliable and appropriate means of identifying the factors contributing to the magnetism of a hospital. Nine guide questions were used by the researchers which prompted participants to provide rich descriptions of the aspects of the hospital that they considered made it a good place to work. The questions also explored the nurses' perceptions regarding their level of involvement in programs and comments on the key features for recruiting and retaining staff (McClure et al 1983). An identified limitation of the research was the subjective nature of the interview process. The interviews were undertaken by a team of individuals and, although all team members asked the same set of questions of all interview participants, there was inevitably a variation in the delivery of the questions. It was also identified by the authors that the selection of the participating nursing staff was not randomised and as such could also be identified as a limitation of the study (McClure et al 1983). Despite these limitations, the data was described by the researchers to be reliable as evidenced by the internally consistent responses between the groups.

The analysis of the results of the study identified essential characteristics of a magnet hospital. These characteristics included a participatory management style that allowed for nurses' to be involved at all levels of decision making in the hospital. Skilled nursing leaders who were competent and visible were an essential characteristic as well as, a professional nursing environment that allowed autonomy of practice. Autonomy of practice described as nurses' having the capacity to make decisions

within their scope of practice supported by the organisation was identified. It was also found that a characteristic of a magnet hospital was the existence of collaborative nurse-physician relationships and opportunities for professional development and career advancement for nursing staff. A categorisation of the characteristics of a magnet hospital identified three domains incorporating the essential characteristics (1) professional administration (2) professional practice and (3) career development. This work formed the basis for the establishment of credentialing programs that US nursing associations have used to replicate and monitor the establishment of magnet hospitals. The identification of magnet hospitals shown to be successfully maintaining adequate staffing levels at a time of significant shortages in a competitive arena also allows for comparative research to be undertaken between magnet hospitals and non-magnet hospitals (Kramer 1990; Kramer & Schmalenberg 1991a, 1991b; Aiken & Havens 2000; Laschinger et al 2001).

MAGNET HOSPITALS CREDENTIALING PROGRAM

The development of the magnet recognition program evolved from the original research study by McClure et al (1983). This was a key finding in the review of the literature pertaining to the magnet concept because it illustrated the empirical rigour of the processes followed to identify magnet characteristics. A description of the development of the magnet recognition program provides an insight into why this program, established from the original study, is fundamental to the existence and progress of the body of evidence substantiating the success of magnet features in improving staff attraction and retention.

In 1990, on the basis of magnet hospital research, the American Nurses Association (ANA) together with the American Nurses Credentialing Center (ANCC) established the Magnet Hospital Recognition Program for Excellence in Nursing Services to acknowledge hospitals with exceptional nursing services. This program, renamed in 1996 the Magnet Nursing Services Recognition Program, is a professional peer review of nursing services (ANCC 2000-1) system. Hospitals apply to be evaluated as

set out by the credentialing peer review program. Hospitals are required to complete an extensive written submission based on magnet characteristics and to consent to an on-site visit focussed on reviewers interacting with staff at the facility.

The Magnet Nursing Services Recognition Program is promoted throughout the US and internationally as a means of recognising excellence in nursing service (Lewis & Matthews 1998; Aiken & Havens 2000; Coile 2001; Jones-Schenk 2001). Hospitals successful in achieving magnet status are acknowledged for their ability to attract and retain nurses and their provision of quality nursing care (Aiken & Havens 2000; Laschinger et al 2001). Lewis and Matthews (1998) strongly supported the recognition program, stating that it identified hospitals that attract and retain competent nurses through their respect for the values, art and science of nursing. However it is pertinent to note that at the time of Lewis and Matthews' publication both held positions as directors of the ANCC, which was the organisation co-ordinating the program, and thus may be a potential bias of the study (Curran 2000).

While support for the magnet credentialing program would be expected from members of the ANCC it was also forthcoming from independent researchers such as Coile (2001) and Jones-Schenk (2001) who concluded that ANCC Magnet Credentialing could be described as a relevant program for improving the recruitment and retention of high quality employees and contributing to the important issue of regaining public trust in health services. Research by Aiken and Havens (2000) in the US established that the ANCC accredited magnet hospitals maintained lower levels of nursing staff retention and higher levels of job satisfaction among nurses than non-accredited magnet hospitals. It has been further argued that magnet hospitals' organisational attributes allow for nurses to use their knowledge and expertise in their practice, which has resulted in high quality patient outcomes (Aiken et al 1994; Scott, Sochalski & Aiken 1999; Aiken et al 2003).

The body of evidence supporting the ANCC magnet credentialing program has generated a great deal of interest in this program globally, and it continues to be heralded as a program that is associated with significantly improved nursing practice environments (Brady-Schwartz 2005; Baumann 2007; Finlayson et al 2007; Aiken et al 2008). However, there are identifiable restrictions and limitations to the US designed program that need to be well thought-out for the implementation of this program internationally or more specifically outside the US. These include the high costs associated with the process of a review which requires US surveyors to visit sites as well as issues regarding the interpretation of the guidelines in different settings and countries and thus cultures.

The experience of magnet hospitals in the US demonstrates that while the magnet recognition program is applicable to nursing, it is also a program which has an impact on the entire organisation or health service. In particular it has been demonstrated to have a positive impact on organisational culture (Coile 2001; Aiken & Sloane 2002). Organisations with a structure underpinned by the principles of the magnet hospital concept would expect to experience increased job satisfaction and retention of all staff, not just nurses.

MAGNET HOSPITALS: EVIDENCE OF SUCCESSFUL OUTCOMES

Research undertaken since the original McClure et al (1983) study has established the success of the magnet concept in the attraction and retention of nursing staff. It has also generated significant data to substantiate the assertion that the positive outcomes for staff in magnet hospitals are also associated with positive outcomes for patients (Kramer & Schmalenberg 1988a; 1988b; Shortell et al 1994; Aiken, Sochalski & Lake 1997, Aiken & Havens 2000; Jones-Schenk 2001, Upenieks 2003; Hess et al 2011).

In 1986, Marlene Kramer and her associates undertook a survey of significant scope that included 1,634 nurses from the sixteen magnet hospitals in the US at that time (Kramer & Schmalenberg 1988a, 1988b). The purpose of this work was to explore and elaborate on the original study by examining the findings within the broader context of the concepts of organisational excellence. This extensive and rigourously undertaken study confirmed that the magnet hospitals surveyed demonstrated a lower level of nurse turnover and high levels of job satisfaction among nursing staff.
Three years later, in 1989, the hospitals involved in the 1986 Kramer study were re-visited and staff were surveyed as to their status in magnet terms. This study used a similar data collection method to the previous work; however, the interviews were conducted with only one representative from each hospital. Kramer (1990) reported that the findings from the earlier studies of low staff turnover and high job satisfaction were 'strongly established" in the magnet hospitals. The hospitals were reported to be "engaging in a variety of innovative practices …displaying a culture of excellence and continuing leadership in working out ... solutions to today's problems in nursing" (Kramer 1990, p.37). It also showed that the magnet hospitals share similarities to other institutions of excellence, such as participatory management styles and a commitment to autonomy of practice. Kramer et al argued that the magnet hospitals surveyed over an extended period of time continued to exhibit the core characteristics of magnetism (Kramer & Hafner 1989; Kramer 1990; Kramer & Schmalenberg 1991a, 1991b).

The research undertaken by Kramer and Hafner (1989) into magnet hospitals included the development of a tool; The Nursing Work Index (NWI), which was designed to measure nursing features in relation to job satisfaction and productivity. The NWI, a 65 item survey measured using a Likert scale, was designed using the findings from the original magnet hospital study. Kramer and Hafner (1989) confirmed the content validity of the tool through an assessment for completeness (that it is reflective of the original research) by three of the four researchers of the original magnet study. It was established that the NWI comprised the organisational characteristics identified as creating environments attractive to nurses in magnet hospitals. The NWI was described as having an all-inclusive list of factors which had been demonstrated to have an influence on the nursing environment and a bearing on job satisfaction.

Using the NWI, Kramer and Schmalenberg (1991a, 1991b) explored the best strategies for retaining and satisfying nursing staff. A survey of 1,800 nurses across the US, inclusive of those in magnet and non-magnet hospitals, explored organisational structures such as staffing levels, salary and work schedules. The factors described by Kramer and Schmalenberg (1991a, 1991b) as indicative of effective organisations were:

- A culture of excellence with a structured salary status;
- Self-management that included an involvement in decision making;
- De-bureaucratising to enhance the autonomy of nurses;
- Having nurse leaders who were visible, enthusiastic and visionary and
- Clinical specialisation that promoted cohesive work groups.

In addition, the work by Kramer and Schmalenberg (1991a, 1991b) identified that nursing staff in magnet hospitals reported being more satisfied with their jobs than nursing staff in non-magnet hospitals.

MAGNET HOSPITALS: STAFF AND PATIENT OUTCOMES LINKED

Subsequent research by Aiken and associates into the magnet hospital concept further refined the NWI, developing a measure of the practice environment (the NWI-R). The Aiken, Smith and Lake (1994) study used the NWI-R in a survey to compare the Medicare mortality rates of 39 magnet hospitals to 195 non-magnet hospitals. It was established in the analysis that the magnet hospitals had an average mortality rate that was 4.6 per cent lower than the non-magnet hospitals. The research thus found that a hospital which nurses described as an attractive place to work also produced better patient outcomes as reflected in the lower mortality rates of those facilities (Aiken et al 1994).

A number of studies have linked mortality rates to aspects of nursing practice, including effective communication between nurses and physicians (Aiken et al 1994; Aiken et al 1997; Shortell et al 1994; Shamian et al 2001). In contrast to the majority of studies, only one study, a national study of 42 intensive care units in the US by Shortell et al (1994) found no relationship between the nursing practice environment and patient outcomes.

Following the Shortell et al (1994) research, Aiken, Sloane and Lake (1997) undertook a study of the differences in AIDS patients' mortality rates and satisfaction levels in a variety of settings including magnet hospitals, specialty units and non-magnet hospitals. This work established that AIDS patients in magnet hospitals had a sixty per cent lower chance of dying over a period of thirty days than did the patients in each of the other settings (Aiken & Sloane 1997a, b). The research also established that differences in mortality rates were not attributable to differential patient characteristics or organisational features outside nursing. Additional analysis of the findings for this study highlighted the fact that the magnet hospitals had: higher levels of patient satisfaction, lower rates of nurse burnout, and lower rates of needle stick injuries. The empirical evidence of magnet research studies therefore strongly suggests that the organisational structure of magnet hospitals produces better staff and patient outcomes (Aiken Sloane Lake Sochalski & Weber 1999[1]; Aiken et al 2003; Armstrong 2009) than non-magnet institutions.

Another extensive project by Aiken and her colleagues investigated the impact of staffing and education levels on nurse retention (Aiken et al 2003). This international project surveyed over 10,000 nurses from the US, Canada and the UK and established that staffing levels and managerial support had a significant effect on nurse satisfaction and burnout rates (Aiken et al 2003). Aiken et al (2003) also reviewed 168 hospitals in the US and found an association between the education level of nursing staff and patient outcomes. This comprehensive study established that

[1]Examination of the Aiken et al (1999) data identified the results had been presented as sums rather than the averages as indicated. This error was noted by Aiken on consultation with the researcher and the correct material is available that supports the conclusions of the research.

hospitals with higher proportions of baccalaureate educated nursing staff demonstrated lower mortality rates. Magnet hospitals have been shown to demonstrate organisational attributes that allow professional nurses to utilise their knowledge and expertise resulting in a high quality of patient outcomes (Aiken et al 2001; Laschinger et al 2003; Upenieks 2005; Aiken et al 2008).

An understanding of the relationships between nurse staffing, organisational climate and patient outcomes is continually being established in the research literature (Needleman, Buerhaus Mattke Stewart & Zelevinsky 2001, 2002; Aiken Clarke & Sloane 2002; Aiken et al 2002; Tourangeau et al 2006). A comprehensive study by Needleman et al (2001) for the Harvard School of Public Health demonstrated a link between staffing levels and patient outcomes. This study incorporated three groups in the sample of hospitals. The first was 799 hospitals from 11 states across the US. The second was a subset of category one and included 256 hospitals from one US state; while the third was a national sample of 3,357 hospitals. This study identified 'Outcomes Potentially Sensitive to Nursing' (OPSN) to assist in explaining the contributions nurses make to patient care. Needleman et al (2001) found a strong and consistent relationship between nurse staffing and five patient outcomes, namely 1) urinary tract infection, 2) pneumonia, 3) length of stay, 4) upper gastrointestinal bleeding and 5) shock. A higher ratio of RNs was associated with a three per cent to twelve per cent reduction in the rates of adverse outcomes, while higher staffing levels for all types of nurses were associated with a decrease of up to twenty five per cent in adverse outcomes. The authors concluded "a higher proportion of hours of nursing care provided by registered nurses and a greater number of hours of care by registered nurses per day are associated with better care for hospitalised patients" (Needleman et al. 2001 pg 1716). Kovner et al (2002) had previously established a significant relationship between registered nurse staffing levels and postsurgical care (urinary tract infection, pneumonia, length of stay, upper gastrointestinal bleeding and shock).

Nursing care and nursing staff outcomes have also been found to be related to the organisational environment (Aiken et al 2002). Research into the significance of the

organisational environment has found that hospitals with professional nursing practice environments characterised by high nurse autonomy, nurse control over the practice setting, and effective nurse-physician relationships also have lower mortality rates (Aiken et al 1999; Jones-Schenk 2001; Aiken et al 2008). Furthermore, support for the importance of effective nurse-physician collaboration in preventing unnecessary patient death and injury has been found in several other studies (Baggs Ryan Phelps Richeson & Johnson 1992; Shamian et al 2001; Tourangeau et al 2006; Armstrong, Laschinger & Woog 2009).

The ongoing refinement and modification of the NWI and subsequent derivatives used to measure Magnet features has involved development in the structure of the tool, the methods of statistically analysing it and cultural adaptations (Aiken et al 2001; Lake 2002; Choi et al 2004; Middleton et al 2008; Walker et al 2010). The National Quality Forum in 2004 adopted the tool as it had been found to be an accurate gauge for determining the extent to which a nursing care environment can be considered an environment of professional practice (Aiken et al 1997; Aiken & Sloane 1997; Aiken et al 2001; Duffield et al 2011). Issues were raised by Cummings, Haybuk and Estabrooks (2006) questionsing the factor structure of the NWI however the tool remains the most respected and widely used measurement of the nursing practice environment (Kline 1994; Lake 2007; Van Bogaert et al 2009; Laher et al 2010).

MAGNET HOSPITALS: GLOBALISATION OF THE CONCEPT

Health care systems globally are challenged to provide a professional practice environment that ensures a high standard of staff retention and patient outcomes. The issues currently facing international health systems in relation to the recruitment and retention of nurses are similar to the issues that initiated the original magnet research. The contemporary challenge is that, given diminishing resources, hospital administrators need to develop cost effective strategies that will achieve standards of

excellence in retaining staff. The extensive research into magnet hospitals provides international health systems with a potential solution for addressing the challenges of sustaining sufficient staff to meet ongoing health care demands.

An examination of the relevance of the US magnet concept outside the US was undertaken by Buchan (1994), who established through a study between US and UK hospitals that a number of features of the magnet hospital concept were applicable to the UK nursing context. Buchan (1997, 1999) acknowledged that the core characteristics of the US magnet hospital concept (administration, professional practice, and career development) were relevant to the UK despite structural differences between the two health systems. The UK government acknowledged that UK health services needed to provide organisational flexibility, professional autonomy, continuing education and a progressive career structure for nurses (Dept Health (UK) 2000).

The ANCC credentialing system has been applied successfully outside the North America. In March 2002 ANCC awarded Magnet recognition to the Pennine Acute Services: Rochdale Infirmary and Birch Hill Hospital NHS Trust in Lancashire, UK. This service was the first to achieve the recognition outside of the US and was considered a crucial component of the development of the program globally. ANCC identified at the timethat the credentialing of institutions outside of the US, such as Rochdale, needs to be adapted to the culture and norms of the local and national environments (ANCC 2003).

An extensive study of staffing, organisation and outcomes incorporating 711 hospitals in five countries (United States, Canada, England, Scotland and Germany), involving 43,329 nurse participants, identified similarities in the responses of the nurses despite the differences in the health systems (Aiken et al 2001). Finlayson et al (2007) replicated this study and the comparison between the research findings identified similarities between New Zealand nurses' views of their work environment and those

of nurses in the other five countries. These studies have offered insights about the challenges faced by nurses globally, and verified that solutions found to be successful in one country could also work in others.

Closer to Australia in 2002 the New Zealand government established a Magnet Advisory Network to offer national support for the introduction of the Magnet Recognition Program. In 2003 this group was reformed into Magnet NZ with the purpose of contextualising the process to New Zealand culture and supporting the integration of the magnet hospital principles into New Zealand health organisations. The Magnet NZ Developing a Magnet Health Organisation (2005) plan included a number of steps towards Magnet recognition. The significance of this plan was that the emphasis was on the process of integrating the principles of the magnet concept at all levels of the organisation. The plan acknowledged the flexibility required to allow for the variations of health organisations to be incorporated in the local application of the magnet concept. It provides an alternate approach for the application of the concept and credentialing program outside of the US. Whilst this strategy has subsequently been replaced the continued view is that a strategies to improve nursing workforce issues in New Zealand need to focus on the working environment of nurses (North & Hughes 2012).

Nursing shortages and reported dissatisfaction amongst nurses are not limited to one country. It has been shown that the magnet hospital concept continues to be relevant in today's health environment, and the research effort into the magnet concept in Australia and internationally is expanding.

MAGNET HOSPITALS IN AUSTRALIA

In Australia, like other Western countries, the shortage of practicing nurses has piqued health stakeholders' interest in magnet hospitals (Torrence & Wilson 2000; Bryant 2002; Duffield et al 2004). The initial exposure in Australia to the magnet hospital

concept occurred in the early 1990s when the concept was introduced at a conference in Hobart, Tasmania (Ganley 1991). This conference generated some interest in the magnet hospital program; however Australian based research on the topic was virtually non-existent at that time.

Following the Tasmanian conference the NSW government identified the need to actively recruit and retain nurses. In 1995 the then NSW Minister for Health established a task force to investigate nursing recruitment and retention. The Nursing Recruitment and Retention Taskforce (1998) report included a number of recommendations significant to staff recruitment and retention. The recommendations included offering more flexible work practices, better management of work practices, improved staffing levels, and increased access to professional development for nurses. These recommendations can be seen to reflect many of the characteristics identified through research as being core to the concept of 'magnet hospitals'.

Following the taskforce review, Australian researchers Torrence and Wilson (2000) advocated that the magnet hospital concept be used in Australia to improve the recruitment and retention of its nurses. They suggested that hospital administrators and governments needed to create environments that valued and empowered nurses to ensure the retention of quality nursing clinicians. Also around this time, Bryant (2002), the then president of the Royal College of Nursing Australia (RCNA) expressed support for the use of the magnet hospital concept by negotiating that the RCNA become the organisation responsible for a magnet hospital credentialing program in Australia. The ANCC retained responsibility for the internationalisation of the credentialing program and was advised by an international advisory committee established to provide feedback about the implementation of the credentialing program outside the US, of which Rosemary Bryant was a member. The committee has since been replaced by a global community group that has assumed this role.

The Australian Council for Safety and Quality in Health Care (2003) initiated a clear agenda for change and reform in the recruitment and retention of nursing staff. The NSW Health Nursing and Midwifery Office asserted that a strong case could be made for the adaptation of the ANCC Magnet Recognition Program in Australia. The Nursing and Midwifery office and South Australia (SA) Health also committed to promoting the Magnet Principles throughout facilities in South Australia and undertook a Nurse Workforce Index Survey in May 2005. Generally, it was viewed that a coordinated, national approach to the implementation of a magnet hospitals program had the potential to significantly reverse the workforce shortages and improve outcomes for recipients of care (ANF 2012).

At this time there was no clearly articulated process for the international accreditation of the ANCC recognition program. The issues identified earlier as barriers by the international market, including the high cost associated with the credentialing program and the interpretation of the guidelines in different settings and countries were echoed by Australian health care stakeholders (Choi et al 2004; O'Brien-Pallas 2006; Van Bogaert et al 2009; Walker et al 2010). In particular the issue of aligning the ANCC credentialing program to the hospital accreditation framework that currently existed in Australia was seen as a necessity. The NSW Health Department Magnet Working Party in 2004 identified there was a possible replication of credentialing activities with those that already existed in Australia, and that the transferability of a US concept into other healthcare contexts was a relevant strategy to explore however they acknowledged that there needed to a thorough examination of the processes of integration of the credentialing program into the Australian system.

In Australia, three hospitals have Magnet Recognition, 1) Princess Alexandra Hospital in Queensland (achieved in 2004) Sir Charles Gairdner Hospital in Western Australia (2009 and St Vincent's Private Hospital Sydney (2011). Internationally there are two other hospitals outside of the US with current recognition, these being in Lebanon and in Singapore. The international experiences have demonstrated that while the program is transferable, there are issues associated with applying the criteria outside the

context for which they were developed. Therefore while the underlying principles and the standards themselves are not context specific, the criteria require adaptation for the context and culture in which they are being used.

This review of the literature has established that US Magnet hospitals have been successful in achieving positive outcomes for over two decades. Significant quality research has shown that magnet hospitals have higher levels of staff satisfaction (Laschinger et al 2001; McClure & Hinshaw 2002; Upenieks 2003; Armstrong et al 2009), lower levels of nursing staff turnover (Buchan et al 2003; Pieper 2003; Lacey et al 2007), and more positive patient outcomes including lower mortality rates (Aiken et al 2003; Vahey et al 2004; Tourangeau et al 2006; Friese et al 2008). The current international climate of increasing patient needs and reducing health care staff requires health services to undertake organisational restructuring so that these issues may be addressed. Since entering the industry lexicon almost three decades ago, the magnet concept has developed a sufficiently strong research and evidence base to be identified as a suitable framework for organisational planning and evaluation of future health services. The challenge for health services internationally is to integrate the principles of the magnet concept into their specific health system contexts.

In conclusion, the literature analysis indicates that the constructs of the professional practice environment have been widely accepted in the literature as a complex combination of features that allow nurses to be able to practice to their potential (Aiken 2002; McClure & Hinshaw 2002). Research into the magnet hospital concept has identified it as appropriate for assisting in the construction of practice environments which demonstrates success in achieving positive outcomes including the retention of nursing staff. The research variables of organisational structure, job satisfaction and intention to leave have been consistently identified as relevant to nursing staff turnover (Hinshaw & Atwood 1983; Shields & Ward 2001). Cognisant of the established links between the presence of magnet hospital features of practice environments and staff retention; job satisfaction and intention to leave is warranted.

The following chapters present three studies, together aimed at the adaptation and piloting of a tool for assessing magnet qualities in the Australian context. The studies were designed to address the research questions:

(1) Can a 'magnet hospital' tool be adapted and to what extent can the tool be used in an Australian healthcare context?

(2) What are the perceptions of a sample of Australian registered nurses regarding the presence of magnet features in their Australian health facility(ies)?

(3) What relationship/s exist between the registered nurses' perceptions of magnetism, job satisfaction and intention to leave their Australian health facility(ies)?

CHAPTER 3. STUDY ONE: AUSTRALIAN TOOL ADAPTATION

This chapter outlines a description of the research design. This includes the methods of data collection undertaken and a comprehensive account of the data analysis, findings and the ethical issues relevant to Study One. Study One was undertaken to adapt an existing tool for use within the Australian healthcare context. This adaptation was achieved by utilising a qualitative approach to comprehensively review the US tool with the intention of modifying its content. This chapter identifies limitations of the methods and processes and discusses aspects of reliability and validity with regard to the data analysed. The chapter concludes with a discussion of the findings of study one and offers key recommendations pertinent to the Australian tool which has been titled the Nursing Work Index-Revised: Australian (NWI-R:A).

RESEARCH DESIGN

The adaptation of the Nursing Work Index Revised which led to the development of the NWI-R:A was informed by a qualitative approach which is considered an appropriate method by which to examine the views of nurses and enable quality control of data (Quinn-Patton 2002). The North American prototype (Aiken & Patrician 2000; Taunton et al 2001; Lake 2002) for measuring magnet features was identified as the appropriate tool for adaptation to the Australian context because it had been established as the valid and relaibe measure of the magnet featues of the nursing practice environment. Data collection included focus groups; used for the purpose of reviewing an established US tool to assess its applicability and transferability for use within the Australian healthcare context. Registered nurses, from a variety of clinical settings, were invited to participate. This purposive sample, which will be described in greater detail later in the chapter formed four focus groups.

A focus group is a formally structured group created to address a specific issue within a designated time frame (Minicheiello et al 2008). The use of focus groups for purposive information sampling was originally a strategy used by market researchers as a tool for discriminating social views across a range of areas (Morgan 1996). Over the last two decades, focus groups have been increasingly used in health research because they are viewed as an effective means of collecting relevant qualitative data (Minicheiello, Aroni & Hays 2008). The purpose of a focus group has been defined as that which can identify both the areas of agreement and the diversity of participants' perspectives of a research area (Minicheiello et al 2008). Focus groups establish and outline the perceptions and beliefs of a particular population, in the case of this research, registered nurses, in an attempt to gain a better understanding of the research area (Kidd & Parshall 2000; Minicheiello et al 2008). Focus groups are useful for reducing the scope of a research area, to form hypotheses for testing, identify wording for surveys and to target specific groups (Kidd & Parshall 2000; Quinn-Patton 2002).

The advantage of focus groups which are purported to increase the potential for participants to better understand and respond to the research questions, underpinned the decision to incorporate this method of inquiry (Minicheiello et al 2008). Jamieson and Williams (2003) suggested that focus groups have been shown to facilitate the possibility of gaining authentic responses and encourage participants to freely express their ideas. However, while the argument that focus groups can provide an accurate means of gaining insights into participant perceptions was convincing, there are also some disadvantages of this data collection method with one in particular of note. This is now considered. Crawford and Acorn (1997), identified the potential risk for participants to conform to the majority opinion of the group; a behaviour they describe as 'group think'. Given this possibility, researchers are advised to be mindful of the risks associated with focus groups and to ensure strategies are incorporated in the data collection toavoid the occurrence of this issue (Kidd & Parshall 2000; Jamieson & Williams 2003).

The strategies employed for this research included that the researcher was also the facilitator and chaired each focus group. This consistency enabled the researcher to closely monitor all four groups and observe for indicators of group think. This observation was accompanied by an inclusive and skillful approach to focus gropup interviewing, there were many practice sessions, which ensured input from all group members. In addition, at the commencement of each interview the researcher reiterated the importance of contributing and encouraged each group member to present their own views. To reinforce desired behaviour, when each person made a contribution they were praised and differing opinions were encouraged and valued (Quinn-Patton 2002). The researcher maintained a relaxed and supportive environment during the group sessions which assisted members to feel comfortable to express their views (Bhattacherjee 2012).

The capacity for focus groups to enable quality control of the data as participants and the researcher can seek immediate feedback and clarification, combined with the cost effectiveness of this data collection method, were also reasons for using this method (Roberts, Kermode & Taylor 2002). Further to the above focus groups also provide benefits for participants in that they are able to openly explore the topic from a range of perspectives and contemplate feedback from the group members which allow for further insights about the topic to be discussed (Quinn-Patton 2002).

FOCUS GROUP STRUCTURE

The focus groups undertaken in Study One were structured using a framework outlined by Kingry, Tiedje and Friedman (1990). This framework advocates the use of several different groups of participants to establish the target population perspectives; all done within a designated time frame. Kingry et al (1990) suggest that where focus groups are used in conjunction with other methods of data collection, the number of focus groups can be determined by the time frame of the research project. Data collection gained from the four focus groups conducted as part of Study One,

occurred over a three month period. This allowed sufficient time for the researcher to organise and complete the focus groups whilst ensuring the progress of the research.

The focus groups useda semi-structured technique, that involved the use of guided questions formulated to address the research topic and to generate participant discussion (Minicheiello et al 2008). The questions used during each of the focus group sessions involved a process of moving from general to more specific questions; a technique designed to achieve an indepth exploration of the topic (Minicheiello et al 2008). Prompts, such as asking for an elaboration or example, were also used as they are an appropriate method for clarification and elaboration of content and to maximise the interaction of participants (Trochim 2006). Closure of the focus group was determined using the principle that a focus group is considered to have achieved its objective when the group has interacted well and come to the point where no new information is being established (Minicheiello et al 2008). This is frequently described in qualitative research as achieving data saturation (Roberts et al 2006).

ETHICAL CONSIDERATIONS

Tashakkori and Teddlie (2003) have noted the difficulties inherent in developing an ethically perfect research project. Nevertheless, from the outset, the researcher was committed to adhering to the principles of ethical research; 'respect for human beings, research merit and integrity, justice and beneficence', as set out in the National Statement on Ethical Conduct in Human Research (Australian Government 2007 p.11).

The researcher ensured that the principle of 'respect for human beings' was a central component of the research design. The participants were recognised and valued as unique individuals with the capacity to determine their own life and make decisions for themselves (Australian Government 2007). At the outset, all focus group participants were provided with information in plain English about the research. This

enabled clarification of any issues pertaining to their potential involvement in the research and was provided prior to participants being asked to complete a written consent form (Appendix 1). The objectives of Study One as well as implications of consent were again fully discussed prior to commencing each focus group session. Participants were encouraged to ask any questions about the research to ensure they had a clear understanding of the implications of their participation in the focus group session. The group members were again reassured that they could withdraw from the research if they wished prior to commencement of the group without prejudice. Along with this, the researcher reiteratied that they could withdraw from the group at any time during the session and again informed that there would be no adverse repercussions from doing so. None chose to withdraw consent at any time throughout the research.

The merit and integrity of the research was outlined to the participants in the expression of interest, in the letter of invitation (Appendix 4) to be involved in the focus groups and also in the consent form. The principle of justice, defined as 'a regard for the human sameness that each person shares with every other'(Australian Government 2007 p.11) was adhered to by the researcher throughout the research recruitment and deliver by promoting the fair treatment of participants.

