The Management of the Non-Clinical Knowledge of Nurses within North Western Health

by

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Submitted in part fulfillment of the requirements for the degree of

Master of Business in Management

in the Faculty of Business

Victoria University of Technology

(St Albans Campus)

1999

Declaration

I certify that this thesis contains no material which has been accepted for the award of any other degree or diploma in any institute, college or university, and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Acknowledgments

I would like to take this opportunity to express my gratitude to the staff of the Royal Melbourne Hospital for their interest and participation in this project. Especially those that filled out the questionnaire and the managers who consented to interviews.

Secondly I would like to thank the staff of the Department of Management at Victoria University of Technology St Albans campus for their support not only during this project but for the last three years. Special thanks must go to my supervisor, Stephanie Miller, for her patience and support during this project.

Finally I would like to thank my family and friends who have given ongoing support throughout this project. Without their support finishing this project would have extended into the unforeseeable future.

Abstract

Changes that have occurred within the business sector since the end of World War II have created an interest in the knowledge held within organisations. How this knowledge is used impacts upon both the organisation and the individual. Knowledge takes several forms, including explicit and tacit knowledge. That is, knowledge can be written down or explained and knowledge can be part of an individual's intuitions and beliefs and can not be documented.

This project investigates the knowledge held within North Western Health and how this knowledge is used. To determine the knowledge sources within the organisation the non-clinical knowledge of the nurses within a single business unit of a single hospital within North Western Health was examined. To determine how well this knowledge was being utilised the nurses and the managers within this business unit were interviewed.

The results have implications for the organisation as well as the individual business unit and wards. There is a large amount of knowledge held by staff, including language skills, management skills, computer skills and counselling skills to name a few. However there are no mechanisms to document or access this knowledge. Where managers know of individuals with particular knowledge or skills there is a reluctance to exploit them. Employees have indicated a lack of trust of management and a reluctance to use their non-clinical knowledge because of the effect that this will have on their patients.

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Abbreviations

ANUM	Associate Nurse Unit Manager
CNS	Clinical Nurse Specialist
NUM	Nurse Unit Manager
NWH	North Western Health
RMH	Royal Melbourne Hospital

Chapter 1 - Introduction

Knowledge management and intellectual capital are terms now commonly used in business literature. These concepts refer to the knowledge held within an organisation and how the utilisation of this knowledge can help the organisation. Knowledge is the combination of data and information to form a 'basis for action', be it in business or life (Saint Onge 1996, p.12). Knowledge can be both explicit and tacit in nature, either able to be explained and written down or part of our intuitions and beliefs.

The interest in knowledge management and intellectual capital has developed in the period since the end of World War II. During this period many changes have occurred within the business world. The change from the Industrial Age to the Information Age includes changes in the type of work we do, an increased use of technology, changes in the numbers of employees within organisations, and changes in the way we conduct business and run organisations.

The number of employees within organisations has reduced over the past decade through retrenchments, restructuring and redundancies. This has occurred to reduce costs and or to increase profits. The loss of experienced workers has caused a drain of knowledge from organisations.

Health sector changes have mirrored those occurring in the private sector. The Victorian health sector has seen major changes not only in the funding mechanism for public hospitals but also a major change in structure. Single hospitals

with a management structure responsible to government via the Department of Health are now part of a network structure in which hospitals are amalgamated into networks comprising multiple hospitals under a single board and Chief Executive Officer.

The purpose of this project is to explore the amount of knowledge and the use of this knowledge within North Western Health. The project reviews what non-clinical knowledge is held by nursing staff, within a single business unit of the Royal Melbourne Hospital. It explores the ways this knowledge is being utilised within the organisation and whether this utilisation can be improved. I chose this topic after reflecting on a conversation held several years ago with a colleague. We were discussing my studies and the wide range of different courses being undertaken by other colleagues. It transpired that my colleague held a Master of Ethics degree. I inquired if they were using this qualification, or had a desire to use this qualification within their current employment. This colleague worked in a highly specialised field of nursing and said that they used the skills obtained within their study in dealing with ethical problems and decisions within their everyday work. But, they did wish to further use this qualification within the organisation on a wider basis. I found it quite unbelievable that a person with this qualification was not being utilised by the organisation in which they worked. On further reflection I thought that this could be only the 'tip of the iceberg' of the knowledge and skills held by nurses within hospitals.

1.1 Statement of the topic

This thesis will research the use of intellectual capital, or the management of the non-clinical knowledge, within North Western Health.

The research question may be stated as:

Is the non-clinical knowledge held within North Western Health being utilised to its greatest potential?

The subsidiary research questions are:

What non-clinical knowledge is held by nursing staff within North Western Health?

Is this knowledge currently being utilised?

Can the utilisation of this knowledge be improved?

1.2 Aim of the research

The aim of this research is to evaluate the knowledge and skills, other than clinical, held by nursing staff within North Western Health. The nursing staff of a hospital, most of whom are qualified at a tertiary level or equivalent, represent the majority of staff and the major cost centre within the organisation. It is anticipated that there is knowledge held by nursing staff that is not being utilised within the ward, the business unit in which they work, or by the organisation as a whole.

The concepts of knowledge management are practiced daily within the health field at a clinical level but do not appear to be used at a business or management level. There appears to be minimal awareness of the knowledge held within the

organisation. A single business unit within the Royal Melbourne Hospital, a single hospital within North Western Health, was used to examine the non-clinical knowledge held by nursing staff and how or if this knowledge is utilised. The attitude and awareness of this knowledge by managers within the business unit is also examined. It is anticipated that similar or increased knowledge could be held within other business units within the network and that could be extrapolated to these other units from this research. From this it may be determined whether each business unit, or the organisation as a whole, should adopt some type of knowledge management system.

North Western Health has set out the strategic goals and objectives for the organisation within the strategic plan (North Western Health 1998). The goals of the organisation are:

- **Quality Care**: Provide services that meet the needs and preferences of our patients and clients and their families and carers.
- **Teaching and Research in a Learning Environment**: Invest in teaching and research to promote continued excellence in health care.
- **Working Together**: Provide an environment which attracts, develops and retains staff who work together to achieve our shared vision of excellence.
- **Financial Responsibility**: Ensure financial responsibility to optimise service delivery.