Beneficence was ensured by 'assessing … the risks against the potential benefits of the research; being sentive to the welfare and interests of the people involved in the research and reflecting on the implications of the research (Australian Government 2007 p. 11). The consent form specifically stipulated that information discussed within the groups should be treated as private and confidential. This statement was included in the consent form to establish a collective commitment to confidentiality that allowed participants to feel able to express their opinions openly.

The principles and strategies, as described above ensured adherence to ethical considerations for individuals participating in Study One. The researcher received

ethical approval (Appendix 3) from the University of Wollongong Human Research Ethics Committee (HREC) and the Illawarra Area Health Service (HEO1/194).

PARTICIPANT RECRUITMENT

Participants were invited to join a focus group through a general expression of interest form (Appendix 2), disseminated using handouts and email, by human resource staff of the health services of the Illawarra Shoalhaven Local Health District. The invitation was disseminated across a number of professional networks. Interested persons were asked to contact the researcher by phone or email. Following the initial contact, the researcher then provided information, (Appendix 4) about the focus groups, held at the University of Wollongong. The intent of recruitment at this stage was to access a sample of registered nurses that would be reflective of the registered nurse population in Australia. The recruitment strategy was designed to facilitate focus groups of between eight and ten participants. Participants of the four focus groups were registered nurses with the number of years as registered nurses' ranging from three years up to 22 years, in full or part-time employment from clinical areas including aged care, acute care and community and were from both the public and private sectors.

DATA COLLECTION

As previously indicated the focus group participants were informed of the purpose of the focus group; to review the US tool for potential application within the Australian healthcare context. The nature of the information to be generated from the sessions was also clarified. It was clearly emphasised that participants should make generic comments about the type, structure and meaning of the questions rather than providing details of their current workplace experiences. Once again, it was reinforeced to participants that they nor their place of work would be identified as a result of participation.

The structure for the focus groups was consistent for each group and followed the format outlined below:

- Immediately prior and then following each focus group session the researcher made detailed notes about the session, reviewed the tape recording of the session and completed a transcript of the session;

- The facilitator introduced herself and thanked participants for their willingness to take part in the session;

- The facilitator informed the participants thatat they were able to withdraw from the focus group at this time and at anytime throughout the session;

- The facilitator reiterated the aim of the research which had previously been outlined in the information letter and consent form;

- The objective for the session was defined by the facilitator and participants were given the opportunity to ask questions and clarify any salient points;

- At this point the facilitator stated that the session would be audio taped and reaffirmed that individuals were free to leave then and at any stage;

- Focus group participants then completed the consent form (Appendix 1) with five minutes provided to read the consent and information sheet;

- After collection of the written consent forms the facilitator commenced the session by making an acknowledgement to the group that all comments and contributions were of value;

- Members of the group were provided with sufficient time to read through the NWI-R tool (Appendix 5) before discussion commenced;

- The facilitator invited a group member to begin the discussion by asking for contributions as to the issues they had identified as relevant to discuss about the tool.

- Then the facilitator ensured there was an opportunity for each member to contribute to the discussion resulting in all participants contributing to the sessions;

- The comments raised by focus group participants were discussed within the group before the next issue was canvassed;

- The session concluded when members indicated verbally that they had no new information to provide and that there had been sufficient interaction between the group participants; ie/ data saturation had been reached;

- At the conclusion of the session the facilitator negotiated with the group members the most appropriate mechanism for providing feedback on the focus group sessions to each participant;

- The facilitator thank participants for contributing to the research;

- The facilitator recorded a journal entry on the focus group session. A decision not to record notes during the session was made because the session was taped.

DATA ANALYSIS

The focus group sessions were recorded with the permission of all participants. The researcher reviewed and transcribed these tapes immediately following the focus group sessions. They were also professionally transcribed verbatim to ensure all information was recorded from the group sessions. After transcription and coding, the tapes were erased to protect the identity of the participants. The transcripts were then used as the source of data for content analysis.

Content analysis is a well-established method used extensively in the social sciences for analysing qualitative data (Krippendorff 2004). The method involves a variety of techniques and includes the measurement and assessment of semantic and latent content (Roberts et al 2006; Trochim 2006). Semantic content measurement involves the counting of specific words in the transcript (Minicheiello et al 2008). Transcripts of the focus sessions were reviewed for themes and keywords that were identified and collated. The steps undertaken to identify words, concepts and themes included a numerical count of words and an examiniation of the expressed meaning from the participants (Roberts et al 2006). Latent content assessment refers to the evaluation of the tone or expressed feelings of the words (Krippendorff 2004) In this research the keywords, physican, title, executive, supervisor, staff nurse, chief, problem orientated, nursing process, float and relieve,from the semantic content analysis were tracked by the researcher in the transcripts and reviewed for their latent content. Both strategies were used to ensure that the entire character of the discussion was captutred as the tone and gestures provide a richer understanding of the meaning of dialogue (Trochim 2006).

Consultation with the research supervisors, who acted as critical advisors in the process and as a ‘second’ in the coding of the data served to increase the reliability of the analysis (Trochim 2006). This process identified the three main themes of language, presentation and meaning. The findings from this systematised analytical process were used to modify the US tool for use within the Australain healthcare

context. The adapted tool, the NWI-R-A would be subsequently administered as the NWI-R:A in Study Two and Three of this research project.

The process of adapting the the US tool to suit the Australian healthcare context also included a summary feedback session; convened to 'member check' findings. The purpose of the member checking process was for the researcher to ascertain if findings resonated with participants (Conklin & Hayhoe 2011). Member checking contributes to the content validity of the research and is a commonly used method of validating data (Conklin & Hayhoe 2011). At this session the participants were asked for their comments regarding the interpretation of the data undertaken by the researcher, the themes identified and the conclusions drawn from the data. Participants were invited to suggest alternatives to any aspects of the information presented by the researcher.

CREDIBILITY AND DEPENDABILITY

The issues of credability and dependability are central to this research and to ensuring the accuracy of the conclusions drawn from the research findings (Bhattacherjee 2012).

Credibility is described as the provision of accurate descriptions of the parameters of the research that allow for those involved in the research to present their point of view (Quinn-Patton 2002). The researcher needs to create an aenvironment that facilitates participant involvement and provides for accurate and complete representation of their view (Quinn-Patton 2002). Credibility is enhanced by the provision of accurate and comprehensive information about the specific nature of the research (Draper 2004). There is an imperative for qualitative researchers to be cautious in attempting to transfer findings to other settings (Draper 2004). As set out above, credibility was established through the design of the research and the style of facilitation used by the researcher in the focus groups. As previously alluded to, the

research design included a member checking process which involved two participants from the four focus groups reviewing the research findings; thus providing feedback on the credibility of the interpretations (Conklin & Hayhoe 2011).

Lincoln and Guba (1985) describes the concept of dependability as one, where the researcher provides a broad range of views from various contexts instead of demonstrating an objective reliability. In this study the researcher used a number of strategies in the focus groups to facilitate the collection of a broad range of views on the issues within the context of the research. In particular, the researcher arranged for focus groups to be conducted with nurses with a bredth and depth of experience and from a range of different practice settings. During the sessions all participants were encouraged to contribute and the facilitator was committed to capturing input from participants. This approach resulted in balanced input from all the group members.

LIMITATIONS

The use of only one individual to facilitate the focus groups can be seen as a limitation of the study. A PhD does however, have finite fiscal resources and available personell who can give freely of their time to a post-graduate research student are challenging to find. It is acknowledged that the use of a single facilitator can increase the chance of subjective interpretation of data (Conklin & Hayhoe 2011). This was addressed by the member checking process built into the study design (Trochim 2006) and the consistent guidenace and oversight provided by the HDR supervisors. Conversely, the single facilitator had the advantage of providing a consistency of style in the facilitation of the focus groups.

A potential disadvantage of the focus group sampling method is the risk of bias because participants are self-selecting, meaning the researcher is obtaining data from individuals who are nominating to be involved in the research (Conklin & Hayhoe 2011). For the purposes of this study, the researcher incorporated a number of

professional practice environments and attempted to involve a range of participants through the use of transparent and flexible recruitment practices.

PARTICIPANT CHARACTERISTICS

A total of 36 (n=36) participants took part in the four focus groups. Group one comprised eight participants, group two had twelve participants, group three included six participants and group four comprised ten participants. The summative (member checking) session involved a total of eight members, two participants from each of the four focus groups. All of the focus group participants were registered nurses working in the Illawarra Shoalhaven Local Disrict who practised in the medical, surgical, aged or community sectors. The average age of the focus group participants was 40 years. All of the participants were female; 47 percent were full-time employeeswith the remaining 53 percent part-time employees. Almost two thirds of participants (65 percent) indicated that they were in a supervisory role. A supervisory role included management positions such as unit manager. On average, participants indicated that they had been employed for twelve years, with 18 percent employed for less than five years.

RESULTS

As described earlier, the data obtained from the four focus groups was analysed using a content analysis approach that identified three prevailing and recurrent themes:

1) language,

2) presentation and

3) meaning.

Theme 1 Language

All groups identified that a number of the professional titles used in the US instrument were inappropriate for the Australian context. The focus group participants' consistently questioned the language used within the US tool to describe health professional positions. In fact, across the four focus groups this was often one of the first aspects of the tool identified as requiring adaptation. There was an overwhelming consensus from all of the groups that the health professional titles used in the tool would impact on a respondents' interpretation of the questions and subsequently their responses.

The titles identified as unsuitable for an Australian version of the tool and therefore requiring adaptation to suit the Australian healthcare context were *'physician'*, *'Chief Nursing Executive* and *officer'* and *'staff nurse'*. The term *'physician'* was described unanimously by all four focus groups as limiting within the Australian health care environment. It was identified that in Australia only specific members of the medical team were referred to as physicians and that the title of medical officer was more applicable to the wider medical team. In focus group four, participants stated that this professional title was the most important aspect of the tool that required amendment in order to enhance context related applicability.

The title, *'Chief Nursing Executive'* and *'officer'* were also identified as professional titles used in the US tool that needed to be amended for the Australian context. In the US tool the title *'Chief Nursing Executive'* and *'officer'* referred to a senior nurse at the health facility and the designated officer responsible for nursing (in Australia this would be the Director of Nursing). The focus group participants indicated that in the Australian health care context the title *'Chief'* was predominantly used by the nursing executive of governments. It was suggested by the participants to remove this title to reduce any confusion as to the nursing position the questions were referring to. The nursing *'officer'* role referred to in the tool in an Australian healthcare facility

was identified by the participants as the Director of Nursing. Again, participants suggested that this title required amendment to reduce any ambiguity that the language used in the US tool could generate. *'Staff nurse'* was another title that the focus group participants identified as inappropriate for the Australian healthcare context. The general consensus was that the word '*staff*' was redundant and that nurse was sufficient to use in the tool.

Another clear conclusion from analysis of the focus group data was in relation to the language used in the tool to describe work practices. There were a number of terms used in the US tool that focus group participants did not believe would translate easily to an Australian healthcare environment. Reference to the terms *'float', 'newly hired',* and *'housekeeping and dietary'* '*schedule'* and '*medical record'* were identified by the participants as terms that needed to be amended. These terms were considered by the participants of focus group three to be particularly ambiguous in the aged care context. Particpants highlighted the wording used in the US tool referring to *'practices'* and *'problems'* as inappropriate. The group members indicated that alternates to these two words would improve the applicability of the tool for use in Australia.

Overall, a consistent theme emerging from the analysis of the data from the focus groups centred on the need to replace US specific health professional titles with equivalent Australian terms. The significance of these revisions was seen to be paramount for the adaptation of the tool to the Australian health care context. Without these modifications participants reviewing the tool believed that Australian nurses would be unable to easily interpret a number of the survey items.

Theme 2- Presentation

The presentation of the instrument was criticised by all participants in each of the four groups; the dominant comment being that the current presentation of the tool was extremely difficult to read and as such would initially deter them from completing it. The particpants went as far as to say that the difficulty caused by the small font would significantly impact on their motivation to complete the tool. Frequently the initial discussion in the focus groups centred on the appearance of the survey. Participants agreed that the font was too small to read and this was not only unappealing to the reader it was 'off putting' (Focus Group One participant). There was a general consensus that particpants would not complete the tool in the presented format. A number of the focus group participants also identified that the spacing between the questions needed to be widened for easier recording of responses. In particular, an adjustment to the alignment of the responses was considered necessary to provide a clearer connection between the questions and the response choices. Participants suggested that this would be a significant issue for them when completing the survey.

Although particpants raised concerns regarding the presentation of the tool, they indicated the content area being investigated by the tool to be an important one to explore. As such, the focus group participants indicated that they would want to complete the tool in order to provide relevant information about the practice environment of their workplace. It is important that tools are user friendly to promote completion of the survey and enhance the respondents understanding of the questions (Bhattacherjee 2012).

Theme 3 - Meaning

As discussions ensued across all focus groups, the meaning of some terms used in the US tool were brought into question as was the applicability of these terms in an Australian context. Generally, the different focus groups focussed on different terms with only the term *'publicly acknowledged'* being raised by more than one group.

The focus groups identified the following terms as potentially unsuitable due to the fact that they perceived they could be interpreted in different ways:

- primary nursing,
- publicly acknowledged,
- team nursing,
- nursing care plans,
- quality assurance,
- nursing process and diagnosis,
- problem orientated history.

According to participants it was the nature of the work environment that influenced the term being raised as possibly unsuitable for the Australian context. For example, in the aged care setting *'nursing care plans'*, *'quality assurance'* and *'problem orientated history'* were identified as inappropriate, however this was not a view shared by registered nurses in other settings such as the community and acute care. Further discussion within the aged sector group and the other focus groups established that the philosophy underpinning the aged care environment made it a different context to the general and acute care area. Thus, the participants had identified jurisdictional and contextual variations with terms even within the Austalian health care context.

In the focus groups, discussion included an examination of the questions pertaining to the *'philosophy of nursing'*. It was suggested that there is more than one philosophy of nursing and that the structure of the question inferred otherwise. It was also proposed that nurses may interpret the philosophy of nursing differently and as such interpret the question differently. The general consensus was that the Australian nursing population were not accustomed to using the term nursing philosophy.

Participants also questioned the meaning of the term *'public acknowledgement'* and shared a range of views as to what each of them considered this term to mean. Participants initially stated that they interpreted public acknowledgement to be a formal statement in a public arena however as a result of ensuing discussion the group agreed that it could be more widely interpreted. Despite the discourse related to the item no modifications or recommendations related to the use of the term were identified as necessary by the focus group participants.

Another term that was discussed was that which appeared in Question 6 and related to *'controls own practice'* with the initial view of this term being that it was difficult to interpret and could be ambiguous to answer. Focus group four had a particular interest in Question 6 and some of the participants indicated that they were unsure how to interpret the question. The discussion explored a range of views presented by all group members resulting in a consensus that the aspect of *'controls own practice'* was difficult to understand. However, all the participants shared a similar view of the term and as such it was viewed less ambiguous than was first suspected. Consequently this term was not altered.

The other aspect of the tool generating discussion within groups was the reference to*'team nursing'*. The participants questioned the applicability of the term as they believed that in Australian health environments it could once again be broadly interpreted. The participants suggested that because of the potential for such diversity of interpretation, the question could be confusing to respondents.

Although a number of terms were identified in the four focus groups and raised for further discussion in the summative group, the consensus was that the only terms identified to be irrelevant were *'nursing process and diagnosis'*. All participants agreed these terms were not used in the Australian practice environment. It was recommended that due to the extended discussion in most of the focus group session regarding the reference to nurses being publicly acknowledged, this question (Question 39) was also scrutinised more intently. Participants queried whether the question was referring to professional or individual acknowledgement. It was felt that the responses to this question could be disparate depending on how they were interpreted. The focus group participants stated that nurses receive individual public acknowledgement but not professional public acknowledgement. On the basis of consensus, the decision was made to retain the question in the piloting of the tool.

At the end of the session, focus group one participants' expressed their support of the overarching research and the relevance of the magnet concept for Australian healthcare facilities. They also expressed the hope that they had made a positive contribution to the research. The researcher reinforced that their input was indeed grateful valued. It was agreed by all participants that the session was productive and the discussion flowed well. Focus group two participants suggested avoiding the confusion they experienced at the onset of their session by marking the NWIR:A as a '*draft not to be completed*'. The other request was for further explanation on the background to the research project and a deeper understanding of the magnet hospital research as they believed that the magnet concept had potential for improving the practice environments of Australian healthcare facilities. This information was forwarded to group two members in the weeks following the session. The session with focus group three concluded with a brief review of the key points and final recommendations by the participants. Generally the group confirmed that the session generated an interesting discussion about the magnet concept and how the tool could be modified for use in Australia. Comments made by the participants of focus group four also affirmed the relevance of the magnet concept for Australian healthcare environments.

SUMMARY AND RECOMMENDATIONS

The focus group methods used for data collection in Study One was purposive sample of registered nurses invited to inform the development of an Australian specific tool for measuring organisational magnetism. Within the identified limitations the focus groups identified issues related to language, presentation and meaning; all of which contributed to the revision required for the development of an Australian specific tool. It was confirmed by the participants in the summative focus group (n=8) that the final recommendations presented below were appropriate and that they fully supported the proposed modifications to the US magnet tool.

A summary of the modifications made to the US magnet tool as a result of Study One are:

- Questions 2, 28, 35 and 39:
    - the word *'physicians'* was replaced by *'Medical Officers'*

- Question 14:
    - the title '*chief nursing officer*' was replaced by '*Director of Nursing'*

- Questions 21, 22, 52, 53, 55 and 57:
    - the phrase '*as referred to nursing process and diagnosis'* was omitted

- Question 23:
    - the phrase '*such as housekeeping and dietary'* was omitted

- Question 26:
    - the term '*chief nursing executive*' was replaced by '*nursing executive*'

- Question 9, 38, 42, 47 and 50:
    - the words '*staff nurses'* was replaced by *'nurses'*

- Question 40:
    - — the term '*new hired*' was replaced by '*newly employed* or *new graduate nurses*' and

- Question 49:
    - — the word *'float'* was replaced by *'relieve'*.

The modifications to specific items outlined in this chapter resulted in the establishmentof the Nursing Work Index-Revised: Australian (NWI-R:A) tool. This was the aim of Study One. The NWI-R:A consequently provided a mechanism for reviewing organisational magnetism in Australian health facilities and was utilised in Study Two.

This chapter described the approach used for Study One. It detailed the methods used for recruitiment, data collection and data analysis. The chapter described the themes which occurred as a result of focus group analysis and highlighted the questions which were modified and/or omitted as a result of participant contributions. Chapter 4 describes the research design, methods and results of Study Two testing the adapted NWI-R:A tool at a pilot site in the Shoalhaven region of New South Wales (NSW), Australia.

CHAPTER 4. STUDY TWO: AUSTRALIAN TOOL TESTING

This chapter describes the research design and methods used in the testing of the adapted 'magnet hospital' tool. It also identified modications as a result of this testing. In Study Two, the Nursing Work Index–Revised: Australian tool (NWI-R:A) was piloted at a hospital within the Shoalhaven region of New South Wales (NSW), Australia. The purpose of this exercise was to test the capacity of the Australian tool to measure magnet features of the nursing practice environment, modified in light of recommendations that emeged from the focus groups conducted in Study One and reported in Chapter Three. This comprehensive foundation work contributed to answering the research question by examining the extent to which the magnet concept can be transferred to Australia using a tool specifically adapted for the Australian context.

This chapter builds on previous chapters and commences with a brief description of the research design. The chapter includes a discussion of methods of data collection inclusive of sampling and also describes the approach to data analysis. A consideration of ethical issues and research limitations pertinent to this study are also included followed by a discussion of the study findings.

RESEARCH DESIGN

Study Two used a quantitative approach, to survey registered nurses at a 175 bed general hospital in the Shoalhaven region of NSW regarding the existence of magnet features in their workplace. The tools used for data collection were the Nursing Work Index-Revised:Australian (NWI-R:A), the Global Satisfaction Scale (GSS), a measure of job satisfaction and pertinent demographic questions.

METHOD

As indicated above, the e surveys were administered to registered nurses at a hospital in the Shoalhaven region of New South Wales (NSW) in Australia. The selection of the hospital was largely made on the basis of the fiscal and time constraints imposed on a PhD study. The choice was therefore one of convenience regarding its availability to the researcher but also because the hospital was located outside of the Northern Illawarra Group of Hospitals (NIGH) that had been identified by the researcher as the group of facilities for survey in Study Three. The use of this hospital for testing also ensured that a reasonable number of registered nurses could be invited to participate without drawing from the population identified for the final study.

Potential participants were provided with a suite of materials that included a letter (Appendix 7) informing them about aspects of the research including the aims, requirements for involvement and potential outcomes of the study. The letter, written in plain English, communicated to them that they could withdraw from the study at anytime without prejudice. The letter also included contact details of the researcher and the University of Wollongong Ethics Committee. A consent form was not included with the survey as return was considered implied consent (Bhattacherjee 2012).

The survey (Appendix 8) used a four point Likert scale to establish respondents' opinions and attitudes to the items of the NWI-R:A and the GSS. The scale points were strongly agree (1); somewhat agree (2); somewhat disagree (3) and strongly disagree (4). The chosen scale used a four point range with no midpoint, rather than a five or seven point scale, to avoid the inclusion of a neutral response (Roberts et al 2006; Bhattacherjee 2012). Importantly, this scale format was aligned to the scale used in the North American tool, thus allowing for comparison between the two tools (Streiner & Norman 2008).

SAMPLING

The population identified for Study Two was a purposive sample. A purposive sample is designed to focus on specific characteristics of a population that are identified by the researcher to answer the posed research questions (Lucas 2012). Potential participants comprised of registered nurses (RNs), working in both full and part-time capacities, with permanent of casual contracts (n=187), at the Shoalhaven District Memorial Hospital (SHDMH). The SHDMH is a regional, 175 bed facility. Departments within the SHDMH included emergency, surgical, medical, intensive care, obstetrics, gynaecology, paediatric, neonatal and rehabilitation services. The decision regarding this purposive sample of RNs ensured consistency between this study sample and the sample populations of previous research studies using the North American magnet tool. Further to this it was registered nurses who contributed to the focus groups and who were the focus of this nurse workforce research.

ETHICAL CONSIDERATIONS

The sensitive nature of the data being collected in the survey posed a potential ethical issue. Participants were asked questions pertaining to the organisational structure of their current work environment and about the performance of their managers. It was therefore considered crucial by the researcher that participants felt confident that their responses remained confidential. To assure confidentiality the surveys were printed with an identification number (coded) that was issued only by the researcher to calculate the response rate at each facility. Also, participants were instructed not to record any identifying information such as their name or address on any documents. Surveys were returned directly to the researcher and stored in a locked cupboard at the University of Wollongong. Access to this research data has been limited to the researchers directly involved in this project. The publication of findings from this research study has been structured so that individual participants cannot be identified.

RECRUITMENT

The first contact with staff at the SHDMH was via information sessions conducted to provide information about the research project. The information sessions were initially presented to all unit managers to gain their support for the research, then to each unit identified as being relevent to be involved in the research. The units identified were intensive care, operating theatres, paediatric, rehabilitation and medical/surgical. The information sessions were held at the afternoon handover meeting in an effort to maximise the number of staff who could attend and to minimise disruption to ward reoutine. This approach was identified as the most convenient for staff, in consultation with managers. Additional information was provided in the form of posters and flyers (Appendix 6) which outlined the research aim and timeframe. Information was also bulletined in the hospital newsletter to further broaden the exposure of nursing staff to the research and reach as many potential participants as possible.

DATA COLLECTION

The survey was distributed as an attachment to a fortnightly payslip to the entire 187 registered nursing staff 'employed'at the SHDMH. The attachment included a suite of documents including the participant information letter and consent form, the survey and a return envelope addressed to the researcher at the University of Wollongong. The inclusion of the stamped addressed reply envelope was designed to facilitate the return of surveys and ensure completed surveys were returned directly to the researcher (Yoon & Horne 2004). It also provided another means of assurance that only the researcher would see the contents of the surveys.

The following tools were included in the survey:

- Nursing Work Index-Revised: Australian (items 1-48);
- Global Satisfaction Scale (items 1-4) and
- Demographic questions.

The survey was disseminated once via the payroll system. However, the timeframe for the return of the survey extended over a period of one month. During this time the researcher undertook regular visits to the hospital to remind staff of the research project and to encourage them to return their responses. Posters and hospital newsletter entries in addition to the earlier advertisements were also used to remind participants to return the completed surveys.

Instruments

The NWI-R:A adapted from the North American tool was used to measure the organisational features that impact on magnetism in the Australian healthcare context.

The NWI-R:A is organised into five subscales, each consists of 3-9 items:

1. Nursing Foundations for Quality of Care (QC)
    - Items: 7, 22, 28, 30, 34, 36, 37, 43, 44.

2. Nurse Manager Ability, Leadership and Support of Nurses (MLS)
    - Items: 4, 13, 18, 32.

3. Nurse Participation in Hospital Affairs (NP)
    - Items: 8, 9,14, 23, 26, 33, 35a, 38, 40.

4. Staffing and Resource Adequacy (SR)
    - Items: 1, 11, 12, 16.

5. Collegial Nurse-Physician Relations (NPR)
    - Items: 2, 24, 35b.

Internal Consistency NWI-R:A

Table 4.1 demonstrates the internal consistency, reported as a Cronbach Alpha score for the NWI-R:A and the five subscales of the tool. The reliability of the NWI-R:A was shown to meet the requirements of the guidelines adopted for this study with all five subscales recording a Cronbach's Alpha coefficient above 0.65 (Dunn 1989; Hair et al 1998; Zinbarg et al 2006). These results are comparative to the results for previous derivatives of the tool (Choi et al 2004, McCusker et al 2005). These results differ somewhat to the results reported in the literature for the US tool by Lake (2002) in which a score ranging from 0.84 - 0.91 was reported.

Table 4.1 Internal Consistency

NWI-R:A Subscales	**Cronbach Alpha**
1. Nursing Foundations for Quality of Care (QC)	0.73
2. Manager Ability, Leadership and Support for Nurses (MLS)	0.70
3. Nurse Participation in Hospital Affairs (NP)	0.87
4. Staffing and Resource Adequacy (SR)	0.82
5. Collegial Nurse-Physician Relations (NPR)	0.77
NWI-R:A Total	0.77

Global Satisfaction Scale (GSS)

The Global Satisfaction Scale (GSS) used in this research was orginally designed by Hackman and Oldham (1975). The GSS instrument is based on a specific theory of how job design affects work motivation, and provides measures of (a) objective job dimensions, (b) individual psychological states resulting from these dimensions, (c)

affective reactions of employees to the job and work setting, and (d) individual growth need strength.

The GSS was included in this research as a measure of job satisfaction because it:

(1) has been used to measure satisfaction among nursing populations,

(2) possesses internal consistency, reliability and retest, and

(3) has face validity in measuring job satisfaction

(Laschinger & Havens 1996; Laschinger, Finegan, Shamian & Wilk 2004; Laschinger 2012).

The GSS scale was also used prefered because it has only four items, but has been shown to measure job satisfaction as accurately as longer scales (Mueller & McCloskey 1990, Ellenbecker, Byleckie & Samia 2008). Brief item scales are likely to elicit a higher response rate (Thompson & Phua 2012).

Demographic Data

The demographic questions (age, gender, marital status, number of children, country of birth, language spoken, income, employment status and qualification) were included to enable a comparison of the participants to the broader nursing population profile for NSW. The collection of this demographic data was also relevant in the analysis of the results as it has been reported that demographic apsects such as age and employment status for example impact on nursing staff retention (Lake 2002). The inclusion of demographic data also allowed for a comparison with other magnet research. In addition to these demographic questions, specific questions were asked regarding the respondent's career plans to provide data on respondents' intentions to leave, facilitating the comparison with staff perceptions of their practice as measured by the NWI-R:A and job satisfaction as measured by the GSS items.

DATA ANALYSIS

The statistical analysis of the US tool has been modified over the last 20 years as a result of the ongoing development of the tool and associated subscales. The statistical analysis of the data generated by the US tool in earlier work used three subscales: autonomy, control and nurse-physician relationships (Aiken & Patrician 2000; Aiken et al 2001). Analysis of the information generated by the instrument testing stage of this research used the statistical process detailed by Lake (2002) to test the reliability of the Australian tool. This statistical analysis process was identified as the most reliable for analysis of the established tool. It involved a statistical analysis of the inter-item correlation of the five subscales to measure internal consistency for the NWI-R:A. As indicated the internal reliability of the Australian tool was determined using established guidelines for the interpretation of a Cronbach's Alpha coefficient. (Dunn 1989; Zinbarg et al 2006). Following consultation with the statistical advisor the guidelines used for interpretation of the coefficient range were set as acceptable if they were above (0.65). Data in Table 4.1 shows that this level was exceeded for all 5 sub-scales of the NWIR-A.

The descriptive frequency results for the NWI-R:A are presented as a mean score and as the percentage of positive responses for the NWI-R:A and for each of the five subscales. The calculated mean responses were reverse coded to allow for comparison with reported data of this research with other research using derivatives of the tool and to provide easier comparison between results. A mean score above 2.5 is considered positive; a score below 2.5 negative; and a score of 2.5 is considered a neutral stance.

VALIDITY AND RELIABILITY

The issue of validity and reliability were central to the testing of the Australian version of the instrument. The validity of the use of the US tool has been

demonstrated through an extensive body of research evidence and the transparent and rigorous process of the tool development (Aiken & Patrician 2000). The development of the original US magnet tool incorporated the practice of consultation with the wider nursing community to review items and achieve a consensus that the instrument reflected the concept(s) being measured (Roberts et al 2006). Establishing the content validity for the tool used in this research required a clear definition of the research concept and its components (MacKenzie et al 2011; Bhattacherjee 2012). As stated earlier, the concept of magnet organisational structure was measured to provide insights into its relevance to the Australian context.