Some of the objectives noted under these goals include:

* Establish a learning environment within North Western Health
* Invest in training and development to enable all staff to meet future challenges in health care provision
* Develop and maintain partnerships with universities and research institutions
* Promote effective leadership in all areas
* Encourage and enable all staff to be high performing to maximise organisational capability.
* Optimise the contribution of all staff through access to information and decision-making processes.
* Develop effective and efficient processes, systems and information to support management (North Western Health 1998).

It is anticipated that this research could lead to the organisation becoming more aware of the non-clinical knowledge held by the staff of the organisation. This in turn, if utilised, could help the organisation to perform in a more efficient and effective manner and also help the employees of the organisation in terms of morale and feelings of usefulness. It could also help North Western Health to fulfil the strategic goals and objectives as noted above.

1.3 Structure of this report

To achieve the aim of this project the second chapter of this report examines the literature related to knowledge management and intellectual capital. Particular

attention is paid to an understanding of the term knowledge. There is an examination of the definitions of knowledge management and intellectual capital. A separate section explores knowledge management and intellectual capital within the health sector.

The method used for this research and the rationale for that method is discussed in Chapter 3. Included within this chapter is the theoretical framework. The setting, the instrument and the procedure, are discussed and evaluated.

Chapter 4 presents the quantitative results from the questionnaire. In Chapter 5 the qualitative results from both the questionnaire and the interviews are discussed and analysed.

Chapter 6 concludes the research and provides implications for policy formation.

Chapter 2 – Literature Review

The terms intellectual capital and knowledge management have become common place in business literature over the past five to ten years. This chapter will briefly discuss why these terms have appeared in the literature and why they are important. Also examined are the definitions of intellectual capital, knowledge and knowledge management. A brief look at what is needed within an organisation to make the most of intellectual capital and knowledge management is undertaken. Particular attention is given to the use of knowledge within the health sector.

2.1 The interest in intellectual capital or knowledge management

Since World War II there has been a gradual change within business from the Industrial Age to the Information Age. Stewart (1997, p. 20) used capital spending on production line machinery compared to capital spending on information machinery to estimate that the actual change from the Industrial Age to the Information Age occurred in 1991. He explains that this is the year in which business spent more on information machinery than production line machinery. Edvinsson (1997, p. 366) has taken a similar approach by emphasising that during the industrial era investment went into equipment and plant, now it is going into 'knowledge upgrading, competence development' and information technology.

As part of this change knowledge within business has become more important (Prusak 1997). The last decade has seen an escalation in this change, as well as many other changes within business that have forced managers to change the way they look at knowledge and the way it is used in business. Prusak (1997 p. x) lists six major things that have precipitated they way we look at knowledge, they are:

1. *The pace of change itself.*
2. *The nature of goods and services.*
3. *The scope of a typical firm and its markets.*
4. *The size and attrition rates of employee bases.*
5. *The structure of organisations.*
6. *The capabilities and costs of information technology.*

Looking a little closer at some of the points that Prusak (1997) highlighted, there has been a change in the type of work we do. The numbers of support workers, secretaries and assistants, has diminished while those that deal in information or data have increased. Stewart (1997, p.40) calls these workers 'knowledge workers'. Eisenburg (1997) describes these changes as 'an evolution from an industrial economy, which is based on natural resources and manual labour, to an information economy, which is based on intellectual capital and knowledge workers' (p. 57).

Further change is noted in the amount of knowledge used within different types of work. Stewart (1997 p.41) gives an excellent example of this when he describes the change in a physicians' job, from the pre-war physician to the present day physician. Today physicians are helped by antibiotics, computerised scanning

devices, microsurgery techniques and access to a abundant amount of research and case study data via professional journals and the Internet. The pre-war physician relied on observation and experience only.

The use of the Internet and the advances of information technology has altered the power structures within the community and business. As much as a physician has access to information via the Internet and professional journals so do their patients. The patients are now able to question the physician's knowledge and treatments. This is also true for any other power situation, such as, employer and employee, government and citizen. Wriston (1995, p.6) said 'Information technology has demolished time and distance, but instead of validating Orwell's vision of big brother watching the citizen, just the reverse has happened, the citizen is watching big brother'. Tecker & Eide (1995) write that 'the 20th-century paradigm of information as power will be reversed'. They go on to point out that power will be created when information is 'distributed, accessed, and intelligently used for actual decision making' (p.96). This underpins the need for information and the way in which we use and disseminate information within organisations.

Another change that has occurred within the last decade that has had an important impact on organisations is the trend since the late 1980's to downsize, re-engineer or re-structure organisations. Initially thought of as an excellent way to save money and improve the financial base of an organisation, a side effect has been the removal of knowledge and information from organisations. Eisenberg's analogy seems relevant, 'surgically cutting away part of the employee body and leaving the remaining employees haemorrhaging dangerously impairs the company's vitality'

(1997, p.59). Eisenberg (1997) also emphasised one of the other problems associated with reengineering is the fact that the targeted group to be retrenched usually includes the more experienced older worker. These workers take with them a wealth of knowledge, often tacit in nature, which provide the building blocks of the organisation's memory and culture. The loss of these older workers and often middle managers has the effect of changing the way information flows throughout the organisation. This in turn breaks down well-used communication networks and ultimately effects the efficiency of organisations. Kurtzman (1996) suggests that 'it is not enough to store knowledge', because 'intellectual capital leaves a company each time a worker is dismissed, laid off, or retires' (p. 20). Eisenberg (1997, p.59) quotes many sources when pointing out that downsizing in the past decade has failed to produce the increase in profits that were anticipated. This could be due to the loss of knowledge or intellectual capital that was stored or kept by those workers who were retrenched. This is further emphasised by Ostro (1997 p.59) who says 'companies routinely "forget" what they did and why, and consequently, they have an impaired capacity to learn.' Ostro goes on to point out that this is mostly seen when employees leave or are transferred to different departments.

If we turn to the structure of organisations, Pinchot & Pinchot (1996) argue that we no longer need the 'machinelike' bureaucracies that were common in the Industrial Age. In today's organisations that use teamwork, multi-skilling and project work as the bases of the structure and where the power of the organisations are being transferred to the customer, the structure of the organisation must change. The structure of organisations is also changing as middle managers are retrenched or

downsized, removing layers from the bureaucracies. If with this removal of these layers the authority held by these managers is passed down to the managers at a lower level then a decentralised organisation is created.