In order to achieve external validity the research project required a representative sample of the study population. As statistical literature indicates, no sample can be guaranteed as representative of the target population (Beanland et al 1999; Polit & Beck 2013). However, the goal for this study was to implement an appropriate sampling strategy to identify a reasonable large, representative sample of registered nurses from a facility, within the confines of project resources.

LIMITATIONS

While the use of a survey allowed for the efficient and inexpensive collection of data from the study population, it also had some disadvantages. It is acknowledged that there is potential for volunteer bias in responding to voluntary surveys (Bhattacherjee 2012). It may be that those individuals who responded to this study presented a different perspective to the individuals that did not volunteer to participate. There is no evidence to support that view, but it remains a fact.

Another issue with the use of survey's is that they often have a low return rate (Roberts et al 2006; Bhattacherjee 2012), however this was the most appropriate and efficient method for accessing this population. The sample size and survey method, including the distribution process used, obviously limits the findings being quantified

or generalised outside of the sample population. However, given that the intent was to test the tool's ability to measure 'magnetism' ***and*** that it only makes sense to assess that magnetism in a given setting, this is not really an issue.

There was a response rate (n=64) to the survey. It is believed that this occurred as a result of the approach of disseminating the surveys attached to payslips. During the planning of the reseach and development of the recruitment strategy, advice was sought from the facility Human Resource Department and Director of Nursing. This consultation identified that the approved and supported method of communication with staff and dissemination of the research tools, was through notification attached to payslips. No alternate options were available at this time. The researcher viewed the number of respondents at each of the sites to be reasonable taking into account the limitations in accessing the population.

RESULTS

Response Rates

Sixty-four registered nurses (n=64) of the total population of RNs (N=187) responded to the anonymous survey at the SHDMH. This is a response rate of 34.2%.
In the health research literature a response rate greater than thirty percent is considered acceptable (Monette et al 2013). Participants in this survey indicated to the researcher during the site visits that this method of disseminating the survey was ineffective in this case, as a number of the staff did not collect pay advice statements because their pay details were also made available to them electronically. Staff at the hospital also indicated that if it appeared the pay advice slip contained additional information they were less inclined to open the envelopes. These issues were noted by the researcher for attention in the collection of data in Study Three of the project and as alluded to above, form a limitation in this phase of the research in that it may have affected the return rate.

Demographic Data

The average age of respondents was 41 years; 92% were female; 33% were full-time employees, 52% part-time and 3% casual staff. This profile reflects that of the NSW nursing population over the past decade (NSW Health 2006; AHPRA 2012). Sixty-two percent of respondents indicated they were in a supervisory role. On average respondents had been employed for seven years, with 20% employed for only two years. In response to the question on career plans: 61% indicated they intended to stay in their current place of employment: 16% indicated they were seeking a promotion: and 25% were interested in achieving higher qualifications.

A number of respondents (n=64) provided handwritten comments in the demographic section of the tool even though they were not asked to do so. The majority of these comments were in regard to the question on career plans with a number of respondents inserting a written negative response that indicated they were leaving with statements about why, e.g.

> *"To find a more fulfilling and respected career"* (Survey respondent).

NWI-R:A Descriptive Frequencies

Table 4.2 provides the frequency scores for the NWI-R:A using the Lake (2002) subscales. The data includes the total mean score for the NWI-R:A as well as the mean score for each of the five subscales. It also presents the percentage of respondents that recorded positive scores for the tool overall and for each of the subscales.

Table 4.2 Descriptive frequencies

NWI-R:A	Total	QC	MLS	NP	SR	NPR
Mean	-2.48	+2.64	+2.65	-2.31	-1.94	+2.77
% Positive Scores	54%	63%	67%	46%	25%	70%

The total mean score for the NWI-R:A was therefore less than 2.5, indicating that the participants rated the magnet features marginally negatively. However, the result for the percentage of positive scores for the total NWI-R:A score indicated that 54% of the respondents were on-balance positive about the magnetic features of the facility.

Examining the results for the five individual subscales of the NWI-R:A indicates that participants in this population viewed three magnet areas positively. They viewed the nursing foundations for quality of care (QC), nurse manager ability, leadership and support for nurses (MLS) and collegial nurse-physician relations (NPR) favourably in the facility. The results also indicate that these three positive subscales recorded mean scores above 2.6 which equates to a positive response. It is pertinent to note that while the scores for the three subscales fall within the positive range, they are at the lower end of the positive range. The highest subscale results of 2.77 (mean score) and 70 (percentage positive response) for the collegial nurse-physician relations subscale indicates that the respondents' views were only slightly more positive about the quality and effectiveness of relationships between nurses and medical staff. The two negatively viewed subscales, pertained to staff and resource adequacy (SR) and nurse participation in hospital affairs (NPR), both recorded results that were substantially below the results for the other subscales. The SR subscale stands out as evidently the area of the most concern for the participants in this survey. Recording a mean score (1.94) in the negative range regarding the inadequacy of staff and resources in the practice environment.

Global Satisfaction Scale Frequencies

The responses to the Global Satisfaction Subscale (GSS) indicated that fifty eight percent (58%) of the participants were satisfied with their workplace. Reliability and validity of the revised version of the instrument was established through an extensive review of employees in a wide range jobs and organizations (Hackman & Oldham 1975; Laschinger et al 2004; Laschinger 2012). The GSS scale was prefered because it has only four items, but has been shown to measure job satisfaction among nursing populations as accurately as longer scales (Mueller & McCloskey 1990; Laschinger et al 2003; Laschinger 2012).

SUMMARY AND RECOMMENDATIONS

As a result of the survey findings a number of recommendations were made and necessary modifications identified prior to the commencement of the next stage of the research project. These included slight modifications to the content of the survey, reflection of and a change to the methods of data collection and, participant recruitment.

The first of these modifications, based on testing of the tool, involved the survey format for the NWI-R:A and GSS. A realignment of the Likert scale was required to provide a clearer connection between the scale and the question. The need to do this was made apparent by the fact that a number of the respondents failed to answer some questions on the survey. The realignment involved an increase in the spacing between the numbered points on the scale so that each item was aligned more closely to the beginning of the Likert scale numbering. The numbering of the items used in the NWI-R:A also required correction. The pilot survey had two number 35 questions that were identified in the data entry and analysis as 35a and 35b. This was amended so that 35a became 35 and 35b was re-listed as 36. The GSS tool numbering was unchanged.

As already noted, the responses to the demographic questions were augmented with inserted hand written comments.

In summary, the following modifications were made:

Question: What is your country of birth?

- An additional response option to allow for *'other'* was added to enable participants to record alternate responses to those provided.

Question: How long have you been employed in current facility?

- The response option 'No years' was changed to 'Number of years' to provide clearer indication of the required response.

Question: What are your career plans?

- A response option to 'leave' was added as a measure of intention to leave.

The presentation of questions in the demographic section of the survey also required modification because respondents in Study Two used margin spaces to complete responses. As a result additional space was added to the margins of the survey.

The response rate highlighted the need to explore alternative options for information dissemination and to raise the profile of the project so as to boost response rates. At this point in the research a further potential recruitment problem for Study Three became apparent. The location of the testing site and the small number of units involved allowed the researcher to establish effective communication channels through personal contact with staff at that facility. However, the next stage of the research would involve four sites, including some very large health care facilities. In most cases the researcher would be unknown to the participants and relationship building would be concomitantly more difficult. It became imperative to identify more effective means of disseminating the surveys.

Study Two tested the NWI-R:A and established it as a reliable tool for measuring magnet features in Australian health facilities. The survey identified, within the limitations outlined in this chapter, the views of the registered nurse population at the pilot site in relation to the magnet features in their workplace. The sample population was generally positive about the overall level of magnetism at the pilot facility. Nevertheless, the varied responses to the individual areas of magnetism indicated that participants had mixed views and regarded two of the areas being explored as inadequate. They also provided useful feedback regarding the content and structrture of the surevy tool itself. The results from Study Two thus informed the further adaptation and refining of the NWI-R:A as well as provided reliable data on the magnet features in one Australian facility. The following chapters describe the results of using the fully adapted tool to measure magnetism in four other healthcare facilities in Australia.

CHAPTER 5. STUDY THREE:MEASURING MAGNETISM

This chapter outlines the results of Study Three of this research, the purpose of which was to use the newly adapted NWI-R:A tool to measure the organisational features that impact on 'magnetism' in four Australian facilities. In addition, this study included an exploration of possible links between the organisations' magnet features and variables impacting on staff retention, specifically job satisfaction and intention to leave. The major findings of this project were that nurses' viewed the magnet features related to quality of nursing care, manager leadership ability and relationships between nurses and medical staff, as positive. The magnet features that participants indicated to be inadequate were the areas of participation in decision making on hospital affairs and staffing and resources. The research established that nurse particpats who viewed the magnet features of their workplace favourably, also indicated a higher level of job satisfaction and that they had no intention of leaving their current employment.

RESEARCH DESIGN

Study Three involved the implementation of the Nursing Work Index-Revised: Australian (NWI-R:A) tool at four hospitals in the Northern Illawarra Group of Hospitals (NIGH). The establishment of the Australian tool (NWI-R:A) validated in the pilot testing in Study Two, as described in Chapter Four, allowed for the measurement of magnet features in a sample of Australian health facilities and subsequently formed the basis for an examination of the magnetism (or otherwise) of nursing practice environments in these hospitals. The use of the NWI-R:A in conjunction with data about job satisfaction and nursing staff intention to leave, provides relevant data on the research variables linked to the retention of nursing staff in Australian health facilities.

METHOD

The questionnaire used in Study Three was a modified version of the pilot survey. The modifications to the format and processes related to data collection were based on recommendations identified from Study Two and were described in detail in the previous chapter.

To recap, they involved the:

- Revision of the data collection method;
- Correction to the numbering of the questions in the NWI-R:A and
- Modification of the demographic questions.

The data collection process for Study Three was revised as a result of feedback from the staff at the pilot site and researcher reflection, that the recruitment strategy was ineffective and as a result, a less than optimal response rate occurred. This was a significant issue for the design of the research project and as a result the researcher sought permission to forward the survey material directly to the home address of staff across the four hospitals in Study Three via the intermediary of the NIGH administration. This proposal was denied by the Human Resources Department of the NIGH as it was perceived to breach the privacy rights of hospital staff. Eventually it was agreed that the survey material could be distributed to staff through the standard internal information dissemination processes of the hospital group. This meant that the nursing population of the four hospitals received the invitation to participate and the survey questionnaire via the administration staff on each ward and unit.

SAMPLING

The participants in the survey were fulltime, part-time and casual registered nursing staff of the NIGH who self-selected to be involved in this study. The researcher invited registered nurses from the four hospitals to participate in the research using the system outlined previously. This was supported by notices, flyers and posters (Appendix 6) that were sent to ward managers and administrators providing information about the project and encouraging staff to participate in the survey.

The four NIGH hospitals included in the survey were:

- Site 1: 60 bed facility with emergency, surgical, medical and maternal services,
- Site 2: 160 bed facility providing emergency care, medical and surgical services,
- Site 3: 20 bed facility providing medical care, rehabilitation, aged care and community health services and
- Site 4: 500 bed facility, the major teaching and referral hospital for the area, providing emergency care, specialist medical and surgical services, intensive care and major diagnostic, maternal and paediatric services.

(Illawarra Area Health Service Directory, 2002)

A convenience sampling approach was used as this was manageable for the sole researcher and allowed the researcher to undertake site visits prior to and during the data collection period (Polit & Beck 2013). It was established through consultation with the statistical service at University of Wollongong that the NIGH would be able to provide a sufficient number of registered nurses to provide a representative sample of registered nursing staff in the Illawarra area. The NIGH was supportive of the project and, as indicated previously, undertook a number of endeavours to facilitate

the commission of the research project within the organisation. Among these endeavours was the provision of administration support to the researcher for the dissemination of the questionnaires.

ETHICAL CONSIDERATIONS

As identified in the earlier chapters, a key ethical issue identified by the researcher was the provision of confidentiality for the questionnaire respondents. The nature of the information generated by the survey was potentially sensitive, with participants required to respond about the organisational features within their current workplace, including some data related to their views on management. Participants are more likely to provide accurate information on sensitive issues like the organisational features of their workplace if they are confident of their details remaing confidential (Bhattacherjee 2012; Polit & Beck 2013). For this to be the case, the researcher needed to be able to guarantee confidentiality of information and respondent details.

To facilitate this confidentiality, details of the participants names or addresses were not recorded on the survey. The identifier on the survey was a number that denoted the hospital site where the questionnaire was distributed. Participants were instructed in the information letter (Appendix 9) not to write any identifiable personal details on the survey. The participants were also provided with an addressed pre-paid envelope so that the questionnaires could be returned directly to the researcher at the University of Wollongong. These strategies were utilised so that respondents could be assured that the content of the questionnaires was unable to be linked to them as individuals. Thus, the data from the surveys are not identifiable to individuals but rather to the hospital sites participating in the project.

The storage of the data was also of particular relevance for this stage of the project. Only researchers directly involved with the project had access to the completed surveys. These people were: the researcher and her primary supervisor. The surveys

were stored as per ethics requirements. Research participants were presumed to have consented by virtue of the fact that they received an information sheet outlining these conditions and subsequently agreed to participate through the return of a completed survey. This is known as implied consent (Polit & Beck 2013). This process also ensured that the identities of those registered nurses completing the questionnaire (Appendix 10) remained unkown. Ethics approval for Study Three (Appendix 3) was sought and received from the Human Research Ethics Committee (HREC) at the University of Wollongong (HEO3/382).

DATA COLLECTION

The participants were invited to respond to the NWI-R:A and the GSS items using a four point Likert scale, as in the pilot project. Participants were instructed in the covering information to return their completed questionnaires within four weeks of receiving the survey.

DATA ANALYSIS

Analysis of the demographic information involved the calculation of descriptive frequency data for: age; gender; annual income; supervisory role; employment status; length of (current) employment; career plans and future employment intentions for the sample and for each of the sites. The demographic factors were identified as relevant for analysis in profiling the research sample against the wider registered nurse population in Australia. The analysis undertaken also included an exploration of possible associations between the identified demographic features and the research variables. However, no significant or consistent patterns of responses between the demographic data and job satisfaction or intention to leave were identified.
Studies One and Two of this research established a magnet tool applicable to the Australian context. Reliability analysis undertaken as part of the pilot study demonstrated that the measurement subscales of the NWI-R:A produced statistically

acceptable inter-item correlation. The statistical analysis of the Australian tool replicated the work by Lake (2002) in the analysis of the NWI-R:A data. The five subscales used in the analysis were described in detail in the previous chapter. Cronbach's Alpha model of internal consistency based on the average inter-item correlation was used to measure the internal consistency of the NWI-R:A. The data set from Study Two of this project provided an average internal consistency score for the NWI-R:A of 0.76. This value is acceptable within the terms of this model (Dunn, 1989; Zinbarg et al 2006; MacKenzie et al 2011). A greater explanation of the process of re-checking internal consistency for Study Three is provided later in this chapter.

A total mean score for the NWI-R:A and for the GSS were calculated for each of the four sites in Study Three. In addition to this, composite means were calculated for each of the five subscales of the NWI-R:A for each site, so as to provide data that was not skewed by the variation in item numbers in the subscales. The composite subscale mean score for the NWI-R:A was created by giving an equal weighting to all the subscales. The mean response for the NWI-R:A was reverse coded so that higher scores for the tool indicate more positive responses. This analysis allowed for consistency of reported data with other researchers and ease of comparison of the mean results. This analysis was undertaken for each of the four hospitals participating in this research and included calculations of standard deviations for the scores to examine the dispersion of the data. As indicated in the previous chapter, a mean score above 2.5 is positive, below 2.5 is negative and 2.5 is considered neutral. Further analysis of the mean scores for the NWI-R:A and subscales utilised the framework developed by Lake and Friese (2006) to categorise the magnet status of nurse practice environments. Briefly reiterating the description presented in the previous chapter data analysis section, this framework ranks facilities' mean scores > 2.5 in 0-1 subscales as unfavourable, in 2-3 subscales as mixed and 4-5 subscales as favourable in respect to their 'magnetic' features .

Descriptive frequency measures of the NWI-R:A total for, each of the five subscales and each item of the subscales were also calculated as a percentage of positive response by the participants. These descriptive percentage scores were calculated for

each of the sites to provide an easily identifiable presentation of the respondents' views on the magnet features of their nursing practice environment.

An analysis of the research variable of job satisfaction using descriptive frequencies for the total scores of the GSS was also undertaken. The GSS as a measure was included because the US magnet tool has been identified as an improper tool for measuring job satisfaction (Lake 2002). Therefore, the researcher decided to use the GSS as it has been identified (Laschinger 2012) as a reliable tool for measuring job satisfaction. The data presented from the GSS includes calculation of mean scores and standard deviations at each of the four sites.

As described in the pilot of the tool undertaken in Study Two, the correlation coefficient measure was established using a Spearman's test and was undertaken between the NWI-R:A data and the GSS and intention to leave data. This provided an indication of the strength and direction of any relationship between the variables. The Spearman's test was used because no assumptions could be made about the distribution of the data (MacKenzie et al 2011). The non-parametric correlations used a two-tailed t-test and are presented as a Spearman correlation score and a probability score.

VALIDITY AND RELIABILITY

Validity refers to whether the methods used measure what thay intended to measure and reliability refers to the accuracy and consistency of the mearsurement methods (Polit & Beck 2013). The development of the instruments used in this research , with particular regard to the reliability and validity of the measures, were reported in the previous chapter. This phase of the research used and tested the NWI-R:A as a measure of magnet features. As previously noted, the reliability and validity of the tool was established using the Cronbach's Alpha model, having been based on sound conceptual work undertaken by Lake (2002).

RESULTS

The following sections of this chapter report on the results from Study Three. The purpose of this analysis was to establish the presence and degree of magnet features in the Australian facilities surveyed and to outline relationships between these magnet features and factors that may influence staff satisfaction and retention. To streamline the data presentation and improve readability, the results from the survey are divided into seven sections.

The first section presents a description of the participants and the response rates. The demographic profile of respondents is presented next. It includes data on the following aspects to allow a examination of the comparability of this sample to the wider registered nurse population in Australia:

- age,
- gender,
- marital status,
- country of birth,
- employment status,
- supervisory role and
- number of years employed.

This is followed by the internal consistency results for the NWI-R:A tool and subscales; these results are reported as a Cronbach's Alpha score:

1. Nursing Foundations for Quality of Care (QC)
    - Items: 7, 22, 28, 30, 34, 37, 38, 44, 45.

2. Nurse Manager Ability, Leadership and Support of Nurses (MLS)
    - Items: 4, 13, 18, 32.

3. Nurse Participation in Hospital Affairs (NP)
    - Items: 8, 9, 14, 23, 26, 33, 35, 39, 41.

4. Staffing and Resource Adequacy (SR)
    - Items: 1, 11, 12, 16.

5. Collegial Nurse-Physician Relations (NPR)
    - Items: 2, 24, 36.

The descriptive frequency results for the NWI-R:A tool are presented inthe next section. These results indicate the respondents' views of the magnet features at their workplace. The results are presented as a mean score, standard deviation and percentage of positive scores. This data indicates the level of magnetism in the hospitals participating in this study as perceived by respondents and allows for a comparison of the NWI-R:A results with data reported from earlier studies.

Following these the descriptive frequency results for the NWI-R:A subscales and items are presented. These results are also reported as a mean score, standard deviation and percentage of positive scores and provide specific data on the components of the NWI-R:A. This level of analysis allows for a closer consideration of the respondents' views of the aspects of their practice environment that impact on the level of magnetism.

The data pertaining to the relationship between the research variables of magnet features (NWI-R:A), job satisfaction and intention to leave, follows. The correlation results are presented as a Spearman's coefficient (rS) and a probability score (p) for all four sites. Total scores are not included in this analysis as the conceptual construction of the project dictates that the sites are viewed as individual units.

Finally the correlation results for the subscales and items of the NWI-R:A with job satisfaction and intention to leave. The correlation results are presented as a Spearman's coefficient (rS) and a probability score (p) for all four sites. These data provide an indication of the connection between the levels of magnetism in the facilities with factors that impact on staff retention.

Participants

Study Three was a survey of permanent, full time, part-time and casual registered nursing staff including ward nurses and managers in the four hospitals within the NIGH. Table 5.1 identifies the overall response rate of 35 % (n=262). This response rate includes a range from 31% at site 4 to 100% at site 3. Survey response rates of studies using the US tool are reported as ranging from 52% to 98% (Aiken et al 2001; Duffield et al 2007; Lake 2002).

Table 5.1 Response rates

Study Population	Site 1	Site 2	Site 3	Site 4	Total
N	143	70	7	549	749
N	60	25	7	170	262
% Response rate	42%	34%	100%	31%	35%

The participants in this sample included an acceptable 35% of the total population and a reasonable sample size of 262 participants (Monette et al 2013). Consultation with the University of Wollongong Statistical Service confirmed the sample percentage and size were adequate for the exploratory descriptive approach of this research. The advice from the statistician was that a power calculation was not required and early exploratory analysis established that the sample size had sufficent size and power to determine siginicant results. Strategies taken by the researcher to maximise the response rate were determined as appropriate for the research design and timeframe. In particular the approach undertaken to contact all members of the target population (registered nurses in the NIGH) to be involved in the project was considered acceptable. This approach resulted in a 100 percent return rate for one site and acceptable return rates from the other three sites. The statictical consult and researcher viewed the number of respondents at each of the sites to be reasonable taking into account the limitations in accessing the population.

Demographic Data

The following section presents the demographic information from the four sites. This information allows for comparison between the sites as well as to the Australian and NSW registered nurse population when future research in this area is conducted. Whilst the confidentiality of the participants is strictly preserved, details on age, gender, marital status, country of birth, language spoken, employment status, supervisory role and number of years of employment are presented.

Age Distribution

The descriptive statistics for age distribution are presented in age group categories so as to provide an efficient presentation of the data. Table 5.2 shows the percentage of the study sample at each site as well as the total sample and (in parentheses) the number of respondents in each age group. Also included are the mean age and

standard deviation results. Note that three respondents did not answer this question at site 1.

Table 5.2 Age

Age	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
20 – 30 years	18% (11)	24% (6)	0	24% (41)	22% (58)
31 – 40 years	26% (16)	16% (4)	43% (3)	24% (41)	24% (64)
41 – 50 years	43% (26)	56% (14)	43% (3)	39% (65)	41% (108)
51 – 60 years	6% (4)	4% (1)	14% (1)	13% (23)	11% (29)
Mean	40.1 yrs	39.5 yrs	42.0 yrs	39.6 yrs	39.8yrs
Standard deviation	9.3	8.3	7.2	9.5	9.2

Table 5.2 shows that the highest proportion of respondents were aged between 41 to 50 years. This is indicative of the average age of the Australian nursing population reported by AHPRA (2012) . The next largest age group at three of the sites (1, 3 & 4) and overall was 31 to 40 years age. The 20-30 years age group was the second or third largest at three of the sites (1, 2 & 4) and the third overall. Generally, age had a similar pattern of distribution across three of the sites, with site 3 showing the only variation with no staff in the 20 to 30 years age group. The very small number of respondents at site 3 impacted on the capacity for comparisons to be made with the other participating sites. The sample of this research project had a mean age of 39.8 years with a range between sites from 39.5 (site 2) and 42.0 years (site 3). The age profile of the research project population is consistent with that of the Australian and NSW registered nurse population reported by the AIHW (2006) as a mean age of 45 years.

Gender Distribution

As shown in Table 5.3 the majority of respondents were female. There were two respondents who did not answer this question. The gender profile across the sites shows a similar pattern with the percentage of female respondents being above 84% at all the four sites. The number of male respondents in the research sample totalled only nine percent which is the same percentage as the most recently reported gender profile for the Australian registered nurse population (AIHW 2012). The sites in this project with sample numbers of less than 50 respondents (sites 2 & 3) displayed an even lower percentage of males; at site 3 there were no male registered nursing staff.

Table 5.3 Gender

Gender	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
Female	92% (55)	84% (21)	100% (7)	90% (153)	91% (236)
Male	7% (4)	16% (4)	0	10% (16)	9% (24)

Marital Status

Table 5.4 shows that the majority of respondents were married/defacto, followed by single then divorced and finally widowed people. The demographic profiles of the four sites were similar to that of the total sample profile with the largest group being married. The marital status profile of the research project sample is similar to that of the Australian and NSW registered nurse population reported by the AIHW (2012).

Table 5.4 Marital status

Marital Status	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
Divorced	7% (4)	24% (6)	14% (1)	10% (17)	11% (28)
Married	73% (44)	56% (14)	71% (5)	69% (118)	69% (181)
Single	15% (9)	20% (5)	14% (1)	18% (30)	17% (45)
Widowed	2% (1)	0	0	2% (3)	2% (4)

Country of Birth

Table 5.5 shows that all four sites had a higher number of respondents born in Australia than born in other countries. This finding is similar to the staff profile for the NIGH, however it differs from the population of registered nurses in NSW which has a wider multicultural profile (AIHW 2012). Site 1 had a higher percentage of respondents born in another country than the other three sites. At site three there were only two countries of birth reported: Australia and England.

Table 5.5 Country of birth

Country of Birth	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
Australia	67% (40)	84% (21)	86% (6)	80% (136)	77% (203)
Other	33% (20)	16% (4)	14% (1)	19% (33)	22% (58)

Employment Status

Table 5.6 shows that the majority of respondents were in permanent full or part-time employment positions. The larger number of respondents in full and part-time positions is comparative to that of the wider Australian registered nurse population. The AIHW report, titled Nursing and Midwifery Labour Force 2005 states that the majority of registered nurses in Australia are employed in permanent positions (AIHW 2006). The study sample is also reflective of the registered nurse population for the NIGH in relation to employment status with the majority of NIGH registered nurse staff employed in permanent fulltime positions.

Table 5.6 Employment status

Employment Status	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
Casual	5% (3)	4% (1)	0	2% (4)	3% (8)
Full-time	48% (29)	40% (10)	29% (2)	59% (100)	54% (141)
Part-time	45% (27)	56% (14)	71% (5)	38% (65)	43% (111)

Supervisory Role

Table 5.7 shows that 52% of respondents in this research identified as being in a supervisory role. At all four sites there were more respondents reporting to be in a supervisory role than those not in a supervisory role. This population profile was somewhat different to the established profile of the wider Australian registered nurse population; the AIHW (2006) reported that approximately 16% of registered nurses are in a supervisory position and is probably due to differences in the definitions used for a supervisor role. Exploratory analysis on the impact of this variation was undertaken in consultation with the UOW statistician and no significant variation in the results were found for this demographic.

Table 5.7 Supervisory role

Supervisory Role	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
Yes	52% (31)	52% (13)	71% (5)	52% (88)	52% (137)
No	47% (28)	48% (12)	29% (2)	46% (79)	46% (121)

Number of Years Employed

Table 5.8 presents the percentage of the sample and number of respondents in categories for years employed as a registered nurse. The presentation of this data is similar to the presentation of data on age.

Table 5.8 Number of years employed

No of Years Employed	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
0-1 year	22% (13)	20% (5)	0	26% (44)	24% (62)
1.1-5 years	28% (17)	7 % (11)	29% (2)	29% (50)	31% (80)
5.1-10 years	20% (12)	20% (5)	29% (2)	19% (32)	19% (51)
10.1-15 years	12% (7)	8% (2)	14% (1)	12% (20)	12% (31)
15.1-20 years	17% (10)	4% (1)	14% (1)	9% (16)	11% (28)
20.1-30 years	2% (1)	4% (1)	14% (1)	5% (8)	4% (10)
Mean	7.3 yrs	5.7 yrs	8.8 yrs	7.1 yrs	7.1 yrs
Standard Deviation	6.6	5.5	5.1	7.0	6.7
Range	22 yrs	19 yrs	13 yrs	30 yrs	30yrs

Table 5.8 shows that predominately the registered nurses in Study Three had been employed for less than five years. Site 2 reported the lowest mean for number of years employed with the respondents employed for an average of 5.7 years. This is substantially less than the mean for the other three sites and the total mean.

Demographic Summary

In summary, the demographic data collected in Study Three indicates the average age of respondents for the sample across all four sites was 40 years, with 91% being female. The majority were married, born in Australia and spoke English as their first language. Fifty four percent of the sample was full-time employees, 42% part-time

and 3% casual staff, with 52% indicating they were in a supervisory role. The majority had been employed for less than five years with an average of seven years employed across the sample. This demographic data is comparable to the state and national reported data on the registered nurse population, except for the factor of supervisory role. This variation was examined and explained in the earlier section on page 101. Therefore, it could be considered that this sample is somewhat representative of the registered nurse population of the NIGH.

Internal Consistency NWI-R:A

The internal consistency results presented in Table 5.9 are reported as a Cronbach Alpha score, for the NWI-R:A and the five subscales of the tool.

Table 5.9 Study Three NWI-R:A & 5 Subscales Internal Consistency

NWI-R:A Subscales	Cronbach Alpha
1. Nursing Foundations for Quality of Care (QC)	0.74
2. Manager Ability, Leadership and Support for Nurses (MLS)	0.77
3. Nurse Participation in Hospital Affairs (NP)	0.80
4. Staffing and Resource Adequacy (SR)	0.82
5. Collegial Nurse-Physician Relations (NPR)	0.69
NWI-R:A Total	0.76

Table 5.9 shows the internal consistency of the NWI-R:A was found to meet the requirements of the guidelines used in this project with all five subscales recording a Cronbach's Alpha coefficient above 0.65 (Dunn 1989; Zinbarg et 2006; Bhattacherjee 2012). These results are lower than the results reported in the literature for the US tool

(Lake 2002). However, they are comparable with the results for Study 2 and therefore support the reliability of the NWI-R:A as a measure of magnet features in Australian nursing practice environments.