2.2 Knowledge

In order to understand intellectual capital or knowledge management we should first understand the difference between data, information, knowledge, and wisdom. 'Real knowledge is neither data nor information. It comprises insights that are, for the most part, deep and strategic' (Kurtzman, 1996 p.20). 'Knowledge can be created from information, when that information is applied to solving a problem' (Grantham, Nichols & Schonberner 1997, p.1). The Canadian Imperial Bank of Commerce (CIBC) has developed its own definitions (as cited in Darling 1996, p. 66):

> *Data is dispersed and unintegrated bits of intelligence -- single numbers, for example.*
> *Information is patterned data, a structure that produces meaning -- a series of numbers compared over time.*
> *Knowledge is a validated platform for action -- the combination of information needed to plan and run the business.*

Saint-Onge (1996) said:

> *Data arrives in our lives and on our desks as dispersed elements. It is only when we compile this data into a meaningful pattern that we have information. As information is converted into a valid basis for action, it becomes knowledge. Upon achieving wisdom, we implicitly know how to generate, access, and integrate knowledge as a guide for action (p. 12).*

These definitions all indicate that to have knowledge we must use the data and the information available to make decisions, to act, or to be truly aware of the circumstances we are in, or the subject we are studying.

There are a number of different types of knowledge, several writers talk of both explicit and tacit knowledge. Explicit knowledge includes knowledge that can be articulated, written down or transferred via any means (Wilson 1996, Saint-Onge 1996). Eraut (1994, p.15) in his work on professional knowledge and competence states that 'Polanyi (1967) invented the term 'tacit knowledge' to describe that which we know but cannot tell'. To further emphasize the important differences in types of knowledge and how long it has been recognised, he refers to Aristotle who 'made a distinction between 'technical knowledge' and 'practical knowledge''. In his work on tacit knowledge Polanyi (1966) explores the ideas that all forms of knowledge involve some degree of tacit knowledge. In fact it is the tacit portion of knowledge that helps us to tie pieces of information together in order to form knowledge itself Some of a company's knowledge is written down and stored either electronically or on paper, but the majority of the company's knowledge, the 'nitty gritty bits', are stored in employees' heads. This type of knowledge makes up part of the company's culture (Darling 1996, Saint-Onge 1996).

Edvinsson & Sullivan (1996 p.357) describe two types of business knowledge. One that can be defined, written down and perhaps protected by law, known as codified knowledge. The other, tacit knowledge or know-how, can perhaps be demonstrated, or it may be a knowledge of how one thing relates to another, or how a process occurs. Saint-Onge (1996, p.11) also described two types of knowledge. Explicit knowledge he describes as 'the words we speak, the books we read, the reports we write, the data we compile'. Also, tacit knowledge he describes as, 'inarticulated' and includes 'intuition, perspectives, beliefs, and values'. Stewart

(1997) emphasised some of the pitfalls of tacit knowledge when he said that tacit knowledge 'tends to be local as well as stubborn'. It is hard to change, it can be wrong, and it is difficult to communicate (p73).

Three other dimensions to knowledge were described by Edvinsson & Sullivan in 1996 as 'whether it can be visualised', is it complex or simple, and can the knowledge 'stand alone'. They also suggest that ' the value of knowledge is largely realised through application of the knowledge' (p. 358). Roos & von Krogh looked at knowledge with a corporate focus. They see three separate 'corporate epistemologies:'

1. *Information processing epistemology - where you think knowledge and information is basically the same.*
2. *Network epistemology - where knowledge is the outcome of interactions among people in networks*
3. *Self-referential epistemology - in which knowledge is a private, history dependant process in each one of us.(1996 p.334)*

Demarest (1997) has an all encompassing definition of knowledge within an organisation - 'the actionable information embodied in the set of work practices, theories-in-action, skills, equipment, processes and heuristic of the firm's employees' (p. 374).

Further to what is knowledge is the individual's ability to recognise the knowledge that they hold. Schon (1983, p. viii) makes the assumption 'that competent practitioners usually know more than they can say'. Argyris and Schon (1974) found in their work that 'we know more than we can tell and more than our behaviour consistently shows' (p. 10). Eraut (1994) concluded within his work that 'people do not know what they know' (p. 15). Eraut (1994) went on to discuss the

work of Schon (1983, 1987) and the importance of 'reflection in raising awareness of tacit knowledge and transforming knowing-in-action into knowledge-in-action' (p. 15). Polanyi (1966) believes that if we are given adequate means of expressing ourselves, or alternative means of communication then we may be able to change that which we know but cannot tell, to that which we know and can tell.

Knowledge held by people is a complex mix of data and information that they have been exposed to, and they have processed to form ideas or actions. This knowledge may be explicit in nature, they may be able to reiterate it or write it down, or it may be tacit, they may not even be aware that they possess it. True wisdom may be held by people who are not only aware of the explicit knowledge they hold but are more aware of the tacit knowledge they hold and are able to use this knowledge to generate ideas and actions.

2.3 Knowledge Management

Marshall, Prusak & Shpilberg (1997, p.229-230) believe to manage knowledge is to 'recognise what is essentially a human asset buried in the minds of individuals and leverage it into an organisational asset that can accessed and used by a broader set of individuals...' They go on to point out that there are a number of things that can be done with knowledge:

> *It can be* generated *from internal operations or R&D groups; it can be accessed as it is needed from sources inside or outside the firm; knowledge can be* transferred *formally before it is utilised, through training, or informally, through on-the-job socialization; knowledge can be* represented *in the form of reports, graphs, and presentations, enabling easier access; after its validity is tested, knowledge can be* embedded *in processes, systems, and controls; and finally, these different knowledge processes can be* facilitated,

> *by the steady development of a culture, based on incentives and management leadership, that values, shares, and uses knowledge (p.230).*

Davenport & Prusak (1998) also write of knowledge generation, they believe that knowledge may be generated within business by many methods including *acquisition* in which knowledge could be stolen, bought or rented. Knowledge may be stolen or borrowed from other companies or departments. Whole companies can be purchased to acquire knowledge or experts with certain knowledge may be hired. Renting entails the use of consultants or perhaps cooperating with or supporting universities with research for commercial rights in return. Knowledge may be generated through dedicated resources such as R&D departments, and also through *fusion,* in which groups of people within the organisation from different sections and different perspective's are bought together to solve problems. Knowledge is also generated by an organisation's ability to *adapt* to change. These changes can include market forces, political change, social and economic change. Finally they suggest that *networks* within organisations may generate knowledge, mainly informal self organised networks.

Several of the early writers look at the ideas of knowledge management in a manner that they relate to ways of codifying knowledge within organisations so that that knowledge can be used in expert or management information systems. Earl (1997 p.9) suggests that you need 'knowledge systems' and 'information networks' for knowledge management. Jensen & Meckling (1996) suggest that one reason for knowledge management is to move knowledge to the decision-makers in the organisation. They report that it is not whether knowledge can be transferred but

what is the cost of that transfer and is it worth it. They do believe that this transfer of knowledge to decision-makers is a good reason to decentralise the organisation and reduce the hierarchy within the organisation.

After reviewing the literature it appears that knowledge management has grown from a method of looking at the knowledge within the organisation that could be codified and transferred into a computer to be used by those in the organisation who make decisions. It takes a more human resource focus in which knowledge held by people within the organisation is first recognised then perhaps mapped to be used by anyone within the organisation for the benefit of both the individuals involved and the organisation as a whole.

2.4 Definitions of Intellectual Capital

Galbraith (Edvinsson & Sullivan 1996, p.358) is credited with coining the term intellectual capital. The concept he described was that of a dynamic form of capital rather than a static form as seen with an accountant's definition of capital (Edvinsson & Sullivan 1996 p.358, Grantham, Nichols & Schonberner 1997). Stewart (1997) quantifies intellectual capital by suggesting that it is the difference between the book value of a company and its value on the stock market. According to Brooking (1997) intellectual capital is defined 'as the difference between the book value of the company and the amount of money someone is prepared to pay for it' (p. 364). Roos & von Krogh (1996) suggest that, 'the market value of intellectual capital is now too large to be categorised as 'goodwill''(p. 333). Therefore it has a greater value to the organisation than 'goodwill' alone.

Edvinsson & Sullivan (1996) define intellectual capital as 'knowledge that can be converted into value' (p.358). Prusak (as cited in Haskell 1998, p. 47) defines intellectual capital 'as intellectual material that has been formalised, captured, and leveraged to produce a higher valued asset'. Jordan and Jones (1997) refer to intellectual capital 'as the intangible creations of human intellect which include technical expertise, problem solving capability and managerial skill, in other words, the knowledge and skills which are embodied in the employees of the organisation' (p. 392). Saint-Onge's (1996 p.11) definition includes three elements:

- *Human capital* - the capabilities of the individuals required to provide solutions to customers.
- *Customer capital* - the depth (penetration), width (coverage), attachment (loyalty), and profitability of customers.
- *Structural capital* - the capabilities of the organisation to meet market needs.

Stewart (1997) also writes of intellectual capital in terms of Human, Structural and Customer Capital (p 75). He states that 'human capital grows in two ways: when an organisation uses more of what people know and when more people know more stuff than that that is useful to the organisation' (p 87). He also points out that structural capital is made up of mostly the information systems within an organisation and that the sharing and transporting knowledge requires structural intellectual assets (p76). Edvinsson (1997) uses only human and structural capital in his definition. Grantham, Nichols & Schonberner (1997 p.3) use Hudson (1993) when describing human capital as composed of four individual characteristics:

1. genetic inheritance
2. formal education

3. life experience
4. social psychological attitudes about life and business

As with the definition or meaning of knowledge, the definition or meaning of intellectual capital is hard to pin down. It appears to have several definite elements: There must be added value to the organisation; this value is gained by using knowledge from the human and structural resources of the organisation.

2.5 Using intellectual capital

Much of the writing on intellectual capital is either about a select group of organisations that have met the challenge of intellectual capital and knowledge management head on, or from authors that work within these organisations. Many of these organisations have developed their own computer programmes to manage their intellectual capital. Several important factors emerge for those organisations that wish to use knowledge management or intellectual capital. Bontis (1996) suggests that companies that have lead the way in intellectual capital, view intellectual capital as a 'multifaceted phenomenon' that has led the companies into new and innovative methods of, viewing and handling culture, and resource management issues. Jordan and Jones (1997) suggest that 'it is not the knowledge of the organisational members per se which is of critical strategic importance, it is the firm's productivity in building, integrating and utilising its intellectual capital which is vital' (p. 393).

Many writers believe that if you are to properly utilise intellectual capital you must define the role of knowledge within the organisation, as part of the strategy or values of the business. Tecker & Eide (1995 p.102) write that 'intellectual capital is both a platform and a prerequisite framework for knowledge-based decision making'. Others believe that organisations, that see themselves as knowledge based organisations, can successfully manage their intellectual capital by understanding and using their human resources, intellectual assets, structural capital, complementary business assets and value creation tools. Roos & von Krogh (1996 p. 334) wrote 'the way you conceive of knowledge influences the way you manage it!'. They went on to say that, 'understanding how knowledge is developed in a company is a precondition to managing knowledge and intellectual capital' (Bontis 1996, Darling 1996, Edvinsson & Sullivan 1996, Graham & Pizzo 1996, Saint-Onge 1996, Tecker & Eide 1995).

Others write of the importance of leadership. It is thought that intellectual capital will be wasted if there is a distinction made between those who make decisions and those who carry them out. Organisations should have leadership that encourages collaboration and openness. Effective leaders help people to use and share ideas, they recognise and build on the talents of others. Leaders must move from rules, to shared values and belief systems. The characteristics that make good leaders include ambition, competence and integrity. Stewart (1995 p. 210) suggests that in order for people within organisations to benefit from and share information or knowledge 'a culture of teamwork' must be formed and maintained. Kerr & David (1995) suggest that to ensure that knowledge is used you must develop a

boundaryless organisation. This is an organisation in which divisions between departments and within a hierarchy do not exist. Strong leaders are vital to achieve these types of organisations (Bennis 1995, Beyers 1995, Graham & Pizzo 1996, Grantham, Nichols & Schonberner 1997, Helgesen 1995, Kerr & David 1995, Malone 1997, Saint-Onge 1996, Uhlfelder 1996).

The culture within the organisation according to Davenport & Prusak (1998) plays a vital role in an organisation's ability to use the knowledge within the organisation. If within the organisation, people who keep knowledge to themselves and do not pass on knowledge do well, then knowledge transfer within that organisation will be minimized. It is also important to understand the climate of the country or culture in which the organisation exists, Davenport & Prusak (1998, p.27) quote a Hewlett Packard vice president who had problems with knowledge transfer within Australia. This was thought to be due to the culture within Australia, in which people who have knowledge are reluctant to 'advertise' this knowledge. Australians have a culture in which the 'tall poppies' are cut down to size, therefore anyone putting themselves forward as having knowledge may be 'cut down'. Employees may not advertise the knowledge that they hold.