Descriptive Frequencies NWI-R:A

This section presents the descriptive frequency scores for the magnet features of each of the four sites as measured by the NWI-R:A. It also presents the total descriptive frequency scores. This data establishes a basis for the exploration of patterns of response by participants regarding the presence of magnet features in their workplace. This data enables a comparison of response patterns between the four sites and for the entire population of Study Three. It is from this analysis of registered nurses' views on magnet features that conclusions can be drawn about the degree of magnetism of the Australian facilities which participated in this project.

Table 5.10 presents the mean score and standard deviation for the NWI-R:A across the four sites and for the total sample. Mean scores less than 2.5 are negative while scores greater than 2.5 are positive. The numbers presented in parentheses represent the percentage of respondents that recorded a score (4), the highest positive response on the scale.

Table 5.10 Study Three NWI-R:A descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total (n=262)
Mean	-2.48	+2.60	+2.77	+2.65	+2.62
SD	.42	.38	.42	.48	.42
% Positive	50	64	70	66	62
% (Score 4)	(1.7)	(4.0)	(14.3)	(5.3)	(6.3)

Table 5.10 shows that the mean scores at three (2, 3, 4) of the four sites were in the positive range (>2.5). Although the respondents at these three sites were generally positive about the presence of magnet features at their facility the responses were at the lower end of the positive range suggesting that the respondents did not hold strongly positive views about the degree of magnetism in their workplace. It was also evident from these results that when the percentage of positive responses increased, so did the mean score.

Site 1 was the only site to have a mean score in the negative range, (< 2.5). The mean score of 2.48 suggests that respondents at Site 1 viewed the overall magnetism of their workplace to be lacking. Notwithstanding the negative mean result it is relevant to acknowledge the score was only marginally in the negative range. Examination of the percentage of positive responses shows that despite 50% of respondents recording positive scores the overall result remained in the negative range, showing that some respondent must have been very negative.

The overall pattern formed in response to the NWI-R:A showed that 62% of Study Three respondents held broadly positive views about the magnet features in their workplace. The average mean score (2.62) also supported this finding. However, what emerged from this data is that the percentage of positive respondents was as high as 70% while the mean score remained close to a neutral response. Conversely despite 50% of the sample at Site 1 responding positively to the presence of magnet features the mean score at this site remained in the negative range. This supports the need to extend the data analysis to include an examination of the responses for the subscales and in particular individual items of the NWI-R:A in order to gain more meaningful insights, especially as a basis for managerial action. That is, an approach by managers to utilise this scale as a means of evaluating magnetism, at the scale level (only) would be flawed. Subscale and individual item review is also important.

Frequencies NWI-R:A Subscales and Items

This section provides an overview of the descriptive frequencies for each of the five subscales of the NWI-R:A tool across the four sites and for the total sample. The presentation includes the mean score, standard deviation and the percentage of positive responses across the four sites as well as a mean percentage score for all sites. The numbers presented in parentheses represent the percentage of respondents that scored, the highest positive response on the scale (4).

This data provides an indication of the respondents' views about the components of their organisational environment that contribute to the magnetism of the facility. The analysis of the subscales for the NWI-R:A applies the framework developed by Lake and Friese (2006), outlined in the earlier data analysis section of this chapter. Following on from this overview is a presentation of the responses to each of the items within the subscales. The analysis of the NWI-R:A items provides a level of analysis that has gone unreported in the magnet literature previously. This data shows insights regarding the magnet features of the surveyed practice environments.

Table 5.11 NWI-R:A & subscale descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	Total \(n=262)
% Positive	50	64	70	66	62
% (Score 4)	(1.7)	(4.0)	(14.3)	(5.3)	(6.3)
Subscale 1	Nursing Foundations for Quality of Care (QC)				
Mean	+2.61	+2.69	+2.83	+2.89	+2.75
SD	.48	.47	.47	.50	.48
% Positive	60.0	72.0	85.7	82.9	75.1
% (Score 4)	(1.7)	(4.0)	(14.3)	(1.8)	(5.4)
Subscale 2	Manager Ability, Leadership and Support for Nurses (MLS)				
Mean	+2.63	+2.89	+2.72	+2.71	+2.73
SD	.58	.50	.66	.75	.62
% Positive	70.0	92 .0	71.4	68.2	75.4
% (Score 4)	(3.3)	(8.0)	(14.3)	(4.1)	(7.4)
Subscale 3	Nurse Participation in Hospital Affairs (NP)				
Mean	-2.28	-2.46	+2.67	-2.43	-2.46
SD	.54	.58	.31	.56	.49
% Positive	45.0	52.0	71.4	47.6	54.0
% (Score 4)	(1.7)	(4.0)	(14.3)	(1.2)	(5.3)
Subscale 4	Staffing and Resource Adequacy (SR)				
SR	-2.12	-2.11	+2.61	-2.35	-2.29
SD	.68	.63	.74	.74	.69
% Positive	33.0	32.0	57.1	51.2	43.3
% (Score 4)	(1.7)	(4.0)	(14.3)	(2.4)	(5.6)
Subscale 5	Collegial Nurse-Medical Officer Relations (NPR)				
NPR	+2.7	+3.03	+3.05	+2.79	+2.89
SD	.63	.45	.52	.58	.54
% Positive	60.0	88.0	85.7	70.6	76.0
% (Score 4)	(5.0)	(8.0)	(28.6)	(2.9)	(11.1)

Table 5.11 indicates that for this sample a consistent pattern of response existed, across all four settings. That is, respondents at the four participating facilities held similar views about the magnet features they reported to be present in the practice environment and those they considered to be lacking. There was a clear indication from the analysis of the subscale data that *collegial nurse-physician relations* (NPR) was the highest ranked magnet feature across the entire sample and the only magnet feature to score a mean above 3. The sample also held somewhat positive views regarding the *nursing foundations for quality of care* (QC) and *manager ability, leadership and support for nurses* (MLS) across all the participating sites.

The sample were also consistent in their responses to the *nurse participation in hospital affairs* (NP) and *staffing and resource adequacy* (SR) subscales, with all sites rating these two subscales the lowest. For three of the four sites, and for the total sample, these subscales were scored in the negative range for magnet features (<2.5). The total mean score for staffing and resource adequacy (- 2.29) indicates that this was an area of the practice environment identified to be lacking in the majority of the facilities in this study.

Using the Lake and Friese (2006) framework, three of the sites (1, 2 & 4) ranked as *mixed* for magnet features of the nurse practice environment by scoring above 2.5 for three subscales. Site 1 recorded the lowest score of the four sites in four of the five subscales (QC, MLS, NP & NPR) and the second lowest for the remaining subscale (SR). Similarly, the respondents at Site 2 reported the subscales NP and SR mean scores in the negative range. Again the subscales QC, MLS and NPR were scored in the positive range with mean scores ranging from 2.6 to 3.03. The overall ranking for this facility was also therefore a *mixed* level for magnet features. Site 4 showed a comparable pattern of response to sites 1 and 2. The positive response to three of the five subscales also places this site in the *mixed* level for the presence of magnet features at the facility.

Site 3 was the only site to present a different pattern of response, with positive responses to all five of the NWI-R:A subscales which ranks this site as a *favourable* practice environment. The data showed that this site recorded the highest of the four sites in three of the five subscales (QC, NP & SR) and the second highest score for the remaining subscales (MLS & NPR). While the small numbers of respondents at this site has been raised earlier as an issue impacting on the analysis of gathered data, the 100% response rate means that it was indicative of the views of all registered nursing staff at the facility and as such is identifed to be relevant and meaningful. A further comparison of these results will be made with published data from the parent US tool in the discussion chapter.

Nursing Foundations for Quality of Care (QC items)

Table 5.12 shows the percentage of positive scores for the nine items in the QC subscale of the NWI-R:A. Also included are the percentages of positive scores for the NWI-R:A and the subscale (reported previously) to assist comparisons with the item data.

Table 5.12 NWI-R:A (QC subscale) descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	% Positive Mean
Subscale 1	**Nursing Foundations for Quality of Care (QC)**				
% Positive	60.0	72.0	85.7	82.9	75.1
% (Score 4)	(1.7)	(4.0)	(14.3)	(1.8)	(5.4)
Item 7	Active in-services/continuing education programs for nurses				
% Positive	50.0	60.0	28.6	61.2	49.9
% (Score 4)	(6.7)	(0.0)	(14.3)	(14.7)	(8.9)
Item 22	High standards of nursing care are expected by the administration				
% Positive	86.7	88.0	85.7	88.2	87.1
% (Score 4)	(46.7)	(56.0)	(28.6)	(44.1)	(43.8)
Item 28	A clear philosophy of nursing pervades the patient care environment				
% Positive	48.3	64.0	57.1	57.6	56.7
% (Score 4)	(6.7)	(12.0)	(14.3)	(8.2)	(10.3)
Item 30	Working with nurses who are clinically competent				
% Positive	73.3	64.0	71.4	87.6	74
% (Score 4)	(18.3)	(12.0)	(42.9)	(26.5)	(24.9)
Item 34	An active quality-assurance program				
% Positive	50.0	76.0	71.4	62.4	64.9
% (Score 4)	(3.3)	(28.0)	(14.3)	(13.5)	(14.7)
Item 37	A preceptor program for newly employed or new graduate nurses				
% Positive	53.3	20.0	57.1	79.4	52.4
% (Score 4)	(10.0)	(20.0)	(14.3)	(27.1)	(17.8)
Item 38	Nursing care is based on a nursing rather than a medical model				
% Positive	68.3	60.0	85.7	71.8	71.4
% (Score 4)	(8.3)	(12.0)	(28.6)	(10.0)	(14.7)
Item 44	Written, up-to-date nursing care plans for all patients				
% Positive	58.3	68.0	42.9	60.0	57.3
% (Score 4)	(13.3)	(4.0)	(14.3)	(14.7)	(11.5)
Item 45	Patient assignments foster continuity of care				
% Positive	61.7	72.0	85.7	62.4	70.4
% (Score 4)	(21.7)	(8.0)	(28.6)	(17.1)	(18.8)

Examination of the responses to the individual items in Table 5.12 to the NWI-R:A subscale, *nursing foundations for quality of nursing care* showed site 1 recorded three items with over 65% positive responses (22, 30 & 38), site 2 recorded four items (22, 34, 44 & 45), site 3 five items (22, 30, 34, 38 & 45) and site 4 four items (22, 30, 37 & 38).

After careful examination of the responses to the individual items it can be seen that item 22 (pertaining to the expectations of the organisations' administration for high standards of nursing care) was the highest ranked item across all four of the participating sites. This item scored over 80% at the four sites, with many respondents scoring this item at the highest positive response. At site 2 item 22 recorded the highest percentage of positive responses (88%) as well as the largest percentage (56%) of respondents who scored this item at the highest positive reponse of strongly agree. Item 30 was ranked the second highest item at two of the four sites (1 & 4) and site 3 had the largest large percentage (42.9) of respondents who scored this item at a 4 (strongly agree). This data indicates that at the majority of facilities in this survey the nursing staff identified their nursing colleagues to be clinically competent.

The lowest scoring items (7, 28 & 37) for this subscale indicated that the respondents had diverse views about the magnet features they viewed least favourably. It was also evident that the pattern of response to the lowest scoring items was less consistent in comparison to the highest scoring items. Item 7, which related to the existence of in-service and education programs in the facility scored the lowest overall rating of positive responses (49%), as well as the lowest percentage of responses at a (4) on the scale. At Site 3 only 28.6% of respondents indicated that this feature was viewed positively, a finding that was also evident at site 2 where no respondents scored a (4) for this item.

Item 28 (referring to the existence of a clear nursing philosophy in the practice environment) was rated low at all four sites. However item 37 was found to have the lowest of all the item scores. Only 20% of the respondents at site 2 considered their

practice environment offered preceptor programs for new staff and graduates. The respondents at sites 1 and 4 scored item 28 the lowest while at site 2 the lowest scored item was 37 and site 3 ranked item 7 the lowest.

Frequency Manager Ability, Leadership and Support for Nurses (MLS items)

Table 5.13 shows the percentage of positive scores for the four items in the MLS subscale of the NWI-R:A.

Table 5.13 NWI-R:A (MLS subscale) descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	% Positive Mean
Subscale 2	**Manager Ability, Leadership and Support for Nurses (MLS)**				
% Positive	70.0	92.0	71.4	68.2	75.4
% (Score 4)	(3.3)	(8.0)	(14.3)	(4.1)	(7.4)
Item 4	A supervisory staff that is supportive of nurses				
% Positive	56.7	60.0	57.1	62.4	59.0
% (Score 4)	(10.0)	(16.0)	(28.6)	(17.6)	(18.0)
Item 13	A nurse manager who is a good manager and leader				
% Positive	78.3	92.0	71.4	70.6	78
% (Score 4)	(23.3)	(44.0)	(28.6)	(31.2)	(31.7)
Item 18	Praise and recognition for a job well done				
% Positive	33.3	56.0	28.5	38.8	39.1
% (Score 4)	(6.7)	(0.0)	(0.0)	(4.1)	(2.7)
Item 32	A nurse manager backs up the nursing staff in decision-making even if the conflict is with a medical officer				
% Positive	71.7	80.0	71.4	70.6	73.4
% (Score 4)	(15.0)	(24.0)	(28.6)	(26.5)	(23.5)

Table 5.13 shows a polarisation of responses for the items of the MLS subscale. Overall respondents rated three (4, 13 & 32) of the four items between 59 -78 %. Item 18 was rated lower at only 39.1% of positive responses. Items 13 and 32 were rated

above 70% with item 13 having the highest percentage of positive response (92%) at site 2. The respondents also scored item 13 most frequently with a response of (4), the highest response on the scale. These results indicate that the respondents believed their manager to be a good leader and would be supportive of them even in conflict situations. Item 4 was also scored in the positive range, however the results were less positive compared to those for items 13 and 32. These results are suggestive that the respondents were less convinced about the support received from supervisory staff such as the Director of Nursing than from their manager. This data suggests that the term supervisory staff was perceived as including a wider group of people than just direct managers, a point to be further discussed in Chapter Six.

The most significant results were for item 18 which recorded the lowest score of 28.5%, one of the lowest number of (4) responses and an overall percentage of positive responses of only 39%. This item related to the respondents' views about the recognition they receive for a job well done, and was rated the lowest of all the items in this subscale at all four sites. This analysis indicates that only 39% of registered nurses surveyed in this study believed they received praise and recognition for a job well done. Comparison of this item to the subscale results indicates that the respondents' views about item 18 differ substantially from the scores for the subscale. This highlights that for this population this was a feature of the practice environment that needed to be focussed on to improve the magnetism of each of the four facilities.

Nurse Participation in Hospital Affairs (NP items)

Table 5.14 shows the percentage of positive scores for the nine items of the NP subscale of the NWI-R:A.

Table 5.14 NWI-R:A (NP subscale) descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	% Positive Mean
Subscale 3	**Nurse Participation in Hospital Affairs (NP)**				
% Positive	45.0	52.0	71.4	47.6	54.0
% (Score 4)	(1.7)	(4.0)	(14.3)	(1.2)	(5.3)
Item 8	Career development/clinical ladder opportunity				
% Positive	35.0	44.0	42.9	44.7	41.6
% (Score 4)	(3.3)	(4.0)	(0.0)	(5.3)	(3.1)
Item 9	Opportunity for nurses to participate in policy decisions				
% Positive	40.0	44.0	71.4	58.8	53.5
% (Score 4)	(6.7)	(8.0)	(0.0)	(8.8)	(5.8)
Item 14	A Director of Nursing who is highly visible and accessible to staff				
% Positive	31.7	52.0	14.3	26.5	31.1
% (Score 4)	(5.0)	(0.0)	(0.0)	(7.6)	(3.1)
Item 23	A nursing executive is equal in power and authority to other top-level hospital executives				
% Positive	53.3	52.0	71.4	46.5	50.4
% (Score 4)	(6.7)	(0.0)	(0.0)	(5.9)	(3.1)
Item 26	Opportunities for advancement				
% Positive	36.7	28.0	42.9	47.1	38.6
% (Score 4)	(5.0)	(12.0)	(0.0)	(4.1)	(5.2)
Item 33	Administration that listens and responds to employee concerns				
% Positive	26.7	44.0	57.1	36.5	41
% (Score 4)	(1.7)	(12.0)	(0.0)	(7.1)	(5.2)
Item 35	Nurses are involved in the internal governance of the hospital				
% Positive	60.0	60.0	100	55.3	68.8
% (Score 4)	(8.3)	(16.0)	(14.3)	(11.2)	(12.4)
Item 39	Nurses have the opportunity to serve on hospital and nursing committees				
% Positive	81.7	88.0	100	77.6	86.8
% (Score 4)	(11.7)	(28.0)	(14.3)	(14.7)	(17.1)
Item 41	Nurse managers consult with staff on daily problems and procedures				
% Positive	75.0	68.0	57.1	67.1	66.8
% (Score 4)	(18.3)	(32.0)	(14.3)	(19.4)	(21.0)

Table 5.14 shows that for the third subscale (NP) the respondents ranked item 39 the highest item at all the sites. This suggests that reasonable numbers of respondents in all four facilities perceived that nurses 'had opportunities to be involved in the hospital's committees'. In reviewing the overall results for this subscale it is relevant to highlight that only three of the nine items (35, 39 & 41) were rated over 65%. These three items collectively refer to opportunities for nurses to be involved in the governance and committees of the facility. Item 41 received the highest percentage of (4) responses at site 2.

The lowest response percentage was for Item 14, on the visibility and accessibility of the Director of Nursing. This item showed the widest range in scores, from only 14.3% of respondents at site 3 indicating a positive response to 52% at site 2. However there were no respondents that recorded a (4) for this item at sites 3 and 2 suggesting that the majority of the staff on these sites viewed the Director of Nursing as inaccessible to nursing staff. The next lowest score of 38.6% was recorded for item 26 which questions whether staff felt they had opportunities for advancement. The negative responses to this item and item 8 (regarding career development ladders) suggest that across all the surveyed sites the respondents held relatively negative views with regard to their career development and advancement opportunities, a point that will be examined further in Chapter Six. The three items that measured the direct involvement of registered nursing staff with senior nurses and administration (9, 14 & 33) were consistently rated negatively. This suggests that respondents acknowledged the presence of the nursing profession in the affairs of the hospital, but were generally of the view that this was not a role that they personally were able to undertake.

Staffing and Resource Adequacy (SR Items)

Table 5.15 shows the percentage of positive scores for the four items of the SR subscale of the NWI-R:A.

Table 5.15 NWI-R:A (SR subscale) descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	% Positive Mean
Subscale 4	**Staffing and Resource Adequacy (SR)**				
% Positive	33.0	32.0	57.1	51.2	43.3
% (Score 4)	(1.7)	(4.0)	(14.3)	(2.4)	(5.6)
Item 1	Adequate support services allow me to spend time with my patients				
% Positive	43.3	40.0	57.1	54.1	48.6
% (Score 4)	(6.7)	(8.0)	(0.0)	(12.9)	(6.9)
Item 11	Enough time and opportunity to discuss patient care problems with other nurses				
% Positive	50.0	36.0	57.1	54.1	49.3
% (Score 4)	(6.7)	(4.0)	(28.6)	(8.2)	(11.8)
Item 12	Enough registered nurses on staff to provide quality patient care				
% Positive	16.7	36.0	42.9	32.4	32
% (Score 4)	(5.0)	(4.0)	(14.3)	(8.2)	(7.8)
Item 16	Enough staff to get the work done				
% Positive	25.0	20.0	71.4	34.1	37.4
% (Score 4)	(3.3)	(0.0)	(14.3)	(3.5)	(5.2)

Table 5.15 shows that the fourth subscale (SR) recorded predominately low percentages of responses to all the items across the facilities surveyed. An assessment of the overall item response rates indicates that there was a generalised perception of inadequate resources and related concerns about the delivery of care by respondents across all sites.

Item 16, referring to the adequacy of staff to complete workloads, as a feature of the environment, was scored the highest for all the items in this subscale (71.4%) at site 3. Suggesting that, for site 3, the respondents felt there were sufficient staff to get the work done. However item 16 was rated extremely low at the other three indicating a very differing view of this feature of the practice environment compared to site 1. This item also received the lowest percent of (4) responses in this subscale.

Item 12 was the lowest rated item at 16.7% with less than 32% of respondents overall indicating there were 'sufficient registered nurses on staff to provide quality patient care'. In reviewing the site 3 results it is evident that despite a generally positive view about the subscale the one area that was identified to be lacking was the availability of registered nursing staff. An important issue that this data raised is that respondents in this study consistently and strongly reported that the number of registered nursing staff available was not sufficient to provide quality patient care, an issue that will be further considered in the discussion chapter.

Collegial Nurse-Medical Officer Relations (NPR Items)

Table 5.16 shows the percentage of positive scores for the three items of the NRP subscale of the NWI-R:A.

Table 5.16 NWI-R:A (NPR subscale) descriptive frequencies

NWI-R:A	Site 1 (n=60)	Site 2 (n=25)	Site 3 (n=7)	Site 4 (n=170)	% Positive Mean
Subscale 5	**Collegial Nurse-Medical officer Relations (NPR)**				
% Positive	60.0	88.0	85.7	70.6	76.0
% (Score 4)	(5.0)	(8.0)	(28.6)	(2.9)	(11.1)
Item 2	Medical officers and nurses have good working relationships				
% Positive	80.0	92.0	100	82.9	88.7
% (Score 4)	(13.3)	(40.0)	(28.6)	(16.5)	(24.6)
Item 24	Much teamwork between nurse and medical officers				
% Positive	58.3	84.0	85.7	68.8	74.2
% (Score 4)	(11.7)	(12.0)	(28.6)	(10.0)	(15.5)
Item 36	Collaboration(joint practice) between nurses and medical officers				
% Positive	53.3	76.0	57.1	61.2	61.9
% (Score 4)	(11.7)	(8.0)	(14.3)	(7.1)	(10.2)

Table 5.16 shows that all three items of this subscale (NPR) were rated positively across all sites. The scores ranged from the highest (100%) for item 2 at site 3 to the lowest (53.3%) for item 36 at site 1. Item 2 (pertaining to the effectiveness of working relationships between medical officers and nurses) recorded extremely high positive percentages across the four sites of 80% or above. This item also received the highest percentage of 4 responses at site 2 and for the overall aggregate. The lowest scoring item (36) at all sites measured the collaboration between nurses and medical officers, however this item was still rated in the positive range. Thus it appears that while the respondents at all four sites viewed the relationships between nurses and medical staff as very positive, they indicated that opportunities for 'collaborative practice' were rare.

The descriptive frequencies for the NWI-R:A subscales and items showed the participating staff across the four sites ranked *staffing and resources* the least magnetic feature in their workplace. The *nurse participation in hospital affairs* subscale recorded the next lowest score while the remaining three subscales, (*Nursing foundations for Quality of Care, Nurse Manager Ability, Leadership and Support and Collegial Nurse-Medical officer Relations*) all recorded positive scores across the four sites. Interestingly, site 3 was the only site not to record a sub-scale score in the negative range and was the only facility reported as *favourable* for magnet features generally.

The examination of item responses within the subscales thus provided a closer analysis of the respondents' views and highlighted a number of key points. In particular, the negative responses to items on the adequacy of staffing and resources showed that while the respondents believed there were sufficient staff to complete the required workload, they did not feel that there were adequate registered staff to ensure quality of care. The survey respondents' views about the items with regard to nurse participation in hospital affairs identified that while nurses saw that they were involved in the governance and committees of the facility, opportunities for direct input to decision making were not evident to the registered nursing staff. It was also

very clear that the respondents believed that opportunities for career development and advancement were lacking in their practice environment.

The specific information gleaned from the item analysis of the subscales that were viewed positively by the survey sample also produced a number of key points for discussion. High standards of care were acknowledged by the respondents as an expectation by administration but the nurses across all the sites generally indicated that a clear nursing philosophy was not evident in their practice environment. Managers in the practice environment were viewed as supportive and competent by the respondents, even in conflict situations. However, despite this, the respondents indicated that they felt supervisors generally were not supportive and rarely listened to their issues. In addition, respondents clearly felt that they rarely received praise or recognition for a job well done. Finally, even though the working relations between medical officers and nurses were reported to be effective and positive these relationships did not translate into opportunities for collaborative practice.

Correlation NWI-R:A, GSS and Intention Leave

In this section of results the research variables of magnet features (NWI-R:A), job satisfaction (GSS) and intention to leave are compared, with the aim of establishing and defining the types of relationships that may exist between these variables. The information gleaned from this data allows for an examination of the factors impacting on the retention of nursing staff in the surveyed Australian health facilities. In particular this analysis of NWI-R:A subscales and items provides an examination of the specific magnet aspects impacting on staff job satisfaction and intentions to leave.

Correlation between NWI-R:A, GSS and Intention Leave

Table 5.17 shows the Spearman correlation co-efficient (rS) results between the NWI-R:A, the GSS and stated intention to leave for the four participating sites. The

asterisked numbers highlight that a significant correlation was established between the two variables concerned, indicating that participants' views about a variable (eg. magnet features) were linked to their response to another variable (eg. job satisfaction or intention to leave).

Table 5.17 NWI-R:A, GSS & Intention Leave: Correlation 4 sites

		Site1 (n=60)		Site 2 (n=25)		Site 3 (n=7)		Site 4 (n=170)	
		GSS	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
NWIRA	rS	**0.61	*0.29	**0.61	0.17	0.73	NR	**0.71	**0.23
GSS	rS	-	**0.48	-	**0.52	-	NR	-	**0.28

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); **Correlation significant at the p <0.01 level (2 tailed)
NR No Response

Table 5.17 shows that respondents' views about magnet features measured using the NWI-R:A were significantly ($p < 0.01$) related to their reported level of job satisfaction (GSS) at three of the four sites (1, 2 & 4). It is relevant to note that the absence of a correlation between the NWI-R:A and GSS for site 3 could have been influenced by the small number of respondents at this site. Despite this absence the overall dominant picture was that respondents' views about the magnet features at the facility where they were employed were significantly related to their level of job satisfaction. Specifically, these results confirmed that the higher the respondents' perceptions were about the magnetism of their practice environment the higher the stated level of satisfaction with their job.

The respondents scores for the NWI-R:A also showed a significant correlation with the respondents' reported intention to leave at two of the three sites (1 and 4).
Job satisfaction (GSS) at sites 1, 2 and 4 showed a significant correlation with respondent's intention to leave. The more negative respondents were about their job satisfaction (GSS) the more likely they were to report that they intended to leave. These data are discussed in greater detail in Chapter Six.

In summary the key points to be made from the results presented in Table 5.17 are that responses to the NWI-R:A demonstrate significant links to job satisfaction and intention to leave for the majority of respondents in Study Three.

Correlation NWI-R:A Subscales, GSS and Intention leave

The following section presents the results for the NWI-R:A subscales and the items included in the subscale. This analysis outlines the relationships between the reported magnet features of the facility, the reported job satisfaction of the nursing staff and their expressed intentions to leave their current employment, across the four sites of the study.

Table 5.18 NWI-R:A subscales, GSS & Intention Leave: Correlation 4 sites

		Site1 (n=60)		**Site 2 (n=25)**		**Site 3 (n=7)**		**Site 4 (n=170)**	
NWIRA Subscale		**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
QC		Nursing Foundations for Quality of Care							
	rS	***0.48**	0.16	0.33	-0.02	*0.79	NR	***0.56**	*0.18
MLS		Nurse Manager Ability, Leadership & Support							
	rS	***0.61**	*0.33	0.27	0.18	*0.79	NR	***0.61**	*0.34
NP		Nurse Participation in Hospital Affairs							
	rS	***0.44**	0.23	***0.57**	0.342	*0.83	NR	***0.65**	***0.22**
SR		Staffing and Resource Adequacy							
	rS	***0.44**	0.19	0.36	-0.28	*0.81	NR	***0.48**	0.04
NPR		Collegial Nurse-Medical officer Relations							
	rS	0.25	-0.02	0.29	-0.02	0.55	NR	***0.47**	0.13

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); ***Correlation significant at the p <0.01 level (2 tailed)***
NR No Response

Table 5.18 shows that the subscale *nurse participation in hospital affairs* (NP) was significantly related to job satisfaction (GSS) at all four sites. It was also evident that

three of the remaining subscales (QC, MLS and SR) were significantly related to job satisfaction at the majority (1, 3 & 4) of facilities. *Collegial nurse-physician relations* (NPR) was the only subscale that demonstrated a different pattern of correlation in relation to job satisfaction. The results for this subscale showed that site 4 was the only site to have a significant correlation.

Calculations of the correlations between the magnet subscales and intention to leave data has been provided for three of the four sites (1, 2 & 4). No data has been presented for site 3 because there were no respondents at this site who indicated an intention to leave. Table 5.18 shows that site 4 recorded the most significant correlations between these two variables with three of the NWI-R:A subscales (QC, MLS, NP) and staff intentions to leave. In summary, the most significant correlations that existed were between magnet features overall (NWI-R:A) and job satisfaction (GSS), while the relationships between magnet features and intention to leave were less frequent and of a lesser significance.

Correlation between NWI-R:A (QC Items), GSS and Intention leave

Table 5.19 shows the correlation for the nine items of the QC subscale to job satisfaction and intention to leave. Identifying the specific items that are positively related to respondents' job satisfaction (GSS) and intention to leave allows for key indicators of magnet features of a facility to be reviewed. The asterisked results emphasise correlations that are statistically significant with the correlation value identified in the table key.