Davenport & Prusak (1998) believe that we need to look at the transfer of knowledge in the context of 'knowledge markets'. Within these markets there are buyers, sellers and brokers. The buyers include those who are looking for knowledge, remembering that 'people will search for knowledge if they expect it to help them succeed in their work' (p.25). The sellers, are those who have knowledge and are willing to impart this knowledge. The brokers are those within the

organisation who know where certain knowledge lies, older workers who have been within the organisation for along time, or managers who have a broader access to people within the organisation. On an informal level those within the organisations who know the 'gossip' within the organisation can make excellent brokers of knowledge. There needs to be not only a climate for transfer or the buying and selling of this knowledge but also a place for these transactions to occur. One benefit of these 'knowledge markets' includes an increase in morale, as employees see that they are valuable to the organisation. Also, employees are given a 'greater corporate coherence' a sense of being one with the organisation and the organisations goals (Davenport & Prusak 1998, p.48-49).

The transfer of tacit knowledge creates further problem for organisations. One method that is espoused by several writers is 'apprenticing'. Alternatively, point the person looking for the knowledge to the person that has the knowledge and encourage them to interact. This type of knowledge transfer goes back to the time when the method of teaching a craft was for the new person to watch the master and learn the craft in this manner (Davenport & Prusak 1998, Wilson 1996).

The mapping of the knowledge within an organisation is also a method of transferring knowledge. The map can be as simple as job titles that give formal indications of 'knowledge'. A map of the knowledge in an organisation should show people within the organisation who holds what knowledge. The problem with this method of managing knowledge is that it can lead to political tensions, if subordinates are accessed over managers for their knowledge, especially if those seeking knowledge are from other departments. Also employees have to be willing

to share the knowledge that they hold. If the organisation does not recognise their contribution they may not be willing to share the knowledge that they have.

A few writers believe that for organisations to benefit fully from knowledge management or intellectual capital they may have to change their management style. McRae 1996 (p. 82) suggested that companies should change their management approach to look more like professions in which 'skills and knowledge are spread across an organisation'. He suggests that universities and medicine are better examples for large organisations. Haskell (1998) shares this view with particular reference to the university structure.

2.6 The health care sector

'Hospitals are among the most complex organisations to manage, but they also employ, and are workshops of some of the best trained professionals' (Johnson 1997, p.2). The major changes that have occurred in business over the past decade have also effected the health care sector. Along with changes to funding there have been cuts in funding and government deregulation (Grantham, Nichols & Schonberner 1997). Within the Victorian health sector the changes that have occurred over the last five years include a total change in the funding mechanism in 1993, and the introduction of health networks in 1995. Within the North Western Health, one of the health networks, the Royal Melbourne Hospital has undergone three changes in management structure since 1995. This includes the total removal of the nursing division as a separate division, and the introduction of business units. With this the

majority of middle managers within the nursing division were made redundant, with a decentralisation of responsibilities down to a ward or a business unit level.

Throughout the health care field knowledge appears to be well managed on a clinical level. Most clinical areas in hospitals are divided into specialty areas such as, general medicine, general surgery, orthopaedics, plastic surgery, oncology, neurology, neurosurgery, nephology, endocrinology, cardiology and many others. Other specialty areas including, biochemistry, haematology, radiology, intensive care, nuclear medicine and pharmacy support to all these departments. Within each department a combination of medical, nursing and para-medical specialists exist. Patients are transferred to, or referred to different departments to ensure that their current and ongoing needs are met.

Nursing makes up the major workforce in any hospital. Today within Australia all nurses are educated at a tertiary level. Within the nursing profession the philosophy of the Nurse registering Authorities in Australia states:

- *Nursing is an art and a science. The essence of nursing lies in a unique interplay of knowledge, intuitive and logical thought and compassion for others.*
- *Nursing knowledge is derived from qualitative and quantitative research and from the experience of nurses. (Australian Nursing Council Inc. 1994, p. 4)*

Greenwood (1996, p.3) used the work of Tomlinson (1995) to explain the way nurses respond to patients' needs. Two ways are explained, including the use of 'intuition or unconscious repertoire of strategies for interpreting, judging and responding to needs, situations and events that are relatively familiar' (Greenwood 1996, p.3). Also noted is the conscious use of knowledge to solve problems that are unfamiliar (Greenwood 1996, p.3). Both the statements from the registering body and the above

theorists indicate that to practice on a daily basis nurses use the tacit knowledge that they hold, as well as explicit knowledge. Many nursing theorists have indicated that nurses draw not only on the knowledge they obtain from their nursing education but from knowledge gained in life in general or from other areas of study (Greenwood 1996).

Within the nursing profession positions have been created to help identify those practitioners with particular expertise in their own departments. The Clinical Nurse Specialist and the Clinical Nurse Consultant roles are typical of this. These positions have education and research as a key parts of their job descriptions, ensuring that knowledge is passed on and that there is a growth in the body of knowledge.

Also within health there are many multi departmental committees that help in the ongoing management of clinical knowledge and the maintenance of standards throughout the organisation. Links are maintained to external sources of information and knowledge, including universities and the community (Joel 1995). These committees and forums represent the ideas of Davenport & Prusak (1998) when they talk of 'knowledge markets' in which knowledge is exchanged.

All the above examples of how nurses work on a daily basis and how a hospital in general works, using all the clinical knowledge and expertise to help the customer, be it the patient, or medical or nursing student, explain why McRae (1996) and Haskell (1998) suggest that business organisations should alter their management style to that of a hospital in order to utilise the intellectual capital and the knowledge of the organisation.

While the use of knowledge and intellectual capital can be seen within the clinical fields the same is not true of the business side of the organisation. The same people within the departments that share knowledge and expertise at a clinical level often have dual roles, but they do not look for, or share knowledge as easily in their business role as they do in their clinical role. Very little literature is available on this issue.

2.7 Conclusion

Much of what is written about intellectual capital or knowledge management overlaps, and it appears that it would be difficult to have one without the other. Edvinsson (1997) separates the two by stating: 'the goal of knowledge management is to improve the company's value creation capability through the more effective use of knowledge. The goal of intellectual capital is to improve the company's value generating capabilities through identifying, capturing, leveraging and recycling intellectual capital' (p. 372).

Whether you work towards knowledge management or intellectual capital, neither can be utilised within an organisation unless that organisation is aware of what type of knowledge or information they hold. The organisation must have strategies to develop, acquire and apply knowledge as part of their vision. They must possess the management practices to use this knowledge (Quintas, Lefrere & Jones 1997).

Within the health sector the practices of the clinical side of departments must be transformed to the business side.

Research into what knowledge, other than clinical knowledge, is held within departments and how this knowledge can benefit the organisation is necessary. The following chapter describes the methodology used within this research project to explore what knowledge is held by the nursing staff of the Royal Melbourne Hospital, management's knowledge of this knowledge and how it is being utilised.

Chapter 3 - Methodology

The previous chapter provided a history of the theory surrounding knowledge management. This chapter outlines the problem identified to precipitate this research project, the major research question and the subsidiary research questions. This leads to the theoretical framework used to conduct this research including the Independent, Moderating and Dependent variables. A discussion of the research design including rationale for this design, the instruments used and the procedure followed is then set out. This will lead into the following chapter outlining the results.

3.1 Problem identification

The major problem identified for this research is the utilisation of knowledge held by employees within organisations. This can be restated as the major and subsidiary research questions of this research project.

3.1.1 Major Research question

Is the non-clinical knowledge held within North Western Health being utilised to its greatest potential?

Can the intellectual capital or the knowledge within North Western Health be utilised to create value for the organisation?

3.1.2 Subsidiary research question

What non-clinical knowledge is held by nursing staff within North Western Health?

Is this knowledge currently being utilised?

Can the utilisation of this knowledge be improved?

3.2 Theoretical Framework

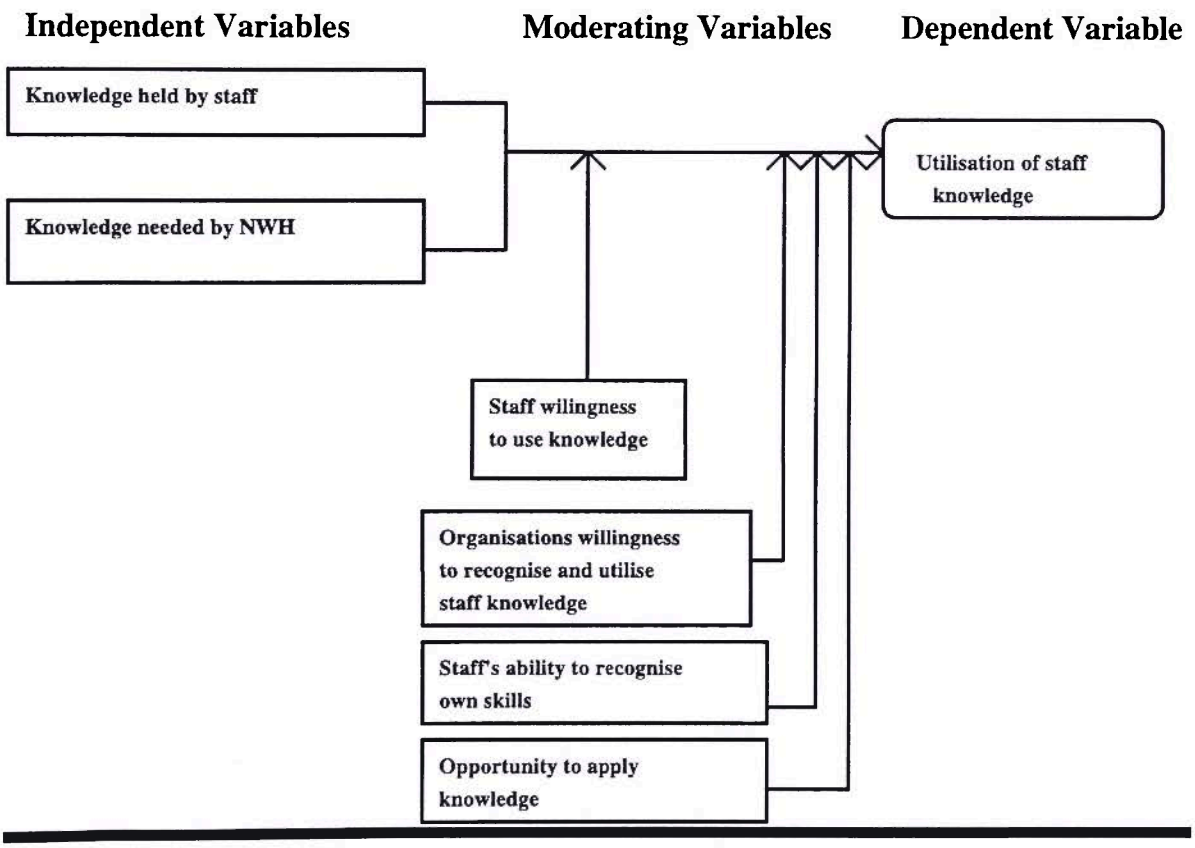
To answer the major research question a theoretical framework has been developed. The variable of interest to this research, the dependent variable, is that of the utilisation of staff knowledge. From this dependent variable two independent variables have been developed. In order to utilise staff knowledge we must first be aware of the knowledge held by staff, and also be aware of what knowledge is needed by the organisation. The issues that effect the relationship between the dependent and independent variables, the moderating variable for this research include the staff willingness to use the knowledge that they hold. Along with the staff's ability to recognise the knowledge or skills that they possess, goes the organisation's willingness to recognise and to utilise staff knowledge. Another moderating variable is the opportunity to apply knowledge. If staff have the knowledge needed by the organisation but are not given the time or the opportunity to apply this knowledge then the utilisation of this knowledge will not occur. A theoretical framework has been developed to illustrate the relationships between the variables identified (See Figure 3.1).