Table 5.19 NWI-R:A (QC items), GSS & Intention Leave: Correlation 4 sites

NWI-R:A		Site 1 (n=60)		Site 2 (n=25)		Site 3 (n=7)		Site 4 (n=170)	
Item		**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
7		Active in-services/continuing education programs for nurses							
	rS	0.17	-0.17	0.06	0.10	0.04	NR	***0.43**	***0.25**
22		High standards of nursing care are expected by the administration							
	rS	0.17	-0.12	0.03	-0.19	0.74	NR	*0.19	0.04
28		A clear philosophy of nursing pervades the patient care environment							
	rS	0.17	*0.28	*0.45	-0.20	0.08	NR	***0.47**	*0.19
30		Working with nurses who are clinically competent							
	rS	***0.41**	0.11	0.01	0.03	*0.76	NR	***0.26**	0.01
34		An active quality-assurance program							
	rS	*0.26	0.09	*0.45	0.14	0.67	NR	***0.35**	*0.18
37		A preceptor program for newly employed or new graduates							
	rS	0.12	-0.08	0.30	0.30	**0.88	NR	***0.26**	0.04
38		Nursing care is based on a nursing rather than a medical model							
	rS	***0.36**	0.23	0.29	-0.06	0.42	NR	***0.27**	-0.00
44		Written, up-to-date nursing plans for all patients							
	rS	0.04	-0.13	-0.01	-0.09	0.06	NR	***0.40**	0.09
45		Patient assignments foster continuity of care							
	rS	**0.51	0.31	0.17	-0.03	-0.49	NR	0.24	*0.17

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); ***Correlation significant at the p <0.01 level (2 tailed)***
NR No Response

Table 5.19 shows that the results for all four sites indicated that all nine items of the QC subscale had a significant correlation to job satisfaction while four of the items (7, 28, 34 & 45) related to both job satisfaction and intention to leave.

The magnet items shown to be particularly related to job satisfaction and intention to leave were those which gauged:

- the existence of a nursing philosophy in the organisation;
- whether care was based on a nursing model;
- the extent to which the organization valued clinically competent nurses;
- the importance of continuity of care;
- the existence of active quality assurance processes and
- the existence of continuing education and preceptor programs within the organization.

At three of the four sites two magnet items-item 30 (working with nurses who are clinically competent) and item 34 (an active quality-assurance system exists), showed a correlation to job satisfaction. A key finding from the overall analysis of the results for the items of the QC subscale is that no single item was identified as having ascendency across the subscale with respect to GSS or intention to leave.

Correlation NWI-R:A (MLS items), GSS and Intention Leave

Table 5.20 shows the correlation for the four items of the MLS subscale to job satisfaction and intention to leave.

Table 5.20 NWI-R:A (MLS items), GSS & Intention Leave: Correlation 4 sites

NWI-R:A		Site 1 (n=60)		Site 2 (n=25)		Site 3 (n=7)		Site 4 (n=170)	
Item		**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
4		A supervisory staff that is supportive of nurses							
	rS	**0.40	0.16	0.02	0.15	*0.76	NR	**0.55	**0.26
13		A nurse manager who is a good manager and leader							
	rS	**0.36	0.18	0.19	0.15	*0.80	NR	**0.46	**0.33
18		Praise and recognition for a job well done							
	rS	**0.49	**0.38	0.28	-0.19	0.08	NR	**0.55	**0.31
32		A nurse manager backs up the nursing staff in decision making even if the conflict is with a medical officer							
	rS	**0.44	0.17	0.29	0.38	0.63	NR	**0.41	**0.25

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); **Correlation significant at the p <0.01 level (2 tailed)
NR No Response

Table 5.20 shows that the four items of the MLS subscale (4, 13, 18 & 32) correlated to job satisfaction and intention to leave. In particular at site 4, significant correlations between magnet features, job satisfaction and intention to leave indicate that all four items are also related to intention to leave. These results demonstrate that there were apparent relationships between nursing staff satisfaction and plans relating to future employment. The magnet features of recognition for a job well done; the provision of effective support by supervisors and the leadership qualities of managers were related to job satisfaction and staff intentions about future employment. All four items of the NWI-R:A for the MLS subscale correlated to job satisfaction (GSS) at both sites 1 and 4 while only two of the four items (4, 13) related to job satisfaction at site 3.

Correlation NWI-R:A (NP items), GSS and Intention leave

Table 5.21 shows the correlation for the nine items of the NP subscale to job satisfaction and intention to leave.

Table 5.21 NWI-R:A(NP items), GSS & Intention Leave: Correlation 4 sites

NWI-R:A		Site 1 (n=60)		Site 2 (n=25)		Site 3 (n=7)		Site 4 (n=170)	
Item		**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
8		Career development/clinical ladder opportunity							
	rS	0.17	-0.05	0.33	0.12	0.51	NR	***0.45**	*0.16
9		Opportunity for nurses to participate in policy decisions							
	rS	0.22	0.08	0.38	-0.09	-0.08	NR	***0.44**	0.07
14		A Director of Nursing who is highly visible and accessible to staff							
	rS	*0.30	0.11	*0.48	0.28	0.20	NR	***0.39**	***0.27**
23		A nursing executive is equal in power and authority to other top-level hospital executives							
	rS	0.21	0.13	0.16	-0.12	0.56	NR	***0.23**	0.13
26		Opportunities for advancement							
	rS	0.25	0.20	0.26	0.18	0.22	NR	***0.43**	***0.20**
33		Administration that listens and responds to employee concerns							
	rS	***0.41**	*0.28	***0.58**	*0.49	*0.81	NA	***0.61**	***0.22**
35		Nurses are involved in the internal governance of the hospital							
	rS	***0.41**	0.21	0.27	0.27	-0.10	NR	***0.38**	0.05
39		Nurses have the opportunity to serve on hospital and nursing committees							
	rS	0.13	0.01	0.17	0.05	0.62	NR	***0.33**	0.08
41		Nurse managers consult staff on daily problems and procedures							
	rS	*0.26	-0.11	*0.40	0.36	*0.78	NR	***0.47**	***0.23**

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); ***Correlation significant at the p <0.01 level (2 tailed)***
NR No Response

Table 5.21 shows a similar pattern to the previous subscales in that all nine items of the NWI-R:A subscale, NP related to job satisfaction (GSS) at site 4. Four of the nine items at site 1 (14, 33, 35, 41), three (14, 33, 41) at site 2 and two at site 3 (33 and 41) were related to job satisfaction. Overall while all nine items of the NWI-R:A for the NP subscale related to the GSS at site 4, only three items (14, 33 and 41) related to job satisfaction at the remaining 3 sites.

The correlations between magnet features and intention to leave show that five items (8, 14, 26, 33, 41) relate to intention to leave at site 4. At sites 1 and 2 item 33 was the only item that related to intention to leave. A examination of the item analysis shows that item 33 (administration that listens and responds to employee concerns) is related to both job satisfaction and intention to leave at all four of the sites. This and the consistently higher incidence of item correlation to job satisfaction and intention to leave shown at site 4 are emerging patterns that will be discussed further in the discussion chapter.

Correlation NWI-R:A (SR Items), GSS and Intention leave

Table 5.22 shows the correlation for the four items of the SR subscale to job satisfaction and intention to leave.

Table 5.22 NWI-R:A (SR items), GSS & Intention Leave: Correlation 4 sites

NWI-R:A		Site 1 (n=60)		Site 2 (n=25)		Site 3 (n=7)		Site 4 (n=170)	
Item		**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
1		Adequate support services allow me to spend time with my patients							
	rS	***0.343**	0.240	0.058	-0.141	0.808	NR	0.425	0.112
11		Enough time and opportunity to discuss patient care problems with other nurses							
	rS	0.301	0.130	0.198	-0.337	0.738	NR	***0.346**	-0.016
12		Enough registered nurse to provide quality care							
	rS	*0.306	0.115	0.361	-0.350	*0.841	NR	***0.362**	-0.052
16		Enough staff to get the work done							
	rS	***0.398**	0.155	*0.438	-0.066	0.669	NR	***0.395**	0.050

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); ***Correlation significant at the p <0.01 level (2 tailed)***
NR No Response

Table 5.22 shows that all four items of the NWI-R:A subscale for SR related to job satisfaction (GSS) at both sites 1 and 4. These results follow the pattern for site 4 in

the other subscales of the NWI-R:A. Only one of the four items at site 2 (item 16) related to job satisfaction and two items (1 and 12) related to job satisfaction at site 3. However, there were no correlations between the SR subscale items and intention to leave at any of the sites. This is contrary to the pattern for previous presentations of item analysis that have all shown a number of NWI-R:A subscale items related to respondents' intentions to leave.

Correlation NWI-R:A (NPR Items), GSS and Intention leave

Table 5.23 shows the correlation for the three items of the NPR subscale to job satisfaction and intention to leave.

Table 5.23 NWI-R:A (NPR items), GSS & Intention Leave: Correlation 4 sites

NWI-R:A		**Site 1 (n=60)**		**Site 2 (n=25)**		**Site 3 (n=7)**		**Site 4 (n=170)**	
Item		**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**	**GSS**	**Leave**
2		Medical officers and nurses have goof working relationships							
	rS	0.151	0.028	0.076	0.008	0.085	NR	*****0.424***	0.181
24		Much teamwork between nurse and medical officers							
	rS	0.211	-0.040	0.107	-0.240	0.740	NR	*****0.270***	0.004
36		Collaborating(joint practice) between nurses and medical officers							
	rS	0.195	-0.063	0.138	-0.119	0.354	NR	*****0.440***	*****0.198***

rS Spearman Correlation;
*Correlation significant at the p<0.05 level (2 tailed); *****Correlation significant at the p <0.01 level (2 tailed)***
NR No Response

Table 5.23 demonstrates that all three items of the NWI-R:A for the NPR subscale related to job satisfaction (GSS). Item 36 is the only item of the NWI-R:A for the NPR subscale that related to both job satisfaction and intention to leave. Again in both these incidences it is site 4 with the larger number of respondents that demonstrated significant correlations between the variables. It has been found then that the items of the NWI-R:A consistently link to job satisfaction. There were also some links

between the NWI-R:A and intention leave. However no clear patterns emerged from the data for any items consistently linking to both job satisfaction and intention to leave.

LIMITATIONS

Study Three was originally intended to incorporate data and analysis related to the number of vacant RN positions existing in the NIGH at the time of the survey. This was planned to enable a triangulation of data on the retention rates of the hospitals involved in the survey. Unfortunately, the Human Resources Department of the NIGH was unable to extract this specific data from the information collection system used by the area health service. This occurred as a result of incorrect information being provided to the researcher regarding the accessablity of retention rates and informs the development of future research. Consequently the researcher was restricted to collecting information on the advertised vacancies for registered nurse positions at the four participating hospitals for the one month period of the survey. This designated collection period was most relevant to be included in the analysis because it provided contemporary information on the positions vacant. This limited the intended analysis of this aspect of the project and reduced the scope of information available to the researcher. As a result this data set and analysis were omitted from the research design. This issue of a lack of data being kept on vacancies, is significant in the discussion of magnetism, attraction and retention of registered nursing staff within this population/hospital group, given that it goes to the heart of health services (not) taking nursing staff satisfaction seriously and will be examined more fully in the discussion chapter.

Although the inclusion of multiple and fairly large survey sites added considerable scope to this stage of the research project, there were implicit disadvantages to the breadth of the survey population. The most obvious of these was the sheer weight of numbers and geographical spread across the Illawarra region, which reduced the researcher's direct access to the survey sites. Specifically, the researcher was not

typically physically available for clarification of any questions or issues regarding the research. This may have affected participation rates. The distribution of the questionnaires had to be administered through the communication structures of the facility rather than being directly posted to the respondents, thus limiting the assured delivery of the survey to all of the potential research population. Again, this may have affected return rates. The inclusion of a pre-paid addressed return envelope to the researcher was intended to encourage the return of the surveys. However, the requirement for respondents to take the final step of sending the completed survey through the post in the provided envelope may also have constrained the number of surveys returned (MacKenzie et al 2011). In reviewing the response rate for this survey it is relevant to note that it was undertaken at the same time as a workplace survey initiated by the nursing management of the NIGH. NGIH Executive Management initiated the workplace survey after the commencement date of the survey for this research project. This may have had an impact on the response rate as staff may have been reluctant to complete two surveys at the same time (Bhattacherjee 2012).

The researcher is circumspect about generalising the findings outside this population, given the limited 'representativeness' of the sample. However, the focus of NWI-R:A data is to report on the practice environment of a given facility. Therefore it would be nonsensical to summarise all data from the surveyed facilities, other than to compare and contrast anyway.

SUMMARY

In conclusion, the survey sample in Study Three showed a fairly consistent profile for respondents across all four participating sites. The majority of respondents were female, 40 years of age, married, born in Australia, English speaking and employed in permanent full or part time positions. These results fit the profile of the NSW and wider Australian registered nurse population as reported by the AIHW (2012). Although the response rate to the surveys was less than rates reported by other studies

in this area, it nevertheless included reasonable numbers of participants to be a reasonable representative sample of the NIGH registered nurse population. An implication of this being that any variations in the analysis of the research variables can be attributed to variations in the variables rather than variations in the project sample.

It can be established from the NWI-R:A data that the respondents' views of the magnetism of their workplace identified a consistent pattern for the participating Australian facilities. The magnet features of *nursing foundations for quality of care*; *nurse manager ability, leadership and support of nurses* and *collegial relations between nurses-physicians* were the main aspects viewed favourably by the nursing staff. Further to these conclusions, it can be seen that the respondents typically felt they worked in clinical environments characterised by good levels of patient care; were supervised by credible, effective managers and they enjoyed positive professional relationships with medical colleagues. The magnet features of the practice environment that the respondents indicated were lacking were in relation to nursing participation in hospital affairs and staffing and resource adequacy. Specifically, respondents believed there were insufficient opportunities for them (nursing staff) to contribute to decision making within the hospital and that the resources (human and environmental) available in the workplace were inadequate for the provision of the level of care they would like to provide.

Emerging from the results for Study Three was a significant relationship between the overall magnetism of the facility to the nursing staff, reported level of job satisfaction and their intentions with regard to leaving their current workplace. This indicates that respondents who viewed the magnet features of their practice environment favourably, also tended to have a higher level of job satisfaction and had less intention of leaving their current employment. Conversely, it also showed that when the respondents' views on the magnet features of the facility were negative they had a lower stated level of job satisfaction and were more likely to declare an intention to leave their workplace. Overall, the data from Study Three has established that the

registered nurses responding to the survey have reported similar views about the magnet features of the facilities in the NIGH and that the magnetism of the environment is related to the factors that impact on the retention of nursing staff in Australian facilities. Most importantly, the data suggests reinforces that the NWI-R:A is capable of measuring magnetism in Australian health facilities and of discriminating levels of magnetism between different facilities

CHAPTER 6. DISCUSSION

During previous chapters, empirical data and interpretive descriptions were provided that illustrate the issues related to magnet hospital features and assessment in an Australian context. This culminated in the findings of the research. This chapter then, elucidates the meaning of the findings. It includes a discussion of the key issues that have emerged from the indepth examination of the magnet hospital concept and its transferability to an Australian context, within this thesis. The findings are explored in light of the contemporary evidence but also within the limitations that constrain a candidate undertaking a PhD. The aims of this project were to: (1) adapt a tool for measuring magnet features that relates to the Australian context; (2) test the reliability and validity of this adapted tool and (3) use the tool to measure magnet features and investigate their relationship to measures of job satisfaction and staff intention to leave, among a sample of nurses in Australian health facilities. As discussed in previous chapters this occurred through the conduct of a number of interconnected research phases. The purpose of this chapter is to comprehensively discuss the adaptation of an American magnet measurement tool for the Australian context and then it's testing in that context. It then goes on to examine the significant relationships between magnet features, staff job satisfaction and intentions for future employment identified by the tool, witin five Australian health facilities.

ADAPTING A TOOL THAT MAGNETISM FOR THE AUSTRALIAN CONTEXT

This research, has successfully established a tool for measuring magnet features in health facilities that has been shown to be both valid and reliable in an Australian context. This work has extended the research conducted a number of years ago, primarly from the United States of America, by addressing one of the significant limitations of the magnet research; that is the US centric nature of the tool (Cummings et al 2006; Slater & McCormack 2007). Despite the literature supporting the value of the magnet hospital concept, it has been described as US centric and its applicability

and transferability to different countries, jurisdictions and environments has been questioned (O'Brien-Pallas et al 2006; Van Bogaert et al 2009; O'Brien-Pallas et al 2011). The generation of the NWI-R:A has therefore enabled the legitimate measurement of magnet features in the Australian healthcare context. As a result, opportunities to investigate the 'magnetism' of health care facilities that is both sensitive and relevant to the Australian environment, now exists.

The overwhelming consensus from the participants in Study One was that if left unchanged, the language used in the North American tool would impact considerably on an Austalian respondents' interpretation of the items. The registered nurses who participated in Study One came from a range of clinical areas within the nursing workforce and from a variety of professional practice settings. The majority of these participants expressed concerns regarding the applicability of the North American tool to an Australian context. Specifically, they highlighted that a number of the US terms used in the tool were not relevant and/or had alternate meanings for Australian nursing staff. The need for change and adaptation of tools used to measure the features of the practice environment is an important part of ensuring that a tool reflects the dynamic nature of the nursing practice environment (Polit & Beck 2013).

Language is contextual and open to interpretation. Language is an important element of a survey because it can influence research findings and outcomes (Mokkink et al 2010; Furrer, Tjemkes, Aydinlik & Adolfs 2013). Most psychometric tools rely on the use of language to convey clarity of meaning through specific words, phrases, and/ or sentences. The interpretation of language is dependant on a number of elements that include an individuals general knowledge and their cultural perceptions and norms (Mweri 2010). It is also important to consider the equivalence of language in the adaptation of words and phrases in a research tool (Kristjansson, Desrochers & Zumbo 2003). The issue of language equivalence is important because it relates to the mapping of meanings across languages and cultures. Therefore it is relevant for researchers to ensure these language nuances are accommodated in the adaptation of a tool to a different culture or group (Kristjansson et al 2003; Mweri 2010).

People from different cultures may perceive different meanings of items used in a survey (Kristjansson et al 2003). They may have a culturally derived preference to respond in a manner that differs from the provided responses. Individuals raised in different social or cultural environments usually differ in their inclination to provide socially desirable responses (Mweri 2010). They are also influcenced by the different norms of the culture when responding to particular situations. In addition to these differences in the response preferences the meaning of items can also be influenced by cultural group differences (Mokkink et al 2010). Measurement differences between translated and adapted questionnaires can be a serious threat to the validity of cross-cultural comparisons and as such should be addressed in the use of measurement tools (Mokkink et al 2010; Furrer et al 2013).

Close attention to the focal theme or concept of a measurement tool is crucial to determine whether or not it is relevant to the culture/s in which it is to be implemented (Furrer et al 2013). Another important aspect in the adaptation of measurement tools is to ensure that the nature of the measurement is relevant to the phenomenon being studied in a different environment or context (Banville, Desrosiers & Genet-Volet 2000; Mokkink et al 2010). Measurement requires a clear description of a study phenomenon and the related variables to establish the relevant attributes or aspects to measure (Pedhazur & Pedhazur-Schmelkin 2013). The adaption and subsequent testing of the NWI-R:A in Australian healthcare facilities established the foundation for increased sensitivity of the measurement tool for use in the Australian healthcare context. Sensitivity to the nuances in meaning, expression and awareness of different cultural knowledge and experience can serve to prevent difficulties in item construction and tool performance (Mokkink et al 2010; Furrer et al 2013). Also, the adaptaion of the tool for the Australian context involved a process that emulated the strategies used by other reseachers in the development of other iteration of the tool. Following this process ensured that the adaptation of the tool was based on a rigorous and systematic approach. The significance of the findings from this research are that the adaptations to the NWI-R:A are aligned with the evolution of psychometric testing and modification being undertaken by other researchers in Australia and internationally (Kramer 1990; Laschinger & Havens 1996; Lake 2002; Lake & Friese 2006; Laschinger 2012).

Furthermore, the development of an Australian specific tool that has been shown to measure magnet features in an Australian context, is of importance because it has provided a measure that has been shown to be sensitive to the Australian context. The international literature on the use and development of the original North American tool from its inception over twenty years ago, established the necessity to continually develop and adapt the measurement tool to facilitate its validity and reliability (Kramer & Hafner 1989; Kramer & Schmalenberg 1991a, 1991b; Aiken et al 1994). The use of the US tool in studies outside North America has often included modifications to accommodate the local context (Choi et al 2004; Cummings et al 2006; Slater & McCormack 2007; Chen & Johantgen 2010). Subsequently an ongoing trend in this area of research has been the testing and modification of the original tool resulting in extensive progression in the tool items as well as the methods of statistical analysis (Lake 2002; Mc Cusker et al 2005; Lake 2007; Joyce & Crookes 2007; Middleton et al 2008; Laschinger 2012).

A review of the development of the North American NWI tool has shown that different concepts and measures of organisational factors have been used in the plethora of research related to the practice environment of nurses (Choi et al 2004; Lake & Friese 2006; Slater 2010). Lake (2007), in an extensive review of seven instruments and fifty-four studies established that the NWI-R provided a sound theoretical foundation for measuring the nursing practice environment, but there was a need for ongoing adaptations to enhance its comprehensiveness to measure evolving nursing practice environments. Subsequently, further revisions to the measurement tools has shown that researchers are focussed on increasing validity and reliability across an ever widening range of settings and contexts (Cummings et al 2006; Slater & McCormack 2007; Lake, Shang, Klaus & Dunton 2010; Chen & Johantgen 2010, Slater 2010). This research contributes to this dynamism.

Ongoing development is required to ensure the reliability and validity of research tools used within various research paradigms. Health care and nursing practice has undergone significant changes as a result of population trends, sociological and

cultural changes and technological advancements (Nic-Philibin et al 2010). In these environments nurses are required to ensure that their practice is based on the best available evidence, which is preferably research based (Polit & Beck 2013). The basis for constant reflection and critical analysis is to enhance the quality of health outcomes for the recipents of care. Thus, within a landscape of constantly changing nursing environments informed by evidence and research, adapting a tool to ensure it continues to fit the context in which it is measuring, is paramount.

The generation of the NWI-R:A as a tool capable of measuring the magnetism of Australian facilities contributes new knowledge to the body of evidence on magnetism (Joyce & Crookes 2007; 2011). The provision of the NWI-R:A that is sensitive to the local context of Australian practice environments allows for the transfer of the principles of magnetism. It builds on the existing work of researchers in this area as a mechanism for measuring the level of *magnetism* in Australian health care facilities and for the comparison of the results from the earlier versions of the tool. The contribution of the NWI-R:A to the measurement of magnet features in the Australian context also allows for the examination of the measurement of magnet features in the Australian facilities surveyed.

MAGNETISM OF NURSE PRACTICE ENVIRONMENTS IN AUSTRALIA

A better understanding of the magnetism of the nursing practice environment in Australian facilities can inform the international development of milieus that promote nurse job satisfaction and retention (Shields & Ward 2001; Duffield et al 2004; Aiken et al 2008; Duffield & Roche 2010). Health care facilties and nursing practice environments ultimtately impact on the provision of care (Suhonen 2010). In Study Two and Three of this research, and as explicated earlier in this thesis, the findings showed that the participants who participated in the research, generally considered their settings to be *mixed* magnet environments. A mixed magnet environment is defined as an environment that has achieved scores in features of their ‘magnetism’above the midpoint in (only) two or three subscales inherent within the NWI-R:A. Identifying magnet features is important as magnet hosptials are

recognised as having positive practice environments that facilitate better staff and patient outcomes (Aiken et al 2001; Duffield & O'Brien-Pallas 2002; Choi et al 2004; Duffield et al 2011; Henderson et al 2012). Comparison of the findings from this research to those of other hosptials including designated magnet hospitals provides insights into the magnetic status of Australian nursing practice environments.

Staffing, resources and quality of care

The area of most concern for the participants in this research was found to be *staffing and resource adequacy*. The respondents indicated that the resources (human and environmental) they had to work with and within were inadequate. The notion of staff resources is a significant one and is consistently identified as an issue in the retention of staff across a number of countries including Australia (Cooksey et al 2003; Armstrong et al 2009; Chen & Johantgen 2010; Duffield & Roche 2010). A number of studies have identified the negative effects of inadequate staffing resources on nursing staff perceptions of the professional practice environment (Choi et al 2004; Aiken et al 2008; Cheung et al 2008; Cohen, Stuenkel & Aiken 2009). Contributing to this discourse, Slater & McCormack (2007) established that participants in a study of 172 UK nurses were dissatisfied with the level of staffing and resource adequacy. Similarly, Day, Minichiello and Madison (2007), in an Australian survey of 343 registered nurses in three hosptials, presented similar findings regarding a perceived inadequacy of resources by nursing staff for achieving organisational goals.

A contemporary example of issues related to staffing is the industrial campaign being run by The New South Wales Nurses and Midwives Association (NSWNMA). The NSWNMA is a statewide organisation currently engaged in a campaign for health services commitment to adequate nursing staff ratios, which they claim are required to to protect patient safety (2013). On 24th July 2013, nurses in NSW took the extraordinary measure of industrial action to express their dissatisfaction with nurse-patient ratios. It has been established that insufficient staffing and equipment have been associated with an increase in staff injuries, errors and nurse turnover (Clarke,

Sloane & Aiken 2002; Aiken et al 2008; Henderson et al 2012). The evidence provides a compelling argument for the increase in staffing levels of hospitals through the implementation of appropriate staffing ratios (Duffield et al 2007; Twigg et al 2010). Reducing nurses' workloads by providing adequate staffing is critical to improving the safety of both staff and patients as well as maintaining quality of care. Practice environments in which nurses are responsible for what they consider too many patients, risks patient safety and also increases the likelihood of nurses leaving, either their job or the profession entirely (Armstrong et al 2009). Data from this project thus gives cause for concern for two reasons. Firstly, that there was a tendency for participants across several sites to express dissatisfaction with the resources they need to provide good care and this had implications for their job satisfaction and thus intention to leave. Secondly, that such a situation means that nursing staff at least, believe that less than optimal care is possible because of a lack of resources.

While participants in this research described the *staffing and resource adequacy* as inadequate they concurrently considered the *nursing foundations of quality of care* as a positive feature of their work environment. This appears to be a contradiction. Indeed, one could ask: if staff and resources were inadequate, then how could quality of care be high? It appears that the nursing staff across the participating sites feel that they are providing quality care in spite of a perceived lack of resources. Perhaps, it is care at a localised even individual level that the participants felt was of a high standard. It could also be that the nursing staff viewed the quality of care they provided as high, because their professional standard prevents them from considering or vocalising otherwise (Suhonen 2010). It could also be that the respondents were really saying that they believe nursing services provide the 'best care they can, under the circumstances'. This apparent tension requires further exploration into what constitutes the provision of quality care, from the purview of sources other than healthcare professionals and administrators – eg. patients and their significant others.

Laschinger et al's (2001), survey of 3,016 nurses in the US suggested that the perceptions of hospital staff nurses influence job satisfaction and perceived quality of patient care. Indeed, the work environment has been shown to have a stronger impact

on job satisfaction and retention than pay or promotional opportunities (Shields & Ward 2001). Bartram et al (2004) in an Australian study of 157 registered nurses supported the relevance of developing the work environment as a strategy to reduce stress and improve retention of staff. The Australian study by Duffield et al (2004) established that there are registered nurses no longer working in the profession because they perceive the work environment to be unsupportive.

Despite the long standing focus on quality of care from the perspective of the care recipient there is limited research from the perspective of the nurse (Suhonen 2010). The results from this PhD research indicate that over seventy-five percent of the nursing staff at the five participating Australian hospitals, perceived the quality of care in their workplace as high. Similarily other studies from a number of countries in Europe and Asia as well as Canada and Australia have found that nurses indicated that they provide a high quality of care (Duffield et al 2007; Aiken et al 2008). Rafferty et al's (2001) study of over 10,000 UK nurses also described the quality of care provided to be of a high standard despite the absence of decision making opportunities and adequate staff resources. Buchan et al (2003) in a review of the first accredited hospital outside North America at the NHS Rochdale in the Unitied Kingdom also identified that nurses who work in a magnet environment rated the quality of patient care as high. Duffield et al (2007) in an extensive study of twenty seven hosptials in New South Wales, Australia reported that most nurses described the quality of the care they provided as high. This suggests that generally nurses believe they provide a high quality of care, often despite the perception of low staffing and inadequate resources.

The influence of managers on practice environments

The findings of this research which were related to the area of *manager ability, leadership and support for nurses* indicate that on the whole, the participants perceived their nursing managers positively. More specifically the participants had high opinions of the abilities of their managers; viewing them to be competent and

capable. In contrast the participants reported that there was limited access to, or visibility of, the executive nursing staff in the organisation. These findings suggest that in the surveyed facilties there were differences in the participants views of the nurse managers and leaders across the organisational. Managers at the unit level were described as highly visible and available so as to provide adequate support and direction while the senior nurse leaders in the facility were perceived as less so. The findings of the research rasies the issue that effective managers are not always good leaders and good leaders are not always good managers (Brown 2013). Management and leadership are often referred to in the same context resulting in an assumption that they are synonomus. It is important to note that management is concerned with planning and organisation while leadership is about influence and achieving goals (Millward & Bryan 2005).

The literature reviewed in this area supports the findings of this research that competent and strong mangers have a positive influence on the practice environment (Roberts et al 2004). Flynn, Carryer and Budge (2005) in a study of US nurses reported that managers with skills in working with others and effective leadership abilities had a positive influence on the level of staff job satisfaction.
A similar study was undertaken by Stordeur and D'Hoore (2007) of over 1000 nurses from 12 Belgian hospitals. Comparisons were undertaken between the hospitals that were identified as 'attractive' (staff turnover < 3%) and those hospitals considered 'conventional' (turnover > 12%). The research found that there were significant differences in the support and quality of nursing leadership between such facilities. Staff from within the attractive hospital group reported higher levels of job satisfaction and good relationships with nursing managers (Stordeur & D'Hoore 2007). Cohen, Stuenkel and Nguyen (2009) examined the perception of support from managers for registered nurses across a two year period in North America. Their study emphasised that strategies to promote the retention of nurses should promote the support provided by managers (Cohen et al 2009).