Dependent Variable Utilisation of staff knowledge

Independent Variables Knowledge held by staff

	Knowledge needed by organisation (North Western Health)
Moderating Variables	Staff willingness to use knowledge
	Organisations willingness to recognise and utilise staff knowledge
	Staff's ability to recognise own skills
	Opportunity to apply knowledge

Figure 3.1: Theoretical Framework



3.3 Research Design

In order to answer the research question and to explore the independent, moderating and dependent variables within the theoretical framework, a descriptive study was conducted to estimate the type and amount of knowledge, other than clinical, that is held by nursing staff. Management's awareness of this knowledge and their attitude to the use of this knowledge was also assessed. A descriptive study was undertaken because it answers the questions set out in the major and subsidiary questions the w*ho, what, when, where* and *how*. It describes what is happening and provides starting point for future research (Clifford & Gough 1990, Zikmund 1997). Sekaran (1992, p.97) suggests that descriptive studies can help 'the organisation consider changing its practices'.

The study used both qualitative and quantitative methods. 'Managers work across technical, cultural and functional boundaries; they need to be able to draw on knowledge developed by other disciplines such as sociology, anthropology, economics, statistics and mathematics' (Easterby-Smith, Thorpe & Lowe 1991, p. 5). This lends weight to the idea of using multiple approaches when conducting management research. Easterby-Smith, Thorpe & Lowe (1991) also argue that a cross-disciplinary approach leads to the results of management research being more applicable in the long run.

Using qualitative research methods within this study helps to 'explore in greater depth the nature and origins of people's viewpoint' (Easterby-Smith, Thorpe & Lowe 1991, p. 1). Ghauri, Gronhaug & Kristianslund (1995) indicate that

qualitative methods are useful 'when we want to uncover a persons experience or behaviour...'(p. 85). This is because this type of research method focuses on processes not structures (Ghauri, Gronhaug & Kristianslund 1995, p.84).

The use of different methods within this research gives the opportunity for triangulation. Triangulation can be used to verify the validity of the information collected (Blaxter, Hughes & Tight 1996). Ghauri, Gronhaug & Kristianslund (1995) believe that 'triangulation can produce a more complete, holistic and contextual portrait' of that which is being studied (p.94).

3.3.1 Setting

The Royal Melbourne Hospital as part of North Western Health was the setting for this research. North Western Health has a catchment area spanning 2,466 square kilometres and servicing a population of more than 1 million. A significant proportion (28.9%) of this population is made up of those who come from other countries for whom English is not the first language. The network comprises eight major service providers including the Royal Melbourne Hospital which is the tertiary referral hospital for the network.(North Western Health 1998).

A single business unit within the Royal Melbourne Hospital was used for the study. The business unit used was a general business unit with the minimum amount of specialist wards. This type of business unit was chosen because it represents the base work force in terms of nursing. If a business unit was chosen that contained a majority of specialist wards then the reliability and the generalisability of the

research would be reduced, as the results could not be extrapolated across to other business units or campuses. This is because nurses working in specialist wards may or may not need to have to have undergone postgraduate studies to work in these areas, perhaps increasing the likelihood of non-clinical knowledge. To further increase the validity and the reliability of the research the entire population of the business unit was included in the study.

3.3.2 Instrument

A self-administered questionnaire was chosen to survey the nursing staff. A questionnaire offers the ability to survey a large amount of people on their attitudes, values and beliefs, both efficiently and cost effectively. It is convenient for the respondent and the anonymity of the respondent can aid in the truthfulness and fullness of the answers. On the negative side the response rate to the questionnaire is reliant on the design of the questionnaire and the respondents 'feeling' for the subject being researched. Those with strong positive or negative feelings are more likely to respond to the questionnaire (Clifford & Gough 1990, Sekaran 1992, Zikmund 1997).

All nursing staff below the level of Nurse Unit Manager were given the questionnaire. A copy of the questionnaire can be seen in Appendix 1. The questionnaire was designed to address one of the Independent variables, several of the Moderating variables and the Dependent variable as described in the theoretical framework. These are:

- Knowledge held by staff
- Staff willingness to use knowledge
- Staff's ability to recognise own skills
- Opportunity to apply knowledge
- Utilisation of staff knowledge

The first six questions of the questionnaire cover demographic data including current position, years of nursing and general nurse training. Questions seven to nine focus on the non-clinical knowledge held and when this knowledge was gained. Questions thirteen and fourteen focus on language, other than English, skills. These questions address the Independent variable, knowledge held by staff and to some degree the moderating variable, staff's ability to recognise own skills. Questions nineteen to twenty-one cover the moderating variables, opportunity to apply knowledge and staff's willingness to use knowledge. The remaining questions focus on the Dependent variable the utilisation of staff knowledge.

To answer the remaining Moderating variable, organisation's willingness to recognise and utilise staff knowledge and to also address the dependent variable from the organisations viewpoint, the Nurse Unit Managers and the Operations Director were interviewed. Interviewing the Nurse Unit Managers and the Operations Director gave the researcher the opportunity to ensure that the respondents fully understood the ideas of knowledge management and the use of intellectual capital. Also it helped the researcher understand the working of the organisation and how knowledge can and cannot be used within the organisation. Interviews give 'the

opportunity for the researcher to probe deeply to uncover new clues, open up new dimensions of a problem and secure vivid, accurate, inclusive accounts that are based on personal experience' (Burgess 1982 in Easterby-Smith, Thorpe & Lowe 1991, p. 73). Other advantages of interviews include the ability to clarify questions, probe complex issues, ensure all questions are answered and an increased participation rate. On the negative side some interviewees may be reluctant to provide confidential or sensitive information due to the lack of anonymity. Also the interview technique of the researcher may create bias in the research (Zikmund 1997).

The interviews were semi-structured in nature, all of those interviewed were asked the same questions. Access to the questions prior to the interview was given. Although the same questions were asked the interviews were allowed to flow, if the manager being interviewed continued to talk and in doing so addressed later questions or bought up ideas not included in the questions they were not interrupted. The list of questions can be seen in Appendix 2. All interviews were taped and transcribed. After transcription similar themes from each interview were developed. These themes followed the questions closely but also followed the variables in the theorectical framework. To facilitate the analysis of this data all answers or comments from the interviews and from the questionnaire were grouped together under the themes that had been identified.