It is important to understand the connection between nurse managers, leadership abilities and the practice environment. The assumption is that the leaders making the

difference in the clinical environment are those in heirerarchial and executive positions (Cook & Leathard 2004; Cohen et al 2009). Generally in nursing, the assumed leader is the unit or ward manager who assumes responsibility for coordinating patient care and nursing staff management (Duffield & Roche 2010; Hogan 2013). A study of nurse unit managers in New South Wales, Australia, found that the majority of their role involved budgeting and staff management, with only a small portion of their role being direct patient care (NSW Department of Health 2009). Further, the role of executive nurse leaders is typically completly removed from direct patient care. The NWI-R:A measures the visability, support and leadership abilities of nursing unit managers *as well as* those of nurses in executive leadership roles. The findings from the examination of staff views of the nurses in each of these roles informs the differentiation between the two groups and more accurately identifies the individuals whose clinical leadership is influencing the practice environment in relation to magnetism.

Clinical leadership has been identified in the literature to be the specific factor influencing the practice environment of nurses and the quality of patient care (Cook & Leathard 2004; Millward & Bryan 2005; McNamara et al 2011). Millward and Bryan (2005) define clinical leadership as, 'the judicious blend of effective management … with skill in transformational change in order to make a real difference to the care delivery process" (p.xiii). Furthermore, because of the impact that clinical leadership of nurse unit/ward managers has on the quality of care, it is imperative for increased clarity regarding the antecedents of clinical leaderhip (Bradshaw 2010; Brown 2013).

In addition to the leadership ability and support from nurse mamangers, the hierarchical and bureaucratic structure of organisations including hospitals has an impact on how effectively nurses can lead (Manley 2008; Fealy et al 2011). In relation to *nurse participation in hospital affairs,* participants in this research perceived there to be insufficient opportunities for them to contribute to decision-making within the hospital. The participants did though, express the view that nurses generally, were able to be involved in the internal governance of the hospital through a process of regular consultation. However, this was counter-balanced by the perceived low

visability and lack of access to nurse leaders in executive leadership positions in the facility. These results indicate that while formal structures were seen to be in place for the participants to be able to contribute to the decision making processes of the facilities, they felt disconnected from these processes. Perhaps this is akin to knowing that one can make a comment at any time during a conversation, but for some reason, never taking that opportunity.

The perceptions of participant nurses regarding their lack of involvement in the decision making process were expressed as a desire for more control over their work environment. Research has confirmed that a positive nursing work environment, enabling nurses' autonomy and involvement in professional practice decision making, is important for job satisfaction (Manley 2008; O'Brien-Pallas et al 2011; Tillott et al 2013). Participation in organisational decision making has also been linked to job satisfaction and subsequently turnover of nursing staff (Sourdif 2004; Flynn et al 2005; Cohen et al 2009; Duffield & Roche 2010). Tourangeau, Cranley and Jeffs (2006) in an extensive survey of 13,000 nurses in Canada, also identified empowerment in decision making as a determinant of job satisfaction for nurses. This highlights the necessity for administrators to facilitate increased opportunities for nursing staff within the workplace to contribute to decisions as a strategy for improving their participation in hospital affairs.

Collegial relations between nurses and medical staff

The most highly rated magnet feature by respondents across all the surveyed facilities in this project was that of *collegial nurse-medical officier relations*. The traditional discourse is that nurse-medical officers relationships are generally patriarchal (Manojlovich 2010) and even follow ritualistic formats (Stein 1967; Holyoake 2011). This discourse is not substantiated by the participants in this research; indeed they were very satisfied with the quality and quantity of their interactions with medical staff. Other contemporary research, contrary to traditional rhetoric, asserts that nurse-doctor relationships are often perceived positively by nurses (Middleton et al 2008;

Van Bogaert et al 2009; Walker et al 2010; Duffield & Roche 2010). Furthermore the quality of nurse-medical officer relationships in the practice environment impact on patient safetey. Breakdowns in communication between medical officers and nurses often results in errors, many of which are avoidable (Manojlovich 2010).

Promoting collaboration between nurses and medical officers enhances patient care and improves the culture of the practice environment (Walker et al 2010). Shared understanding of the roles in the health care team improves the process of decision-making in the continuum of care. Vahey et al (2004) asserts that nurses reported significantly lower levels of burnout when they perceived there to be good medical officer-nurse relationships. In this current study, a significant relationship was also found between the features of magnetism (that includes nurse-medical officer relationships) and nursing staff reported level of job satisfaction and their intentions to leave their current workplace. Strategies identified as successful in improving the communication and collaboration between the health care team include recognition of the status of team members, certainty about the expectaitons of roles, increased autonmomy, development of trust between team members and transparency in the workplace (Tillott et al 2013).

In summary, the measurement of magnet features from the participants from the regional hopsitals in this research, contributes new knowledge regarding the concept of magnet features in Australia. It enables more accurate identification of the presence or absence of magnet features within health care facilities. Results of which can now be translated across Australia. The benefit of being able to identify not only magnet features but also magnet hospitals, is that Australian facilities can use the principles of the magnet concept to underpin the development of strategies for improving the attraction and retention of staff.

As a result of the use of the NWI-R:A in a number of Australian healthcare facilities, data has been generated that provides insights to the views of nursing staff on the

magnetism of their workplace. The resulting outcome for nursing staff in professional environments that continue to neglect these aspects of organisational structure, are increased staff dissatisfaction, increased burnout and a culture of uncertainty. The longitudinal use of the tool in facilities to measure magnet features in conjunction with measures of staff outcomes of retention and attraction could establish substantive information on the potential links between the factors that impact on staff retention.

IMPACT OF ORGANISATIONAL MAGNETISM ON STAFF RETENTION

The previous section of the chapter discussed the NWI-R:A data of the organisational practice environments of the participating Australian hospitals in relation to magnet features. This section undertakes an exploration of the interrelationships between the magnet features of the nursing practice environment and job satisfaction and how these influence Australian nurses' intention to leave their workplace. This study established that statistically significant relationships were present between the three research variables of magnet features, job satisfaction and intention to leave in the settings evaluated. These findings are consistent with studies of nurses from the USA, Canada and the UK, all of which found that magnet features impact on job satisfaction and staff retention (Sourdif 2004; Tourangeau et al 2006; Laschinger & Finegan 2008; Duffield & Roche 2010). A significant outcome of this research has been to further substantiate that improving the magnetism of the nurse practice environment tended to positively influence the job satisfaction of staff and reduce the stated intentions to leave of staff surveyed. As a result of this, one could assert that the implementation of strategies that increase the magnetism of the nurse practice environment should be a priority for health care organisationservices employing registered nurses.

The extensive research undertaken to consider the impact of job satisfaction of 43,000 nurses across five countries, United States, Canada, England, Scotland and Germany, established that nurses often felt increased dissatisfaction with the work environment leading to an increased likelihood of leaving (Aiken et al 2001). Aiken et al (2008)

subsequently reported that during the credentialing process of a NHS facility in the UK, a 15 percent rise in job satisfaction as measured by the US tool, was associated with an 11percent drop in nursing staff's intention to leave.

The reduction in nursing staff turnover can have a significant impact on the economic management of health services as well as the quality of care and safety of patients. Increasing the job satisfaction of nurses can be seen, lead to reducing their intentions to leave and limit the turnover of staff. The cost of replacing nursing staff is significant. Studies in the US and Australia have estimated that replacing one nurse can cost in excess of $10,000 US dollars (Hayes et al 2006; O'Brien-Pallas et al 2006, O'Brien-Pallas et al 2011).

Stated intention to leave has long been associated with few promotional opportunities, limited scope for input to decision making and poor organisational communication (Davidson et al 1997). Salary or benefits, convenience, work schedule and job-related stress have in the past few decades, also been identified as significant in the retention of nursing staff (Tzeng 2002; Dunn et al 2005; Manley 2008). These findings indicate that there are a number of factors that have been associated with an individual's intention to leave.

This doctoral research has shown that negative perceptions of magnet features measured by the NWI-R:A were correlated with a higher intention to leave. This was the case particularly for staff who perceived their workplace to be charcaterised by low(er) levels of manager ability, leadership and support, nurse participation in hospital affairs and poor collegial nurse-medical officer relationships correlated to intention to leave. These findings are similar to those of the Australian study by Bartram et al (2004) who identified that registered nurses in Melbourne reported an increased satisfaction when they felt supported by their supervisor. Similarily, Day et al (2007) surveyed 343 Australian registered nurses and found that the key factors impacting their perceptions of the practice environment are the interaction with others, being informed about organisational decisions and the capacity for the

provision of quality care. It is now well recognised that nurses perceptions of the hospital work environment has an impact on their satisfaction. Middleton et al (2008) in an Australian study report similar findings to this research in that the Australian nurses surveyed perceived the quality of care they provide as high. Similarly Duffield and Roche (2010) research on the practice environment, job satisfaction and intention to leave established the significance of the impact of the nurse manager on the experiences of a ward and the nursing staff, with good managers' being seen to play a crucial role in high levels of job satisfaction of their nursing staff. Hogan (2013) also identified similar findings in her qualitative Australian PhD thesis titled *Registered Nurse understanding of organisational commitment and its link to retention: A Grounded Theory Study*.

In summary, the analysis of the data pertaining to the associations between the research variables in the present study established that the majority of facilities showed a significant positive correlation between high scores for magnet features (NWI-R:A) and increased job satisfaction (GSS). Similarly, more positive responses for magnet features (NWI-R:A) were significantly correlated with lower stated intention to leave. The examination of the research variables of magnet features and staff retention has thus illuminated the discussion of relationships that exist between magnet features, job satisfaction and staff intentions about their future employment in their current place of work. As such it has informed the consideration of organisational factors impacting on the retention of nursing staff.

The adaptation of the NWI-R:A allows for the assessment, monitoring and evaluation of the Australian practice environment and thus can inform policymakers, administrators and educators in healthcare. It is at this level that the Australian specific NWI-R:A can be used in the formulation of interventions and strategies to facilitate improvements in the practice environment because it has been adapted to the population and setting characteristics and experience of the local context. The final chapter of the thesis provides the concluding statements of the thesis. It includes an account of the outcomes of this research and the recommendations for future practice.

CHAPTER 7. CONCLUDING STATEMENTS AND RECOMMENDATIONS

Translating knowledge in the complex environments that are health organisations needs to be linked with research utilisation processes if successful and sustainable change is to be achieved (Estabrooks & OLeary 2006). This requires an increased understanding of the relationship between the context of the practice environment and theory for knowledge-translation. Theory is important in the translation of knowledge to practice to develop useful and testable interventions and ensure initiatives are relevant and have every possibility for success. The elements that should be evaluated and addressed when introducing research findings into policy, practice and education have been clearly outlined to include the systematic assessment monitoring and evaluation of the practice environment; the potential adopters of the evidence; the evidence-based innovation; research transfer strategies and health-related outcomes (Ottawa Model of Research Use 2009 http://www.cihr-irsc.gc.ca/e/8505.html).

The aims of this research were to: (1) adapt a tool for measuring magnet features that relates to the Australian context; (2) test the reliability and validity of this adapted tool; and (3) use the tool to measure magnet features and investigate their relationship to measures of job satisfaction and staff intention to leave, among a sample of nurses in five Australian health facilities. The thesis has contributed to the professional development of health professionals through the dissemination of its'findings in a range of professional and academic contexts. Four scholarly papers and a number of presentations have been generated from the research activity undertaken in this project.

OUTCOMES OF THE RESEARCH

The successful achievement of the aims of this doctoral research means that it builds on the existing magnet hospital concept by making it clearly transferable to the Australian context through the development and testing of the Nursing Work Index-

Revised: Australian (NWI-R:A). The generation of this Australian tool has enabled the researcher to examine the magnet features of five Australian institutions, specifically utilising an Australian sensitive tool that has proven to be both valid and reliable. This has led to the collection of specific data on the magnetism of Australian health facilities. The challenge undertaken by this research was to identify an alternative to merely using the US magnet hospital tool in Australia. The challenge was accomplished. This doctoral research has enabled the measurement of the magnet features in Australian hospitals using a tool spefcifically adapted for that purpose. The NWI-R:A offers a method for developing organisational strategies for Australian hospitals, based on the measurement of existing features that is aligned to, but independent of, the US tool, credentialing program and research.

The findings provide the foundation for the development of an Australian profile in terms of magnetsism for nursing staff, as well as the capability to provide individual health facilities with specific information they can use to inform effective strategies for improving the retention of their nursing staff. This research contributes to the international literature on localising the measurement of magnetism and adds to the body of knowledge about the magnet features of Australian health facilities. The key aspect of this research is that the tool adaptation and the data it elicited was generated directly by nurses. In terms of the tool this means that it is relevant to the Australian context. From the perspective of facilities using the tool, it will allow the prioritisation of specific changes to address staff concerns and expectations in such facilities. This provides information to generate local solutions to what is increasingly a global problem.

RECOMMENDATIONS FROM THIS RESEARCH

The recommendations emerging from this research and the proposed future directions have been generated to facilitate the translation of the information and knowledge acquired from the outcomes of this project.

Further research using the NWI-R:A within Australian health facilities will facilitate a broader picture of the issues specific to Australian nurses. Such data will be able to extend the contributions made by this research and provide the impetus for developing state and national plans as to how Australian health organisations can become more 'magnetic'. As well it will contribute to the knowledge about Australian hospital work environments and potentially inform the development of initatives for success in the retention of nursing staff.

Recommendations for further research

- A key research recommendation is to undertake further research using the NWI-R:A as a measure of the practice environment in Australian health facilities. An improved understanding of the Australian nursing practice environment can be achieved by conducting an increased number and broader range of studies using the NWI-R:A.

- Undertake further research that includes multiple facilities across varied locations which traverse a range of practice areas including nursing specialities. This further research can extend the generalisability of the tool as well as being able to report on the contextual factors across a range of practice environments.

- Undertake ongoing revision and subsequent adaptation of the NWI-R:A through psychometric analysis that continues to evaluate the reliability and validity of the tool. This will ensure the tool continues to provide a mechanism for better understanding the complexities of the dynamic practice environment and ensure the tool remains contextually relevant to the Australian practice environment.

- Develop research that incorporates a triangulation of information from healthcare recipients in conjunction with data from the NWI-R:A to fully explore the quality of care provided in a surveyed facility.

- Develop collaborative research that facilitates a better understanding of the recruitment and retention issues pertaining to nursing staff across a range of Australian healthcare facilities.

Recommendations for policy, practice and education development

There are a number of implications as a result of the adaptation and use of the NWI-R:A. Firstly, and importantly individual health facilities can be provided with information on the current status of magnet features as perceived by the nursing staff of the facility. This can be used to highlight the positive and negative magnet features to establish a profile of magnetism for the facility. This approach recognises the voice of the staff and established strategies directly as a result of their input. Secondly, it provides personnel who work in the area of policy and practice development the tools for producing strategies to improve staff retention that are directly relevant to the facility. Resources can be focussed on the areas identified as requiring priority, as informed by the staff. This profile can be used in the development of strategies for improving the magnetism of the facility.

- Policy developers in Australian health facilities can use the substantive findings from this research to develop strategies for improving the staffing and resources available to nurses in their practice environment. Better understanding of the relationships of nurse staffing and organisational climate to patient safety and health outcomes is necessary.

- Healthcare organisations need to acknowledge that the findings of this research have confirmed improving the magnetism of the nursing practice environment improves staff job satisfaction and reduces intentions to leave employment.

- Healthcare organisations and executives should implement processes that plan for the adaptation and refinement of strategies for improving the practice environment to suit local conditions.

- The information gleaned through these processes should be used to inform the development strategies for promoting more effective practice environments that facilitate increased job satisfaction and retention.

- The development of education programs for nurses' that are informed by information on the contemporary features of the practice environment so that these programs better prepare individuals entering the nursing profession.

In conclusion, the significance of this research is the contribution it could potentially make into the future regarding 'our' being able to gather evidence into magnet hospitals using a valid and reliable tool which has been adapted so as to be applicable to the Australian health care context. While many varied attempts have been, and continue to be, made at restructuring health services in an attempt to improve the retention of nursing staff, it can rarely be shown that a conceptual underpinning is used to inform these re-structuring activities. The strength of the magnet concept is, that there is empirical evidence to support the adoption of this concept as a successful strategy for addressing the nursing workforce issues currently facing global healthcare systems. It has also been affirmed that improving the elements of the work environment can result in improved outcomes for nurses and patients. The promotion of the magnet features of health care institutions could be a catalyst for widespread improvement in nurses' work environments in healthcare settings, with an attendant improvement in patient outcomes.

The potential rewards of enhancing magnet features are both financially and professionally very attractive. The potential to reduce the turnover of nursing staff is a significant benefit for health care organisations. These issues are dominating the debate by all stakeholders in the delivery of health services in Australia and globally.

Funding bodies and health administrators are looking for answers to the issue of staff retention. The broader application of magnet principles in Australia, in conjunction with the credentialing program, could provide an opportunity for health care services to change the negative trends being experienced. In conclusion, it would seem prudent that the investment of the finite resources available to Australian health services in an attempt to address the issues of nursing staff attraction and retention would be best made in an organisational structure that is underpinned by a conceptual framework supported by evidence of success in meeting these workforce issues.

REFERENCES

Adams, A & Bond, S 2000, 'Hospital nurses, job satisfaction, individual and organisational characteristics', *Journal of Advanced Nursing*, vol. 32, no. 3, pp. 536-543.

Aiken, LH 1981, 'Nursing priorities for the 1980s: Hospital and nursing homes', *American Journal of Nursing*, vol. 8, no. 2, p. 325.

Aiken, LH, Smith, HL & Lake, ET 1994, 'Lower Medicare mortality among a set of hospitals known for good nursing care', *Medical Care*, vol. 32, pp. 771-787.

Aiken, LH, Sloane, DM & Lake, ET 1997, 'Satisfaction with inpatient AIDS care: A national comparison of dedicated and scattered-bed units', *Medical Care*, vol. 35, pp. 948-962.

Aiken, LH, Sochalski, J & Lake, ET 1997, 'Studying outcomes of organisational change in health services', *Medical Care*, vol. 35, no. 11, pp. 6–18.

Aiken, LH & Fagin, CM 1997, 'Evaluating the consequences of hospital restructuring—Preface', *Medical Care* vol. 35, no. 10, pp. OS1–OS4.

Aiken, LH & Sloane DM 1997a, 'Effects of organisational innovations in AIDS care on burnout among urban hospital nurses', *Work and Occupations*, vol. 24, no. 4, pp. 453–477.

Aiken, LH & Sloane DM 1997b, 'Effects of specialisation and client differentiation on the status of nurses: The case of AIDS', *Journal of Health and Social Behavior*, vol. 38, no. 3, pp. 203–222.

Aiken, LH, Sloane, DM & Klocinski,D 1997 'Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction', *Journal of the American Medical Association*, vol. 28, no. 8, pp. 1987-1993.

Aiken, LH, Sloane, DM, Lake, ET, Sochalski, J & Weber, A 1999, 'Organisation and outcomes of inpatient AIDS care', *Medical Care*, vol. 37, no. 8, pp. 760-772.

Aiken, LH & Havens, DS 2000, 'The Magnet Nursing Services Recognition Program: A comparison of two groups of magnet hospitals', *American Journal of Nursing*, vol. 100, no. 3, pp. 26-35.

Aiken, LH & Patrician, PA 2000, 'Measuring Organisational Traits of Hospitals: The Revised Nursing Work Index', *Nursing Research*, vol. 49, no. 3, pp. 146-153.

Aiken, LH, Clarke, SP, Sloane, DM, Sochalski, JA, Busse, R, Clarke, H, Giovannetti, P, Hunt, J, Rafferty, AM & Shamian, J 2001, 'Nurses' reports on hospital care in five countries', *Health Affairs*, vol. 20, no. 3, pp. 43-53.

Aiken, LH, Clarke, SP & Sloane, DM 2002, 'Hospital, staffing, organisation, and quality of care: Cross-national findings', (Reprinted from International Journal for Quality in Health Care, 14, 2002) *Nursing Outlook*, vol. 50, no. 5, pp. 187–194.

Aiken, LH 2002, *Superior outcomes for magnet hospitals: the evidence base, in Magnet Hospitals Revisited: Attraction and Retention of Professional Nurses*, McClure M L and Hinshaw A S eds, American Nurses Publishing, Washington DC.

Aiken, LH, Clarke, SP, Sloane, DM, Sochalski, JA & Silber, JH 2002, 'Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction', *JAMA*, vol. 28, pp. 43-53.

Aiken, LH & Sloane, DM 2002, *Hospital organisation and culture: Impact on outcomes. In Hospitals in a changing Europe*, eds M McKee & J Healy, Open University Press, London.

Aiken, LH 2003, *Outcomes of Nursing Care: An International Perspective*, Keynote address International Council of Nursing, Building Excellence Through Evidence, Geneva Switzerland, 27-29 June.

Aiken, LH, Clarke, SP, Cheung, RB, Sloane, DM & Silber, JH 2003, 'Educational levels of hospital nurses and surgical patient mortality', *JAMA*, vol. 290, no.12, pp. 1617-23.

Aiken, LH, Buchan, J, Ball, J & Rafferty, AM 2008 'Transformative impact of Magnet designation: England case study', *Journal of Clinical Nursing*, vol. 17, pp. 3330-3337.

American: Nurses Credentialing Center, 2000-2001 *Magnet Nursing Services Recognition Program for Excellence in Nursing Services: Health Care Organisations Instructions and Application Process Manual*, ANCC, Washington DC.

American Nurses Credentialing Center, 2003, *Magnet Recognition Program Recognising Excellence in Nursing Service Health Care Organisation Instructions and Application Process Manual*, ANCC, Washington DC.

American Nurses Credentialing Center 2003a, First International Organisation Recognised by ANCC for Excellence in Nursing Services Rochdale Healthcare of U.K. Earns "Magnet" Status ANCC Press release, viewed 23 October 2003, <http://nursingworld.org/ancc/CI/press.html>.

American Nurses Credentialing Center 2003b, Credentialing International -Promoting and validating nursing excellence around the world. Press release, viewed 23 October 2003, <http://nursingworld.org/ancc/inside/about/aboutCI.html>.

American Nurses Credentialing Center 2003c, New Zealand Nurses Visit Credentialing International Headquarters. Press release, viewed 23 October 2003, <http://nursingworld.org/ancc/CI/press.html>.

Angerami, EL, Gomes, DL & Mendes, IJ 2000, 'Permanence of nurses in their profession,' *Revista Latino-Americana de Enfermagem* vol. 8, no. 5, pp. 52–57.

Aristole, n.d. The Quotations Page, viewed 6 May 2009, http://www.quotationspage.com/quotes/Aristotle/

Armstrong, K, Laschinger, HKS & Woog, J 2009, 'Workplace empowerment and magnet hospital characteristics as predictors of patient safety climate', *Journal of Nurisng Care Quality*, vol. 24, no. 1, pp. 55-62.

Australian Bureau of Statistics 2012, Australian Social Trends June 2012, Australian Bureau of Statistics, viewed 3 April 2013, http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features20Jun+2012#

Australian Council for Safety and Quality in Health Care 2003, Safety and quality and the health reform agenda, Commonwealth of Australia, Canberra, viewed 24 October 2003, <http://www.safetyandquality.org/articles/Publications/SafetyQualityHealthReformAgenda_web.pdf>.

Australian Government 2007 National Statement on Ethical Conduct in Human Research, National Circuit, Canberra, ACT.

Australian Government Productivity Commission 2005, *Australia's Health Workforce*, Research Report, Canberra.

Australian Health Practitioner Regulaton Agency (AHPRA) 2012, 2011/12 Annual Report, APHRA, Canberra, viewed 7 April 2013, <http://www.ahpra.gov.au/News/AHPRA-Report/November-2012.aspx>.

Australian Nurses Federation 2012, *Snapshot of Nursing in Australia*, ANF Website, viewed 9 April 2013, http://anf.org.au/documents/reports/Fact_Sheet_Snap_Shot_Nursing.pdf

Australian Government Productivity Commission 2005, *Australia's Health Workforce*, Research Report, Canberra.

Australian Institute of Health and Welfare (AIHW) 2008, *Nursing and midwifery labour force 2005*, Canberra: AIHW.

Australian Institute of Health and Welfare (AIHW) 2012, *Nursing and Midwifery workforce 2011, National health workforce series*, no.2. Cat. No. HWL 48. Canberra: AIHW, viewed 7 April 2013, <http://www.aihw.gov.au/publication-detail/?id=10737422167>.

Baggs, JG, Ryan, SA, Phelps, CE, Richeson, JF & Johnson, JE 1992, 'The association between interdisciplinary collaboration and patient outcomes in a medical intensive care unit', *Heart Lung*, vol. 21, no. 1, pp. 18-24.

Banville D, Desrosiers P & Genet-Volet,Y 2000, 'Translating questionnaires and inventories using a cross-cultural translation technique', *Journal of Teaching in Physical Education*, vol. 19, pp. 374–387

Barrett, L & Yates, P 2002, "Oncology/haematology nurses: a study of job satisfaction, burnout, and intention to leave the speciality', *Australian Health Review* vol. 25, no. 3, pp. 109-121.

Bartram, T Joiner, T & Stanton, P 2004, 'Factors affecting the job stress and job satisfaction of Australian nurses: implications for recruitment and retention', *Contemporary Nurse Journal*, vol. 17, no. 3, pp. 293-304.

Baumann, A 2007 *Positive practice environments*, Interantional Council Nursing Geneva (Switzerland)

Beanland, C, Schneider, Z, LoBiondo-Wood, G & Haber, J 1999 *Nursing Research, Methods, critical appraisal and utilisation*, Mosby Sydney.

Bednash, G 2000, 'The decreasing supply of registered nurses: Inevitable future or call to action?', *Journal of the American Medical Association*, vol. 283, pp. 2985-2987.

Bhattacherjee, A 2012, *Social Science Research Principles, Methods and Practices*, USF Tampa Bay Open Access.

Boyle, DK, Bott, MJ, Hansen, HR, Woods, CQ & Taunton, RI 1999, 'Managers leadership and critical care nurses intent to stay', *American Journal of Critical Care,* vol. 8, no. 6, pp. 361-371.

Boyle, SM 2004, 'Nursing unit characteristics and patients outcomes', *Nursing Economics*, vol. 22, no. 3, pp. 111–120.

Bradshaw, C 2010, 'Developing skills in clinical leadership for ward sisters', Nursing Times, vol. 109, no. 9, 12-15.

Brady-Schwartz, DC 2005, 'Further evidence on the Magnet Recognition program: implications for nursing leaders', *Journal of Nursing Administration* vol. 35, no. 9, pp. 397-403.

Brown, SJ 2001, 'Research evidence linking staffing and patient outcomes', *Orthopaedic Nursing*, vol. 20, no. 1, pp. 67-68.

Bryant, R 2002, Royal College of Nursing, Australia: National Nursing Networks Newsletter. *Connections,* vol. 5, no.3, editorial v1.

Buchan, J 1994, 'Lessons from America? US magnet hospitals and their implications for UK nursing', *Journal of Advanced Nursing*, vol. 19, no. 2, pp. 373-384.

Buchan, J 1997, 'Magnet hospitals: what's the attraction', *Nursing Standard*, vol. 12, no. 7, pp. 22-25.

Buchan, J 1999, 'Still attractive after all these years? Magnet hospitals in a changing health care environment', *Journal of Advanced Nursing,* vol. 30, no. 1, pp. 100-108.

Buchan, J, Ball, J & Rafferty, A 2003, *A Lasting Attraction? A Magnet Accreditation of Rochdale Infirmary,* Edinburgh, Scotland: Queen Margaret University College.

Budge, C, Carryer, J & Wood, S 2003, Health correlates of autonomy, control, and professional relationships in the nursing work environment. *Journal of Advanced Nursing*, vol. 42, no. 3, pp. 260-268.

Buerhaus, P I, Needleman, J, Mattke, S, & Stewart, M 2002, 'Strengthening hospital nursing', *Health Affairs*, vol. 21, pp. 123-132.

Buerhaus, PI, Staiger, DO, & Auerbach, DI 2000, 'Implications of an aging registered nurse workforce', *Journal of the American Medical Association*, vol. 28, no. 22, pp. 2948-2954.

Buerhaus, PI, Auerbach, DI & Staiger, DO 2009, 'The recent surge in nurse employment: Causes and implicatons', Health Affairs, vol. 28, no. 4, pp. 657-668.

Brown, A 2013, Head of School of Nursing, Midwifery and Indigenous Health Personal communication, 13 July.

Cavanagh, SJ & Coffin, DA 1992, 'Staff turnover among hospital nurses', *Journal of Advanced Nursing*, vol. 17, pp. 1369–1376.

Chen, YM & Johantgen, ME 2010, 'Magnet hospital attributes in European hospitals: a multilevel model of job satisfaction', International Journal Nursing Studies, vol. 47, no. 8, pp. 1001-1012.

Cheung, R. Aiken, LH, Clarke, SP & Sloane, DM 2008, 'Nursing care andpatient outcomes: international evidence', *Enfermeria Clinica*, vol. 18, no. 1, pp. 35-40.

Choi, JK, Bakken, S, Larson, E, Du, YL & Stone, PW 2004, 'Perceived nursing work environment of critical care nurses', *Nursing Research*, vol. 53, no. 6, pp. 370–378.

Clarke, SP, Sloane, D M & Aiken, LH 2002, 'Effects of hospital staffing and organisational climate on needlestick injuries to nurses', *American Journal of Public Health*, vol. 92, pp. 1115–1119.

Cohen, J, Stuenkel, D & Nguyen, Q 2009, 'Providing a healthy work environment for nurses: the influence on retention, *Journal of Nursing Care Quality*, vol. 24, no. 4, pp. 308-315.

Coile, RCJ 2001, 'Magnet hospitals use culture, not wages, to solve nursing shortages,' *Journal of Healthcare Management*, vol. 46, pp. 224–227.

Conkin, J & Hayhoe, GF 2011, *Qualitative Research in Technical Communication*, Routledge New York.

Cook, MJ & Leathard, HL, 2004, 'Learning for clinical leadership', Journal Nursing Management, vol. 12, no. 6, pp. 436-436.

Cooksey, J, McLaughlin, W, Russinof, H, Martinez, LI & Gordon, C 2003, 'Active State-Level Engagement with the Nursing Shortage: A Study of Five Midwestern States Policy', *Politics, and Nursing Practice*, vol. 5, no. 2, pp. 102-112

Crawford, M & Acorn, S 1997, 'Focus groups: their use in administrative research', *Journal of Nursing Administration*, vol. 27, no. 5, pp. 15-18.

Cummings, GG, Haybuk, L & Estabrooks, CA 2006, 'Is the Nursing Work Index measuring up?', *Nursing Research*, vol. 55, no. 2, pp. 82–93.

Curran, C 2000, 'Musing on magnets,' *Nursing Economics*, vol. 18, no. 2, p. 57

Davidson, H, Folcarelli, PH, Crawford, S, Duprat, LJ & Clifford, JC 1997, 'The effects of health care reforms on job satisfaction and voluntary turnover among hospital based nurses', *Medical Care*, vol. 35, no. 6, pp. 634-645.

Day, GE, Minichello & Madison 2007 Self-reported perceptions nurses working in Australian hospitals

Department of Education, Science and Training 2002, *National Review of Nursing Education 2002*: *Our Duty of Care*, DEST, Canberra.

Department Health (United Kingdom) 2000, *A Health Service of All Talents: Developing the NHS Workforce,* London.

Doiron, D & Jones, G 2006, 'Nurses' Retention and Hospital Characteristics in New South Wales', *The Economic Record,* vol. 82, no.256, pp.11-29.

Dolan, SL, Van Ameringen, MR, Corbin, T & Arsenault, M 1992, 'Lack of professional latitude and role problems as correlates of propensity to quit amongst nursing staff', *Journal of Advanced Nursing,* no.17, vol.12, pp.1455-1459.

Dolan, SL 2008 'Management in Tomorrowland: the impact of the new global landscape or organizations, jobs and people', The Catholic University of Lisboa, European initiative: 'New Skills for New Jobs' Lisbon, December 9.

Draper, J 2004, ' The relationship between research question and research design', in Crookes, P & Davies, S (eds) *Research into Practice: essential skills for reading and applying research in nursing and health care,* Bailliere Tindall, Edinburgh.

Duckett, P 2005, 'Global burden of disease: a comprehensive assessment of mortality and disability from disease, injuries and risk factors in 1990 and projected to 2020', *Journal of Community and Applied Social Psychology*, vol. 15, pp. 414-423.

Duffield, C, Donoghue, J, Uyeda, M, Mitten-Lewis, S & Forbes, J 2002, 'Report from a National Survey of Health Service Facilities in Corbiningen, *Nurse Education and Training,* vol. 1. DEST, Canberra.

Duffield, C & O'Brien-Pallas, L 2002, 'The nursing workforce in Canada and Australia: Two sides of the same coin', *Australian Health Review,* vol. 25, no. 2, pp. 136-144.

Duffield, C, O'Brien-Pallas, L & Aiken, L 2004, 'Nurses who work outside nursing', *Journal of Advanced Nursing,* vol. 47, no. 6, pp. 664–671.

Duffield, CM, Roche, MA, O'Brien-Pallas, LL, Diers, DK, Aisbett, K & King, MT 2007, ' Glueing it together: Nurses, their work environment and patient safety, viewed 25 July, http://www.health.nsw.gov.au.ezproxy.uow.edu/au/pubs/2007/pdf/nwr_report.pdf.

Duffield, CM & Roche, MA 2010, 'A comparison of the nursing practice environment in mental and medical-surgical settings', *Journal of Nursing Scholarship*, vol. 42, no. 2, pp. 195-215.

Duffield, CM, Diers, DK, O'Brien-Pallas, LL, Aisbett, C & Aisbett, K 2011, 'Nursing staffing, nursing workload, the work environment and patient outcomes' Applied Nursing Research, vol. 24, no. 4, pp. 244-255.

Dunn, G 1989, *Design and Analysis of Reliability Studies,* Edward Arnold, London.
Duckett, SJ 2005, 'Health workforce design for the 21st century', *Australian Health Review*, vol. 29, no. 2, pp. 201- 210.

Dunn, S, Wilson, B & Esterman, A, 2005, 'Perceptions of working as a nurse in an acute care setting', *Journal of Nursing Management*, vol. 13, no. 1, pp. 22-31.

Dussault, G & Franceschini, MC 2006, 'Not enough there, Too many her: Understanding geographical imbalances in the distribution of the health workforce', *Human Resources for Health*, vol. 4, no. 12, pp. 50-59.

Ellenbecker, CH, Byleckie, JJ & Samia, LW 2008, ' Further psychometric testing of the home healthcare nurse job satisfaction scale', *Research in Nursing and Health*, vol. 31, pp. 152-164.

Estabrooks, CA, Tourangeau, AE, Humphrey, CK, Hesketh, KL, Giovannetti, P, Thomson, D, Wong, J, Acorn, S, Clarke, H & Shamian, J 2002, 'Measuring the hospital practice environment: A Canadian context', *Research in Nursing and Health*, vol. 25, no. 4, pp. 256–268.

Fealy, GM, McNamara, MS, Casey, Geraghty, R, Butler, M, Halligan, P, Treacy, M & Johnson, M 2011, 'Barriers to clinical leadership development: findings from a national survey', *Journal of Clinical Nursing*, vol. 20, no. 13-14, pp. 2023-2032.

Finlayson, MP, Aiken, L, Nakarada-Kordic, I 2007, 'New Zealand Nurses' Reports on Hospital Care: An international comparison', *Nursing Praxis in New Zealand*, vol. 1, no. 23, pp. 17-28.

Finn, CP 2001, 'Autonomy: An important component for nurses' job satisfaction', *International Journal of Nursing Studies*, vol. 38, no. 3, pp. 349-357.

Flood, AB & Fennell, ML 1995, 'Through the lenses of organisational sociology: The role of organisational theory and research in conceptualising and examining our health care system', *Journal of Health and Social Behaviour*, Special issue, pp. 154 - 169.

Flynn, L, Carryer, J & Budge, CL 2005, 'Organisational attributes valued by hospital, home care, and district nurses in the United States and New Zealand', *Journal of Nursing Scholarship*, vol. 37, no. 1, pp. 67–72.

Francis-Felsen, LC 1996. 'Factors influencing intentions of nursing personnel to leave employment in long-term care settings', *The Journal of Applied Gerontology*, vol. 15, no.4, pp. 450-470.

Friese, CR 2005, ' Nurse practice environments and outcomes: Implications for oncology nursing', *Nursing Research*, vol. 32, no. 4, pp. 765-772.

Friese, CR, Lake, ET, Aiken, LH, Silber, JH & Sochalski, J 2008, 'Hospital nurse practice environments and outcomes for surgical oncology patietns', *Health Services Research*, vol. 43, no.4, 1145-1163.

Furrer, O, Tjemkes, BV, Ülgen Aydinlik, A & Adolfs, K 2013, Responding to Adverse Situations Within Exchange Relationships: The Cross- Cultural Validity of a Circumplex Model, *Journal of Cross-Cultural Psychology*, vol. 43, no. 6, pp. 943–966.

Ganley, H 1991, 'Insight into Magnet hospitals', *The Lamp*. April: pp. 22-24.

Gross JM, Riley PL, Kiriinya R, Rakuom C, Willy R, Kamenju A, Oywer E, Wambua D, Waudo A & Rogers MF 2011, 'The impact of an emergency hiring plan on the shortage and distribution of nurses in Kenya: the importance of information systems'. *WHO Bulletin*, vol. 88, pp. 824-830.

Hackman J & Oldman GR, 1975 Development of the Job Diagnosic Survey Journal of Applied Psychology vol. 60, pp. 159-170.

Hair, J F, Anderson, R, Tatham, R & Black, W 1998, *Multivariate data analysis.* Englewood, NJ, Prentice-Hall.

Hayes, LJ, O'Brien-Pallas, L, Duffield C, Shamian, J, Buchan, J, Hughes, F, Lascinger, HKS, North, N & Stone, PW 2006, 'Nurse turnover: A literature review', *International Journal of Nursing Studies*, vol. 43, pp. 237-263.

Health Workforce Australia (HWA) 2011, *National Health Workforce Innovation and Reform Strategic Framework for Action 2011-2015,* Health Workforce Australia, Adelaide.

Health Workforce Australia 2012, Health Workforce 2025 – Doctors, Nurses and Midwives – Volume 1, viewed 2 April 2013, < http://www.hwa.gov.au/work-programs/information-analysis-and-planning/health-workforce-planning/hw-2025-doctors-nurses-and>.

Henderson, A, Cooke, M, Creedy, DK & Walker, R 2012, 'Nursing students' perceptions of learning in practice environments: a review', *Nurse Education Today*, vol. 32, pp. 299-302.

Hess, RA, Welch, KB, Brown, PI & Teitelbaum, DH2011, 'Survivial outcomes of pediatric intestinal failure patients: analysis of factors contributing to improved survival over the past two decades', *Journal of Surgical Research*, vol. 170, no. 1, pp. 27-31.

Hinshaw, AS & Atwood, JR 1983, 'Nursing staff turnover, stress and satisfaction: Models, measures and management,' *Annual Review of Nursing Research*, vol. 1, pp. 133-153.

Hogan, P 2013, *Registered Nurse Understanding of Organisational Commitment and its Link to Retention: A Grounded Theory Study*, unpublished thesis, Central Queensland University, QLD.

Holyoake, DD, 2011, 'Is the doctor-nurse game still being played?', *Nursing Times*, vol. 107, no. 43, pp. 12-14.

International Council of Nurses (ICN) 2010 *Global Issues and Trends in Nursing Education*, Geneva, Switzerland.

International Council of Nurses (ICN) 2012, Workforce Forum Overview Paper, International Council of Nurses, viewed 3 March 2013 < http://www.icn.ch/pillarsprograms/icn-workforce-forum-country-overview-papers/>.

Irvine, D & Evans, M 1995, *Job satisfaction and turnover among nurses: a review and meta-analysis*, Faculty of Nursing, University of Toronto, Quality of Nursing Work Life Research Unit, Toronto.

Jackson, D & Daly, J 2004, 'Current issues and challenges facing nursing in Australia', *Nursing Science Quarterly*, vol. 17, no. 4, pp. 352 -355.

Jamieson, L & Williams, LM 2003, 'Focus froup methodology: explanatory notes for the novice nurse researcher', *Contemporary Nurse*, vol. 14, no. 3, pp. 271-280.

Jones-Schenk, J 2001, 'How magnet attract nurses', *Nursing Management*, vol. 32, no. 1, pp. 40-42.

Joyce, J & Crookes, P 2007, 'Developing a tool to measure 'magnetism' in Australian nursing environments', *Australian Journal of Advanced Nursing*, vol. 25, no.1, pp. 18-23.

Joyce, J & Crookes, P 2011, 'Measuring 'magnetism' in Australian health facilities', *Australian Journal of Advanced Nursing*, vol. 29, no. 2, pp. 13-22.

Kidd, PS & Parshall, MB 2000, 'Getting the focus and the group: enhancing analytical rigor in focus group research', *Qualitative Health Research*, vol. 10, no. 3, pp.293-308.

Kingma, M 2007, 'Nurses on the move: a global overview', *Health Services Research*, vol. 42, no. 3, pt. 2, pp. 1281-1298.

Kingry, MJ, Tiedje, LB & Friedman, LL 1990, 'Focus groups: A research technique for nursing,' *Nursing Research*, vol. 39, no. 2, pp. 124-125.

Kline, DS 2003, 'Push and pull factors in international nurse migration', *Journal of Nursing Scholarship*, vol. 35, no. 2, pp. 107-111.

Kovner, C, Jones, C, Zhan, C, Gergen, PJ & Basu, J 2002, 'Nurse staffing and postsurgical adverse events: an analysis of administrative data from a sample of U.S. hospitals, 1990-1996,' *Health Services Research*, vol. 37, pp. 611-629.

Kramer, M & Schamlenberg, C 1988a, 'Magnet Hospitals: Part 1 Institutions of Excellence,' *JONA*, vol. 18, no. 1, pp. 13-23.

Kramer, M & Schamlenberg, C 1988b, 'Magnet Hospitals: Part 2 Institutions of Excellence,' *JONA*, vol. 18, no. 2, pp. 1-19.

Kramer, M & Hafner, LP 1989, 'Shared values: Impact on staff nurse job satisfaction and perceived productivity,' *Nursing Research*, vol. 38, no. 3, pp. 172-177.

Kramer, M 1990, 'The Magnet Hospitals: Excellence Revisited', *JONA*, vol. 20, no. 9, pp. 35-44.

Kramer, M & Schamlenberg, C 1991a, 'Job satisfaction and retention: Insights for the '90's Part 1', *Nursing*, March, pp. 50-55.

Kramer, M & Schamlenberg, C 1991b, 'Job satisfaction and retention: Insights for the '90,s Part 2', *Nursing*, April, pp. 51-55.

Krippendorff, K 2004, 'Reliability in content analysis', Health Communication Research, vol. 30, no. 3, pp. 411-433.

Kristjansson, E A. Desrochers, A & Zumbo B 2003 'Translating and Adapting Measurement Instruments for Cross-Linguistic and Cross-Cultural Research: A Guide for Practitioners', vol. 35, no. 2, pp. 127-142.

Lacey, SR, Teasley, SL, Henion, JS, Cox, KS, Bonura, A & Brown, J 2007, 'Enhancing the work environment of staff nurses using targeted interventions of support', *Journal of Nursing Administration*, vol. 38, no. 7/8, pp. 336-340.

Laher, S 2010, 'Using exploratory factor analysis in personality research: best-practice recommendations', *SA Journal of Industrial Psychology*, vol. 36, no. 1, pp. 873-890.

Lake, ET & Friese, CR 2006, 'Variations in nursing practice environments: Relation to staffing and hospital characteristics', *Nursing Research*, vol.55, no.1, pp. 1-9.

Lake, ET 2002, 'Development of the practice environment scale of the Nursing Work Index', *Research in Nursing & Health*, vol. 25, pp.176-188.

Lake, ET 2007, 'The nursing practice environment: Measurement and evidence', Medical Care Research Review, viewed 18 September 2009, http://mcr.sagepub.com/cgi/content/abstract/64/2_suppl/104S.

Lake, ET, Shang, J, Klaus, S & Dunton, NE 2010, 'Patient falls: Association with hospital Magnet status and nursing unit staffing', Research Nursing Health, vol. 33, no. 5, pp. 413-425.

Laschinger, HKS & Havens DS 1996, 'Staff nurse work empowerment and perceived control over nursing practice, work satisfaction and work effectiveness', *Journal of Nursing Administration*, vol. 26, no. 9, pp. 23-45.

Laschinger, HK, Shamian, J & Thomson, D 2001, Impact of magnet hospital characteristics on nurses' perceptions of trust, burnout, quality of care and work satisfaction', *Nursing Economics,* vol. 19, no. 5, pp. 202-219.

Laschinger, HKS, Almost, J & Tuer-Hodes, D 2003, 'Workplace empowerment and magnet hospital characteristics–making the link', *Journal of Nursing Administration*, vol. 33, no. 7–8, pp. 410–422.

Laschinger HKS, Finegan JE, Shamian J & Wilk P 2004 A longtitudinal analysis of the impact of work[lace empowerment on work satisfaction Journal of Organizational Behavior vol. 25, no. 4, pp. 527-545.

Laschinger, HKS & Finegan J 2008, 'Situational and dispositional predictors of nurse manager burnout: a time-lagged analysis', *Nursing Management*, vol. 16, no. 5, pp. 601-607.

Laschinger HKS, 2012 'Job and career satisfaction and turnover intentions of newly graduated nurses', *Journal of Nursing Management,* vol. 20, pp. 472-284.

Lewis, J & Matthews, C 1998, *Magnet Program Designates Exceptional Nursing Services,* Washington, DC American Nurses Publishing.

Lincoln, YS & Guba, EG 1985, Naturalistic inquiry, Sage, Beverly Hills, CA.

Lucas, SR 2012, 'Beyond the Existence proof: ontological conditions, epistemological implications, and in-depth interview research', Quality & Quantity viewed 18 May 2013, *springer.com/article/10.1007%2Fs11135-012-9775-3.*

New South Wales Health Department 1998, *Nursing Recruitment and Retention Taskforce Final Report*, New South Wales Department Health.

McClure, ML & Hinshaw, AS 2002, *Magnet hospitals revisited*, Washington, DC American Nurses Publishing.

McClure, ML, Poulin, MA, Sovie MD & Wandelt, MA 1983, *Magnet hospitals: Attraction and retention of professional nurses,* American Nurses Association, Kansas City.

McCusker, J, Dendukuri, N, Cardinal, L, Katofsky L & Riccardi, M 2005, 'Nursing work environment and quality of care: Differences between units at the same hospital', *International Journal of Health Care Quality Assurance*, vol. 18, no. 7, pp. 543–551.

MacKenzie, SB, Podsakoff, PM & Podsakoff, NP 2011, 'Construct measurement and validation procedures in MIS and behavioural research: integrating new and existing techniques', *MIS Quarterly*, vol. 35, no. 2, pp. 293-334.

McNamara, MS, Fealy, GM & Casey, M, Geraghty, R, Johnson, M, Halligan, P, Treacy, P & Butler, M 2011, 'Boundary matters: clinical leadership and the distinctive disciplinary contribution of nursing to multidisciplinary care', *Journal of Clinical Nursing*, vol. 20, no. 23-24, pp. 3502-3512.

Manojlovich, M, 2010, 'Nurse/Physician communication through a sensemaking lens: shifting the paradigm to improve patient safety', *Medical Care*, vol. 48, no. 11, pp. 941-946.

Manley, K 2008, 'Organisational culture and consultation nurse outcomes: Part 1: Organisational culture', *Nursing Standard*, vol. 14, no. 36, pp. 34–38.

Magnet NZ 2005 Developing a Magnet Health Organisation Wellington Ministry of Health ISBN 0-478-28337-7 http://www. Moh.govtnz.
Majd, TM 2004, 'Nurses autonomy: Influence of nurse managers' actions', *Journal of Advanced Nursing*, vol. 45, no. 3, pp. 326-336.

March, JG & Simon, HA 1958, *Organisations*, Wiley, New York.

Mejia, A, Puzurki, H & Roystan, E 1979, *Physician and nurse migration: analysis and policy implications*, Geneva, Switerzerland, World Health Organization.

Middleton, S, Griffiths, R, Fernandez, R & Smith, B 2008, 'Nursing practice environment: how does one Australian hospital compare with magnet hospitals?', *International Journal of Nursing Practice*, vol. 14, no. 5, pp. 366-372.

Millward, LJ & Bryan, K, 2005, 'Clinical leadership in health care: a position statement', *Leadershsip in Health Services*, vol. 18, no. 2, pp. 1751-1879.

Minicheiello, V, Aroni, R & Hays, T 2008, *In-depth interviewing*, Prentice Hall, Sydney.

Mobley, WH, Griffeth, RW, Hand, H & Meglino, BM 1979, 'Review and conceptual analysis of the employee turnover process', *Psychological Bulletin*, vol. 36, no. 3, pp.493-521.

Mokkink LB, Terwee CB, Patrick DL, Alonso J & Stratford PW 2010 'The COSMIN checklist for assessing the methodological quality of studies on measurement properties of health status measurement instruments: an international Delphi study', *Quality Life Research*, vol. 19, pp. 539-49.

Monette, DR, Sullivan, TJ, Dejong, CR & Hutton TP 2013, Applied Social Research: A tool for the human services, 9th ed , Brooks/Cole, Pacific Grove CA.

Moore, KA 2001, 'Hospital restructuring: impact on nurses mediated by social support and a perception of challenge', *Journal of Health and Human Services Administration*, vol. 23, no. 4, pp. 490-517.

Morell, KM, Loan-Clarke J & Wilkinson, AJ 2001, 'Unweaving Leaving: The use of models in the management of employee turnover', *International Journal of Management Reviews*, vol.3, no.1, pp. 219-244.

Morgan, DL 1996, 'Focus groups', *Annual Review of Sociology,* vol. 22, pp. 129-152.

Mueller, CW & McCloskey, JC, 1990, 'Nurses' job satisfaction: a proposed measure', *Nursing Research*, vol. 39, no. 2, pp. 113-117.

Mweri, JG 2010, 'Interpretation: signs and meaning, diversity in language use, equivalences and cultural untranslatability', *The Journal of Language, Technology & Entrepreneurship in Africa*, vol. 2, no. 1, pp. 21-35.

National Health Workforce Taskforce (NHWT) 2009, *Health Workforce-the case for change*, NHWT, Canberra

Needleman, J, Buerhaus, P, Mattke, S, Stewart, M & Zelevinsky, K 2001, *Nurse staffing and patient outcomes in hospitals*. Harvard School of Public Health, Boston, viewed 23 October 2003, <http://bhpr.hrsa.gov/nursing/staffstudy.htm>.

Needleman, J, Buerhaus, P, Mattke, S, Stewart, M & Zelevinsky, K 2002, 'Nurse-staffing levels and the quality of care in hospitals,' *New England Journal of Medicine*, vol. 346, no. 22, pp. 1715–1722.

New South Wales Government, 2006, *Profile of the Nursing Workforce in NSW,* State publication No. (WDLB) 080034, Sydney.

New South Wales Nurses and Midwives Association (NSWNMA), 2013, *Ratios put patient safety first!*, viewed 12 July 2013, <http://www.nswnurses.asn.au/campaigns/>

Nguyen, L, Ropers, S, Nderitu, E, Zuyderduin, A, Luboga, S & Hagopian, A 2008, 'Intent to migrate among nursing students in Uganda: measures of the brain drain in the next generation of health professionals', *Human Resources fo Health*, vol. 6, no. 5, pp. doi:10.1186/1478-4491.

North, NH, Rasmussen, EJ, Hughes, FA, Finlayson, MP, Ashton, T, Campbell, T, Tomkins, SH 2005, 'Turnover amongst Nurses in New Zealand's District Health Boards: A National Survey of Nursing Turnover and Turnover Costs', *New Zealand Journal of Employment Relations*, vol. 30, no. 1, pp. 49-62.

North, N & Hughes, F 2012, 'A systems perspective on nursing productivity'. *Journal of Health Organization Management*, vol. 26, no. 2, pp. 192-214.

Nic-Philibin, CA, Griffiths, C, Byrne, G, Horan, P, Brady, AM & Begley, C 2010 'The role of the public health nurse in changing society', *Journal Advanced Nursing*, vol. 66, no. 4, pp. 743-752.

O'Brien-Pallas, L & Baumann, A 2000, 'Towards evidence based policy decisions: A case study of nursing health human resources', *Nursing Inquiry*, vol. 7, no. 4, pp. 248-257.

O'Brien-Pallas, L 2001, 'Where to from here?', *Canadian Journal of Nursing Research*, vol. 33, no. 4, pp. 3-14.

O'Brien-Pallas, L, Duffield, C & Hayes, L 2006, ' Do we really understand how to retain nurse?', *Journal of Nursing Managemen*t, vol. 14, pp. 262-270.

O'Brien-Pallas, L, Meyer, RM, Hayes, LJ & Wang, S 2011, 'The patient care delivery model-an open system framework: conceptualisation, literature review and analytical strategy', Journal of Clinical Nursing, vol. 20, no. 11, pp. 1640-1650.

Organisation for Economic Co-operation and Development (OECD) 2010, *Health Data 2010: Statistics and Indicators,* Organisation for Economic Co-operation and Development, viewed 29 March 2013, <http://www.oecd.org/document/30/0,3746,en_2649_37407_12968734_1_1_1_37407,00.html.

Ottawa Model of Research Use, 2009,viewed 4 July 2009, <http://www.cihr-irsc.gc.ca/e/8505.html>

Pedhazur, EJ & Pedhazur Schmelkin, L 2013, *Measurement, Design, and Analysis: an integrated approach*, Psychology Press, Taylor & Francis Group, East Sussex.

Pieper, SK 2003, 'Retaining staff the magnet way: Fostering a culture of professional excellence', *Healthcare Executive,* May/June, pp. 12-17.

Polit, DF & Beck, CT 2013, *Essentials of Nursing Research*, Wolters Kluwer / Lippincott Williams & Wilkins.

Preston, B 2003, *Australian nurse supply and demand to 2006: A projections model and its application,* Report prepared for the Australian Council of Deans of Nursing, Melbourne.

Price, JL & Mueller, CW 1981, *Professional turnover: The case for nurses*, Iowa, State University Press, Ames.

Quinn-Patton, M 2002, *Qualitative Research & Evaluation Methods,* Sage Publications, Thousand Oaks, California.

Rafferty, AM, Ball, J & Aiken, LH 2001, 'Are teamwork and professional autonomy compatible, and do they result in improved hospital care?', *Quality in Health Care,* vol. 10, pp. 32-37.

Roberts, BJ, Jones, C & Lynn, M 2004, 'Job satisfaction of new baccalaureate nurses', *Journal of Nursing Administration,* vol. 34, no. 9, pp. 428-435.

Roberts, K, Kermode, S & Taylor, B 2006, *Research in nursing and health care: evidence for practice*, Thomson, South Melbourne, Victoria.

Scott, J, Sochalsiki, J & Aiken, L 1999, 'Review of magnet hospital research: established findings and implications for professional nursing practice', *Journal of Nursing Administration*, vol. 29, no. 1, pp. 9-19.

Shamian, J & O'Brien-Pallas, L 2001, *Effects of job strain, hospital organisatinal factors and individual characteristics on work-related disability among nurse*, Final Report submitted to the Ontario Workplace Safety and Insurance Board.

Shields, MA & Ward, M 2001, 'Improving Nurse Retention in the National Health Service in England: The Impact of Job Satisfaction and Intentions to Quit', *Journal of Health Economics*, vol. 20, pp. 677–701.

Shortell, SM, Zimmeman, JE, Rosseau, DM, Gillies, RR, Wagner, DP, Draper, EA & Duffy, J 1994, 'The perfoemance of intensive care units: does good management make a difference?', *Medical Care*, vol. 32, pp. 508-525.

Slater, P & McCormack, B 2007, 'An exploration of factor structure of the Nursing Work Index', *Worldviews on Evidence-Based Nursing*, vol. 4, no. 1, pp. 30-39.

Slater, P 2010, 'Testing of the factor structure of the Nursing Work Index-Revised', *Worldviews Evidence Based Nursing*, vol. 7, no. 3, pp. 123-134.

Sourdif, J 2004, 'Predictors of nurses' intent to stay at work in a university health centre', *Nursing Health Science*, vol. 6, no. 1, pp. 59-68.

Smith H, Tallman, R & Kelly, K 2006, Magnet hosptials characteristics and northern Canadian nurses' job satisfaction', *Canadian Journal Nursing Leadership*, vol. 19, no. 3, pp. 73-86.

Stone, PW, Tourangeau, AE, Duffield, CM, Hughes, F, Jones, CB, O'Brien-Pallas, L & Shamian, J 2003, 'Evidence of nurse working conditions: A global perspective', *Policy, Politics & Nursing Practice,* vol.4, no.2, pp.120-130.

Stordeur, S & D'Hoore, W 2007, ' Organizational configuration hosptials', *Journal of Advanced Nursing,* vol. 57, no. 1, pp. 45 -58.

Stein, L 1967, 'The doctor-nurse game', *Archives of General Psychiatry,* vol. 16, pp. 699-703.

Streiner, DL & Norman, GR 2008 *Health Measurment Scales: a practical guide to their development and use* 4th Edition, Oxford University Press, Hampshire.

Suhonen, R 2010, 'Nurses' perceptions of individualized care', *Journal of Advanced Nursing,* vol. 67, no. 6, pp. 1191-1205.

Tashakkori, A & Teddlie, C 2003, *Handbook on mixed methods in the behavioural and social sciences,* Thousand Oaks, CA, Sage.

Taunton, RL, Butcher, L & Bott, MJ 2001, *National database of nursing quality indicators: Evaluation of the NDNQI, Nursing Work Index,* National Centre for Nursing Quality, Kansas City, KS.

Thompson, ER & Phua FTT 2012, ' A brief index of affective job satisfaction', *Group & Organization Management,* vol. 37, no. 3, pp. 275-307.

Tillott, S, Walsh, K & Moxham,L 2013, 'Encouraging engagement at work to improve retention', *Nursing Management,* vol. 19, no. 10, pp. 27-31.

Tongco, MDC 2007, 'Purposive sampling as a tool for informant selection', *Ethnobotany Research & Applications,* vol. 5, pp. 147-158.

Torrence, C & Wilson, M 2000, 'Magnet hospitals: the truth behind the concept', *Nursing Review,* July, p. 11.

Tourangeau, AE, Cranley, LA & Jeffs, L 2006, 'Impact of nursing on hospital patient modtality: a focused review and related policy implications', *British Medical Journal: Quality & Safety in Health Care*, vol. 15, no. 1, pp. 4-8.

Tourangeau, AE, Giovannetti, P, Tu, JV & Wood, M 2006, 'Nursing-related determinants of 30-day mortality for hopitalised patients', *Canadian Journal of Nursing Research*, vol. 33, no. 4, pp. 71-88.

Trochim, WMK 2006, *The Research Methods Knowledge Base*, 2nd Edn, viewed 25 November, http://www.socialresearchmethods.net/kb/.

Twigg, D, Duffield, C, Thompson, PL & Rapley P 2010, 'The impact of nurse on patient morbidity and mortality: the need fro a policy change in response to the nursing shortage', Australian Health Review, vol. 34, no. 3, pp. 312-316.

Tzeng, H 2002, 'The influence of nurses' working motivation and job satisfaction on intention to quit: an empirical investigation in Taiwan', *International Journal of Nursing Studies*, vol. 39, no. 8, pp. 867-878.

The Australian Council of Healthcare Standards 2005, *The ACHS National Report on Health Services Accreditation Performance*, 2003 & 2004

The Australian Council Healthcare Standards 2004 *Determining the Potential to Improve the Quality of Care* 5th Edition 1998-2003.

Upenieks, V 2003, 'The interrelationship of organisational characteristics of magnet hospitals, nursing leadership and nursing job satisfaction', *The Health Care Manager*, vol. 22, no. 2, pp. 83-98.

Vahey, DC, Aiken, LH, Sloane, DM, Clarke, SP & Vargas, D 2004, 'Nurse burnout and patient satisfaction', *Medical Care*, vol. 42, no. 2, pp. 57-66.

Van Bogaert, P, Meulemans, H, Clarke,S, Vermeyen, K & Van de Heyning, P 2009, 'Hospital nurse practice environment, burnout, job outcomes and quality of care: test of a structural equation model', *Journal of Advanced Nursing,* vol. 65, no. 10, pp. 2175-2185.

Walker, K, Middleon, S, Rolley, J & Duff, J 2010, 'Nurses report a healthy culture: results of the Practice Environment Scale (Australia) in an Australian hospital seeking Magnet recognition', *International Journal of Nursing Practice,* vol. 16, no. 6, pp. 616-23.

Wickett, D, McCutcheon, H & Long, L 2003, 'Commentary: and Australian perspective', *Journal of Advanced Nursing,* vol. 43, no. 4, pp. 335-350.

World Health Organisation 2006, The World Health Report – working together for health, World Health Organisation, viewed 13 June 2010, < http://www.who.int/whr/2006/en/index.html>.

World Health Organisation 2010, Global Atlas of the Health Workforce, World Health Organisation, viewed 2 April 2013, <http://www.who.int/hrh/statistics/hwfstats/>.

World Health Organisation 2013, Global Health Workforce Statistics, World Health Organisation, viewed 2 April 2013, http://apps.who.int/gho/data/node.main?showonly=HWF.

Yoon, S & Horne, C 2004, 'Accuring the sample in survey research', *Southern Online Journal of Nursing Research,* vol. 2, no. 5, pp. 1-17.

Zangaro, GA & Soeken, KL 2007, 'A meta-analysis of studies of nurses' satisfaction', *Research in Nursing & Health,* vol. 30, pp. 445-458.

Zinbarg, R, Yovel, I, Revelle, W & McDonald, R 2006 'Estimating generalizability to a universe of indicators that all have an attribute in common: a comparison of estimators', *Applied Psychological Measurement,* vol. 30, pp. 121-144.

APPENDIX 1: STUDY ONE CONSENT FORM

CONSENT FORM

RESEARCH TITLE

Magnet Organisations: the attraction and retention of staff in health services

RESEARCHERS NAME
Joanne Joyce
Phone: (02) 42213468
E-mail: joanne-joyce@uow.edu.au

This research is being conducted as part of research with the Department of Nursing at the University of Wollongong, supervised by Dr Patrick Crookes (02)42213339.

The purpose of this project is to develop and pilot an Australian specific tool that builds on the Magnet hospital concepts on nursing staff recruitment and retention.

The focus group will discuss questions about nursing staff recruitment and retention.

You agree to keep the information discussed and personal details of focus group participants strictly confidential.
You are free to withdraw from the research project at any time without penalty.

If you have any enquires regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (02)42214457

If you wish to take part in this research and comply with the above instructions, please sign below:

…… *…./…./….*

APPENDIX 2: STUDY ONE EXPRESSION INTEREST FORM

EXPRESSION INTEREST FORM

RESEARCH TITLE

Magnet Organisations: the attraction and retention of staff in health services

RESEARCHERS NAME
Joanne Joyce
Phone: (02) 42213468
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If you wish to take part in this research please provide your contact details and signature below and retrun to the researcher by email:

……..……
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…… ….…/….…/….

APPENDIX 3: ETHICS APPROVAL

University of Wollongong

~~CONDITIONAL APPROVAL~~
In reply please quote: CT:KM HE01/194
Further Enquiries: Karen McRae (PH: 42214457)

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16 October 2001

Ms Joanne Joyce
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Cordeaux Heights NSW 2526

Dear Ms Joyce,

I am pleased to advise that the following Human Research Ethics application has been conditionally approved. As a condition of approval, the Human Research Ethics Committee requires that researchers immediately report anything which might warrant review of ethical approval of the protocol, including: serious or unexpected adverse effects on participants, proposed changes to the protocol, unforseen events that might affect continued ethical acceptability of the project and discontinuation of the research project before the expected date of completion.

Ethics Number:	HE01/194
Project Title:	Magnet Organisations: The attraction and retention of staff in health services
Name of Researchers:	Ms Joanne Joyce; A/P Patrick Crookes
Approval Date:	12 October 2001
Duration of Approval:	11 October 2002

This approval is granted subject to the following conditions and relates to the research protocol submitted in your original application of 2 October 2001 :

(i) please provide more detail on how the focus group and survey participants will be identified and first contact made

(ii) the freedom to withdraw from the project is clear but will participants be able to withdraw data provided? If not, this should be made clear in the Information Sheet

Please provide written clarification of the conditions to the Secretary of the Committee before commencing your research, or approval will be withdrawn.

Assoc. Professor Colin Thomson
Chairperson
Human Research Ethics Committee
cc. Supervisor, A/P Patrick Crookes, Nursing

Office of Research University of Wollongong NSW 2522 Australia
Telephone: (61 2) 4221 3386 **Facsimile:** (61 2) 4221 4338
office_research@uow.edu.au www.uow.edu.au

University of Wollongong

RENEWAL
In reply please quote: SD:KM HE01/194
Further Enquiries: Karen McRae (PH: 42214457)

24 September 2002

Ms J. Joyce
39 Seringa Grove
Cordeaux Heights NSW 2526

Dear Ms Joyce,

I am pleased to advise that **renewal** of the following Human Research Ethics application has been **approved**. As a condition of approval, the Human Research Ethics Committee requires that researchers immediately report anything which might warrant review of ethical approval of the protocol, including: serious or unexpected adverse effects on participants, proposed changes to the protocol, unforseen events that might affect continued ethical acceptability of the project and discontinuation of the research project before the expected date of completion.

Ethics Number:	HE01/194
Project Title:	Magnet Organisations: The attraction and retention of staff in health services
Name of Researcher/s:	Ms J. Joyce Crookes, Dr P. (Supervisor)
Final Approval Date:	23 September 2002
Duration of Renewal:	11 November 2002

This certificate relates to the research protocol submitted in your original application and includes all approved amendments to date. Please note that resesearch projects of long duration must be reviewed annually by the Committee and it will be necessary for you to apply for renewal of this application if experimentation is to continue beyond one year.

Assoc. Prof. Sue Dodds
Chairperson,
Human Research Ethics Committee

Office of Research University of Wollongong NSW 2522 Australia
Telephone: (61 2) 4221 3386 **Facsimile:** (61 2) 4221 4338
office_research@uow.edu.au www.uow.edu.au

Illawarra Area Health Service

Address all correspondence:
Chief Executive Officer
Private Mail Bag 3
Port Kembla N.S.W. 2505

Telephone (02) 4275 5111
Ext *(02) 4253 4800*
YOUR REF:
OUR REF: *HE03/382*

7 April 2004

Ms Joanne Joyce
39 Sheringa Grove
CORDEAUX HEIGHTS NSW 2526

Dear Ms Joyce

ETHICS NO: **HE03/382**

TITLE: **"Magnet organisations: Evidence of successful attraction and retention of nursing staff in Australian health services"**

The Area has received notification dated 18 February 2004 from the Joint Human Research Ethics Committee of the University of Wollongong and Illawarra Area Health Service of ethics approval for the above named study.

I am happy to advise the approval of the Area Health Service for the above named study that involves clients of the IAHS, IAHS staff or staff affiliated with the IAHS to commence.

Please remember that your research should be conducted in accordance with the NHMRC National Statement on Ethical Conduct in Research on Humans (http://www.nhmrc.gov.au/issues/researchethics.htm) and the NSW Health Information Privacy Code of Practice (http://internal.health.nsw.gov.au/iasd/information-privacy).

Best wishes for the conduct of the study.

Yours sincerely

Dr Liz Gale
Chief Executive Officer

cc Ms Eve Steinke, Ethics Officer, University of Wollongong
Professor Anthony Hodgson, Joint Director of Health Research, IAHS/UOW

FINAL APPROVAL – IAHS AUTHORISATION
In reply please quote: RN:ES HE03/382
Further Enquiries Eve Steinke (Ph: 4221 4457)

18 February 2004

Ms Joanne Joyce
39 Sheringa Grove
CORDEAUX HEIGHTS 2526

Dear Ms Joyce,

I am pleased to advise you that the Human Research Ethics Committee has **APPROVED** the application listed below subject to the following comments.

i) The information sheet or survey should state clearly to whom the survey is to be returned. Please send a copy of the amended document to the Ethics Officer.

ii) Instead of saying on the information sheet "All information and personal details will be kept strictly confidential. The data will be anonymous, please do not include any identifiable information on the survey", consider saying "The data will be anonymous, please do not include any identifiable information on the survey. This ensures that no personal details will be recorded, and that all information will be confidential".

Ethics Number:	HE 03/382
Project Title:	Magnet organisations: Evidence of successful attraction and retention of nursing staff in Australian health services.
Name of Researchers:	J Joyce & P Crookes
Final Approval Date:	16 February 2004
Date for Renewal:	15 February 2005

As a condition of approval, the Human Research Ethics Committee requires that researchers immediately report anything which might warrant review of ethical approval of the protocol, including: serious or unexpected adverse effects on participants, proposed changes to the protocol, unforseen events that might affect continued ethical acceptability of the project. You are also asked to submit a final report when the project is completed or if the project is not commenced. Please note that the Committee must review research projects of long duration annually and it will be necessary for you to apply for renewal of this application if this project is to continue beyond one year.

Before you can proceed with the project you must first have authorisation from the IAHS. A copy of this advice has been forwarded to the IAHS.

Yours Sincerely,

Assoc. Prof. Rod Nillsen
Chairperson
Human Research Ethics Committee
cc. Prof. P Crookes, Nursing
Prof. Anthony Hodgson, IAHS Research Directorate

Office of Research University of Wollongong NSW 2522 Australia
Telephone: +61 2 4221 3386 **Facsimile:** +61 2 4221 4338
office_research@uow.edu.au www.uow.edu.au

APPENDIX 4: STUDY ONE INFORMATION LETTER

Magnet Organisations: Evidence of successful attraction and retention of staff in Australian health services

RESEARCHER'S NAME

Joanne Joyce
Phone: (02) 42213468
E-mail: joanne-joyce@uow.edu.au

As part of my studies in a PhD with the Department of Nursing at the University of Wollongong, supervised by Dr Patrick Crookes (02)42213339, I am undertaking a research project.

The purpose of this project is to develop and pilot an Australian specific tool that builds on the Magnet hospital concepts on nursing staff recruitment and retention.

The focus group will consider questions about job satisfaction and your work conditions. It will take one hour.

You are free to withdraw from the research project at any time without penalty. All information and personal details will be kept strictly confidential.

If you have any enquires regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (02)42214457

Please take the time to be part of the focus group as your participation in this study is very important.

Thank you for your anticipated invovlement.

APPENDIX 5: STUDY ONE Nursing Work Index-Revised (NWI-R) TOOL

Nursing Work Index-Revised (NWI-R)

For each item in this section, please indicate the extent to which you agree that the following items *are present In your current job*. Indicate your degree of agreement by circling the appropriate number.

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
1. Adequate support services allow me to spend time with my patients.	1	2	3	4
2. Physicians and nurses have good working relationships.	1	2	3	4
3. A good orientation program for newly employed nurses.	1	2	3	4
4. A supervisory staff that is supportive of nurses.	1	2	3	4
5. A satisfactory salary.	1	2	3	4
6. Nursing controls its own practice.	1	2	3	4
7. Active in-service/continuing education programs for nurses.	1	2	3	4
8. Career development/clinical ladder opportunity.	1	2	3	4
9. Opportunity for staff nurses to participate in policy decisions.	1	2	3	4
10. Support for new and innovative ideas about patient care.	1	2	3	4
11. Enough time and opportunity to discuss patient care problems with other nurses.	1	2	3	4
12. Enough registered nurses on staff to provide quality patient care.	1	2	3	4
13. A nurse manager who is a good manager and leader.	1	2	3	4
14. A chief nursing officer is highly visible and accessible to staff.	1	2	3	4
15. Flexible or modified work schedules are available.	1	2	3	4
16. Enough staff to get the work done.	1	2	3	4
17. Freedom to make important patient care and work decisions.	1	2	3	4
18. Praise and recognition for a job well done.	1	2	3	4
19. Clinical nurse specialists who provide patient care consultation.	1	2	3	4
20. Team nursing as the nursing delivery system.	1	2	3	4
21. Total patient care as the nursing delivery system.	1	2	3	4
22. Primary nursing as the nursing delivery system.	1	2	3	4
23. Good relationships with other departments such as housekeeping and dietary.	1	2	3	4
24. Not being placed in a position of having to do things that are against my nursing judgment.	1	2	3	4
25. High standards of nursing care are expected by the administration.	1	2	3	4
26. A chief nursing executive is equal in power and authority to other top-level hospital executives.	1	2	3	4
27. Much teamwork between nurses and doctors.	1	2	3	4
28. Physicians give high-quality medical care.	1	2	3	4
29. Opportunities for advancement.	1	2	3	4

Nursing Work Index-Revised *(Continued)*

Strongly Present in Current Job	*Somewhat Agree*	*Somewhat Agree*	*Strongly Disagree*	*Disagree*
30. Nursing staff is supported in pursuing degrees in nursing.	1	2	3	4
31. A clear philosophy of nursing pervades the patient care environment.	1	2	3	4
32. Nurses actively participate in efforts to control costs.	1	2	3	4
33. Working with nurses who are clinically competent.	1	2	3	4
34. The nursing staff participate in selecting new equipment.	1	2	3	4
35. A nurse manager backs up the nursing staff in decision making, even if the conflict is with a physician.	1	2	3	4
36. An administration that listens and responds to employee concerns.	1	2	3	4
37. An active quality-assurance program.	1	2	3	4
38. Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	1	2	3	4
39. Collaboration (joint practice) between nurses and physicians.	1	2	3	4
40. A preceptor program for newly hired RNs.	1	2	3	4
41. Nursing care is based on a nursing rather than a medical model.	1	2	3	4
42. Staff nurses have the opportunity to serve on hospital and nursing committees.	1	2	3	4
43. The contributions that nurses make to patient care are publicly acknowledged.	1	2	3	4
44. Nurse managers consult with staff on daily problems and procedures.	1	2	3	4
45. The work environment is pleasant, attractive, and comfortable.	1	2	3	4
46. Opportunity to work on a highly specialized unit.	1	2	3	4
47. Written, up-to-date nursing care plans for all patients.	1	2	3	4
48. Patient assignments foster continuity of care (i.e., the same nurse cares for the patient from one day to the next).	1	2	3	4
49. Regular, permanently assigned staff nurses never have to float to another unit.	1	2	3	4
50. Staff nurses actively participate in developing their work schedules i.e., what days they work, days off, etc.).	1	2	3	4
51. Standardized policies, procedures, and ways of doing things.	1	2	3	4
52. Use of nursing diagnoses.	1	2	3	4
53. Floating, so that staffing is equalized among units.	1	2	3	4
54. Each nursing unit determines its own policies and procedures.	1	2	3	4
55. Use of a problem-oriented medical record.	1	2	3	4
56. Working with experienced nurses who “know” the hospital.	1	2	3	4
57. Nursing care plans are verbally transmitted from nurse to nurse.	1	2	3	4

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APPENDIX 6: STUDY ONE POSTER/FLYER

Magnet Organisations: Evidence of successful attraction and retention of staff in Australian health services

RESEARCHER'S NAME

Joanne Joyce
Phone: (02) 42213468
E-mail: joanne-joyce@uow.edu.au

As part of my studies in a PhD with the Department of Nursing at the University of Wollongong, supervised by Dr Patrick Crookes (02)42213339, I am undertaking a research project.

The purpose of this project is to develop and pilot an Australian specific tool that builds on the Magnet hospital concepts on nursing staff recruitment and retention.

The focus group will consider questions about the measurement tool developed in the US.
It will take only one hour.
Refreshments will be provided

You are free to withdraw from the research project at any time without penalty.
All information and personal details will be kept strictly confidential.

If you have any enquires regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (02)42214457

Please take the time to be part of the focus group

on (date,time,venue)

as your participation in this study is very important.

Thank you for your anticipated invovlement.

APPENDIX 7: STUDY TWO INFORMATION LETTER

Magnet Organisations: Evidence of successful attraction and retention of staff in Australian health services

RESEARCHER'S NAME

Joanne Joyce
Phone: (02) 42213468
E-mail: joanne-joyce@uow.edu.au

As part of my studies in a PhD with the Department of Nursing at the University of Wollongong, supervised by Dr Patrick Crookes (02)42213339, I am undertaking a research project.

The purpose of this project is to develop and pilot an Australian specific tool that builds on the Magnet hospital concepts on nursing staff recruitment and retention.

The survey will ask you questions about job satisfaction and your work conditions.
It will take a maximum of twenty minutes to complete.

Your name and postal address have been acquired from your employer.

You are free to withdraw from the research project at any time without penalty. All information and personal details will be kept strictly confidential.
The data will be anonymous, please do not include any identifiable information on the survey.

If you have any enquires regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (02)42214457

Please take the time to complete this survey as your participation in this study is very important.

Thank you for your anticipated co-operation.

APPENDIX 8: STUDY TWO SURVEY

Nursing Work Index-Revised:Australian

For each item in this section, please indicate the extent to which you agree that the following items *are present In your current job*. Indicate your degree of agreement by circling the appropriate number.

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
1. Adequate support services allow me to spend time with my patients.	1	2	3	4
2. Medical officers and nurses have good working relationships.	1	2	3	4
3. A good orientation program for newly employed nurses.	1	2	3	4
4. A supervisory staff that is supportive of nurses.	1	2	3	4
5. A satisfactory salary.	1	2	3	4
6. Nursing controls its own practice.	1	2	3	4
7. Active in-service/continuing education programs for nurses.	1	2	3	4
8. Career development/clinical ladder opportunity.	1	2	3	4
9. Opportunity for staff nurses to participate in policy decisions.	1	2	3	4
10. Support for new and innovative ideas about patient care.	1	2	3	4
11. Enough time and opportunity to discuss patient care problems with other nurses.	1	2	3	4
12. Enough registered nurses on staff to provide quality patient care.	1	2	3	4
13. A nurse manager who is a good manager and leader.	1	2	3	4
14. A Director of Nursing who is highly visible and accessible to staff.	1	2	3	4
15. Flexible or modified work schedules are available.	1	2	3	4
16. Enough staff to get the work done.	1	2	3	4
17. Freedom to make important patient care and work decisions.	1	2	3	4
18. Praise and recognition for a job well done.	1	2	3	4
19. Clinical nurse specialists who provide patient care consultation.	1	2	3	4
20. Good relationships with other departments.	1	2	3	4
21. Not being placed in a position of having to do things that are against my nursing judgment.	1	2	3	4
22. High standards of nursing care are expected by the administration.	1	2	3	4
23. A nursing executive is equal in power and authority to other top-level hospital executives.	1	2	3	4
24. Much teamwork between nurses and doctors.	1	2	3	4
25. Medical officers give high-quality medical care.	1	2	3	4
26. Opportunities for advancement.	1	2	3	4
27. Nursing staff is supported in pursuing degrees in nursing.	1	2	3	4
28. A clear philosophy of nursing pervades the patient care environment.	1	2	3	4
29. Nurses actively participate in efforts to control costs.	1	2	3	4

Nursing

Work Index-Revised: Australian *(Continued)*

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
30. Working with nurses who are clinically competent.	1	2	3	4
31. The nursing staff participate in selecting new equipment.	1	2	3	4
32. A nurse manager backs up the nursing staff in decision making, even if the conflict is with a medical officer.	1	2	3	4
33. Administration that listens and responds to employee concerns.	1	2	3	4
34. An active quality-assurance program.	1	2	3	4
35. Nurses are involved in the internal governance of the hospital (e.g. practice and policy committees).	1	2	3	4
35. Collaboration (joint practice) between nurses and medical officers.	1	2	3	4
36. A preceptor program for newly employed or new graduate nurses.	1	2	3	4
37. Nursing care is based on a nursing rather than a medical model.	1	2	3	4
38. Nurses have the opportunity to serve on hospital and nursing committees.	1	2	3	4
39. The contributions that nurses make to patient care are publicly acknowledged.	1	2	3	4
40. Nurse managers consult with staff on daily problems and procedures.	1	2	3	4
41. The work environment is pleasant, attractive, and comfortable.	1	2	3	4
42. Opportunity to work on a highly specialized unit.	1	2	3	4
43. Written, up-to-date nursing care plans for all patients.	1	2	3	4
44. Patient assignments foster continuity of care (i.e., the same nurse cares for the patient from one day to the next).	1	2	3	4
45. Regular, permanently assigned staff nurses never have to relieve in another unit.	1	2	3	4
46. Nurses actively participate in developing their work schedules i.e., what days they work, days off).	1	2	3	4
47. Each nursing unit determines it's own policies and procedures.	1	2	3	4
48. Working with experienced nurses who "know" the hospital.	1	2	3	4

Global Satisfaction Scale

For each item in this section, please indicate the extent to which you agree that the following items *are present*
Indicate your degree of agreement by circling the appropriate number.

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
1. Satisfied with my job.	1	2	3	4
2. Coworkers satisfied.	1	2	3	4
3. Happy to retire from here.	1	2	3	4
4. Hospital very supportive.	1	2	3	4

Continues

Demographic Details

Please answer the following questions about yourself. This data is needed to help us to build a picture of the overall staff mix and characteristics. Please tick in the appropriate box. Note that for some questions it may be necessary to write the information required in the appropriate box or in the space provided.

What is your age? ☐

What is your gender?
- ☐ Male
- ☐ Female

What is your Marital Status?
- ☐ Married
- ☐ Widowed
- ☐ Divorced/Separated
- ☐ Single

Do you have any children who live with you?
- ☐ Yes
- ☐ No

If so, please indicate how many in each age group
- Under 5 yrs ☐
- 5 – 12 yrs ☐
- 13 yrs and over ☐

What is your personal annual income? (Please tick in the appropriate box)
- ☐ < $25000
- ☐ $25001 - $35000
- ☐ $35001 - $45000
- ☐ $45001 - $55000
- ☐ $55001 +

Does your job involve a supervisory role?
- ☐ Yes
- ☐ No

What are your health qualifications?
- ☐ RN
- ☐ EN (Adv. Cert)
- ☐ EN
- ☐ AIN Cert
- ☐ No qualifications
- ☐ Other (please specify)

What is your country of birth?
- ☐ Australia
- ☐ Other (please specify)

Is your native language English?
- ☐ Yes
- ☐ No

What is your employment status?
- ☐ Full-time
- ☐ Part-time
- ☐ Casual

How long have you been employed in current facility? Number years ☐

What are your career plans? I intend to:
- ☐ seek higher qualifications
- ☐ seek promotion
- ☐ stay as I am

When you first came to work here, how long did you intend to stay?
- ☐ Less than a year
- ☐ 1 to 4 years
- ☐ More than 4 years

APPENDIX 9: STUDY THREE INFORMATION LETTER

Magnet Organisations: Evidence of successful attraction and retention of staff in Australian health services

RESEARCHER'S NAME

Joanne Joyce
Phone: (02) 42213468
E-mail: joanne-joyce@uow.edu.au

As part of my studies in a PhD with the Department of Nursing at the University of Wollongong, supervised by Dr Patrick Crookes (02)42213339, I am undertaking a research project.

The purpose of this project is to develop and pilot an Australian specific tool that builds on the Magnet hospital concepts on nursing staff recruitment and retention.

The survey will ask you questions about job satisfaction and your work conditions.
It will take a maximum of twenty minutes to complete.

You are free to withdraw from the research project at any time without penalty. All information and personal details will be kept strictly confidential. The data will be anonymous, please do not include any identifiable information on the survey.

If you have any enquires regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (02)42214457

Please take the time to complete this survey as your participation in this study is very important.

Thank you for your anticipated co-operation.

APPENDIX 10: STUDY THREE SURVEY

Nursing Work Index-Revised: Australian

For each item in this section, please indicate the extent to which you agree that the following items *are present In your current job*. Indicate your degree of agreement by circling the appropriate number.

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
1. Adequate support services allow me to spend time with my patients.	1	2	3	4
2. Medical officers and nurses have good working relationships.	1	2	3	4
3. A good orientation program for newly employed nurses.	1	2	3	4
4. A supervisory staff that is supportive of nurses.	1	2	3	4
5. A satisfactory salary.	1	2	3	4
6. Nursing controls its own practice.	1	2	3	4
7. Active in-service/continuing education programs for nurses.	1	2	3	4
8. Career development/clinical ladder opportunity.	1	2	3	4
9. Opportunity for staff nurses to participate in policy decisions.	1	2	3	4
10. Support for new and innovative ideas about patient care.	1	2	3	4
11. Enough time and opportunity to discuss patient care problems with other nurses.	1	2	3	4
12. Enough registered nurses on staff to provide quality patient care.	1	2	3	4
13. A nurse manager who is a good manager and leader.	1	2	3	4
14. A Director of Nursing who is highly visible and accessible to staff.	1	2	3	4
15. Flexible or modified work schedules are available.	1	2	3	4
16. Enough staff to get the work done.	1	2	3	4
17. Freedom to make important patient care and work decisions.	1	2	3	4
18. Praise and recognition for a job well done.	1	2	3	4
19. Clinical nurse specialists who provide patient care consultation.	1	2	3	4
20. Good relationships with other departments.	1	2	3	4
21. Not being placed in a position of having to do things that are against my nursing judgment.	1	2	3	4
22. High standards of nursing care are expected by the administration.	1	2	3	4
23. A nursing executive is equal in power and authority to other top-level hospital executives.	1	2	3	4
24. Much teamwork between nurses and doctors.	1	2	3	4
25. Medical officers give high-quality medical care.	1	2	3	4
26. Opportunities for advancement.	1	2	3	4
27. Nursing staff is supported in pursuing degrees in nursing.	1	2	3	4
28. A clear philosophy of nursing pervades the patient care environment.	1	2	3	4
29. Nurses actively participate in efforts to control costs.	1	2	3	4

Nursing Work Index-Revised: Australian *(Continued)*

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
30. Working with nurses who are clinically competent.	1	2	3	4
31. The nursing staff participate in selecting new equipment.	1	2	3	4
32. A nurse manager backs up the nursing staff in decision making, even if the conflict is with a medical officer.	1	2	3	4
33. Administration that listens and responds to employee concerns.	1	2	3	4
34. An active quality-assurance program.	1	2	3	4
35. Nurses are involved in the internal governance of the hospital (e.g. practice and policy committees).	1	2	3	4
36. Collaboration (joint practice) between nurses and medical officers.	1	2	3	4
37. A preceptor program for newly employed or new graduate nurses.	1	2	3	4
38. Nursing care is based on a nursing rather than a medical model.	1	2	3	4
39. Nurses have the opportunity to serve on hospital and nursing committees.	1	2	3	4
40. The contributions that nurses make to patient care are publicly acknowledged.	1	2	3	4
41. Nurse managers consult with staff on daily problems and procedures.	1	2	3	4
42. The work environment is pleasant, attractive, and comfortable.	1	2	3	4
43. Opportunity to work on a highly specialized unit.	1	2	3	4
44. Written, up-to-date nursing care plans for all patients.	1	2	3	4
45. Patient assignments foster continuity of care (i.e., the same nurse cares for the patient from one day to the next).	1	2	3	4
46. Regular, permanently assigned staff nurses never have to relieve in another unit.	1	2	3	4
47. Nurses actively participate in developing their work schedules i.e., what days they work, days off).	1	2	3	4
48. Each nursing unit determines it's own policies and procedures.	1	2	3	4
49. Working with experienced nurses who "know" the hospital.	1	2	3	4

Global Satisfaction Scale

For each item in this section, please indicate the extent to which you agree that the following items *are present* Indicate your degree of agreement by circling the appropriate number.

Present in Current Job	*Strongly Agree*	*Somewhat Agree*	*Somewhat Disagree*	*Strongly Disagree*
1. Satisfied with my job.	1	2	3	4
2. Coworkers satisfied.	1	2	3	4
3. Happy to retire from here.	1	2	3	4
4. Hospital very supportive.	1	2	3	4

Continues

Demographic Details

Please answer the following questions about yourself. This data is needed to help us to build a picture of the overall staff mix and characteristics. Please tick in the appropriate box. Note that for some questions it may be necessary to write the information required in the appropriate box or in the space provided.

What is your age? ☐

What is your gender?
- Male ☐
- Female ☐

What is your Marital Status?
- Married ☐
- Widowed ☐
- Divorced/Separated ☐
- Single ☐

Do you have any children who live with you?
- Yes ☐
- No ☐

If so, please indicate how many in each age group
- Under 5 yrs ☐
- 5 – 12 yrs ☐
- 13 yrs and over ☐

What is your personal annual income?
(Please tick in the appropriate box)
- < $25000 ☐
- $25001 - $35000 ☐
- $35001 - $45000 ☐
- $45001 - $55000 ☐
- $55001 + ☐

Does your job involve a supervisory role?
- Yes ☐
- No ☐

What are your health qualifications?
- RN ☐
- EN (Adv. Cert) ☐
- EN ☐
- AIN Cert ☐
- No qualifications ☐
- Other (please specify) ☐

What is your country of birth?
- Australia ☐
- Other (please specify) ☐

☐

Is your native language English?
- Yes ☐
- No ☐

What is your employment status?
- Full-time ☐
- Part-time ☐
- Casual ☐

How long have you been employed in current facility? Number years ☐

What are your career plans? I intend to:
- seek higher qualifications ☐
- seek promotion ☐
- stay as I am ☐
- leave ☐

When you first came to work here, how long did you intend to stay?
- Less than a year ☐
- 1 to 4 years ☐
- More than 4 years ☐