3.4 Procedure

3.4.1 Permission

In order to conduct research within the Royal Melbourne Hospital permission must be granted through one or more of the research and ethics committees of the hospital. In this case an application was submitted to the Nursing Research Review Panel. This panel was made up of representatives from within nursing at The Royal Melbourne Hospital, as well as several representatives from Universities around Melbourne. The submission included an application form with a project synopsis and signed approval from my academic supervisor, a research proposal including a description of the proposed study, rationale for the research, methodology and a discussion of the ethical consideration within the research. Also submitted was the proposed questionnaire. Twelve copies were submitted to the panel. The panel meets monthly and the application was submitted on June 5 1998. The panel met on June 16 1998, with the researcher present. At this meeting all aspects of the research were discussed. Concern was raised over one of the questions within the questionnaire. Question 17 had been worded as follows:

> Would you be willing to be utilised as an interpreter?
>
> (Please tick more than one box as appropriate)
>
> Within your ward
>
> Within your business unit
>
> Within the RMH
>
> Within the NWH

The panel rejected the wording of this question stating that it could raise difficulties with administration if the staff member was used as an interpreter. This concern was expressed by the statement:

'How would the hospital be able to administer their time?'

This was an interesting concern particularly due to the fact that the whole research project investigates the use of knowledge and skills held by staff. If any skills were to be utilised the same problem they expressed for language skills could apply. It also gave the researcher an insight into the attitudes of a group of senior nurses and researchers towards knowledge management.

Another concern raised was the timing of the interviews. The researcher agreed to conduct the interviews concurrently with the questionnaires being distributed, as requested by the panel.

After the meeting it was requested that the researcher submit a revised wording of question 17 within the questionnaire, a list of questions to be asked at the interviews (see appendix 2) and a covering letter to accompany the questionnaire (see appendix 3). These requests were met and permission was granted for the research to commence on 7th July 1998. (see appendix 4)

3.4.2 Cooperation achieved

In the week commencing 27th July 1998, preliminary discussions with all Nurse Unit Managers and the Operations Director were held. The delay between the granting of approval by the Nursing Review Panel and beginning the preliminary work was because of changes within the hospital structure. The position of Operations Director

was a new position, and the person selected for this new role did not commence until this time.

From these discussions all the Nurse Unit Managers (NUM) were happy for the questionnaires to be distributed to staff. All but one of the Nurse Unit Managers indicated that they would be happy to participate with the interviews and have these interviews taped. One declined to be interviewed but agreed to an informal 'chat' about the project. The Operations Director agreed to be interviewed and have this interviewed taped, but asked if they could be contacted in several weeks to give them time to settle into their new position and get to know the staff within the business unit.

3.4.3 Distribution, collection of questionnaires and interviewing

The questionnaires were distributed on Friday 31 July 1998. In 3 of the 4 wards involved questionnaires were attached to staff time sheets, one NUM wanted to distribute the questionnaires personally, in all wards several spare copies of the questionnaires were left. In all but one ward a sealed box was left within the ward for the return of questionnaires, alternatively they could be returned to the researcher via the internal mail system. In total 114 questionnaires were left in the wards.
By the 19th August 1998 32 of the questionnaires had been returned along with 18 spares that had been distributed giving a return of 33%.
All interviews were completed by 27th August 1998.

3.5 Ethical Considerations

Ethical considerations in this type of research include confidentiality of information collected. The information collected in this project included material that may already be within a employee's personnel file. It included information routinely given in curriculum vitaes and at employment interviews. The main emphasis for the researcher was that strict confidentiality was maintained outside the organisation. Even though within the questionnaire names were requested these were for organisational use only, and do not form any part of this final submission. The names were requested on a voluntary bases so that the information that was collected could be used to aid North Western Health or the Royal Melbourne Hospital. All participation in the research was voluntary as explained in the covering letter accompanying the questionnaire.

For those participating in the interviews confidentiality of responses was promised to ensure honesty in answering questions. To help with the anonymity of those interviewed the actual business unit used in the project is not mentioned in the report. Although this was not mentioned initially it is the view of the researcher that because of the honesty shown in the interviews, the anonymity of the business unit should be maintained to protect those who were interviewed.

3.6 Limitations

A return rate of 33 per cent is one of the major limitations of this research. The return rate would have been affected by industrial action at the time of the research.

The reason for the strike was concern over staffing levels and management attitude to nursing staff's concern re these staffing levels as well the loss of nursing management positions. As part of the research looked at nursing staff using their skills and qualifications for the good of the organisation and therefore management the negative feelings for the organisation as a whole around this strike may well have had a negative result for the return of the research questionnaires.

Also a third change in management structure within four years, including going from a single hospital to a network may have had an impact. The staff may be confused about the loyalty of this much larger organisation to their staff.

Other limitations for this research include staff ability to recognise their own skills, and to understand how these skills or qualifications that they may have may be useful within an organisation.

Chapter 4 - Quantitative Results

This chapter will set out the results of the quantitative and some of the qualitative data revealed in the questionnaire.

4.1 Response Rate

In total 96 questionnaires were distributed with 32 returned giving a return rate of 33%. As discussed in chapter three, this is a disappointing response rate, but this was thought to be due to the timing of the questionnaire which corresponded to a time within the Royal Melbourne Hospital when the nursing staff were not happy with management.

4.2 Demographics

The first six questions of the questionnaire determined the demographics of the survey group.

The results in response to the positions held are shown on Table 4.1. The respondents are shown in the first two columns, while the last two columns show the total population. These results indicate that those that responded to the questionnaire represented the population reasonably well, expect for a lower than expected response by those holding a Grade 1 and a higher than expected response from those holding a Senior Grade 2 position. The Grade 1 positions are those nurses in their first year of nursing since training. The Grade 2 Year 1 positions are those nurses who have completed their first year and are in their second year of nursing. The

Grade 2 position goes up to Year 6. Within this research a Junior Grade 2 position represents those nurses who are Grade 2 Year 1 to Year 3. The senior Grade 2 position are those who are classified as Grade 2 Year 4 to Year 6. Associate Nurse Unit Managers are represented as a separate group. The 'other' category includes Clinical Nurse Specialists and Division 2 (State Enrolled) nurse.

Table 4.1: Positions held by respondents compared to total population

Position	Respondent frequency	Respondent Percent	Total population frequency	Total population percent
Grade 1	3	9.4	18	18.8
Junior Grade 2	9	28.1	32	33.3
Senior Grade 2	10	31.3	19	19.8
ANUM	7	21.9	15	15.6
Other	3	9.4	12	12.5

Source: Analysis of survey data

Of those that answered the questionnaire 37.5% completed their general nurse training within a hospital. The remaining indicated that they hold university qualifications, 40.6% having degrees, while 15.6% indicated that they have diploma qualifications. The remainder indicated that they have university qualifications but did not indicate their award.

The range of years for graduation ranged from 1956 to 1997, 34.4% of respondents did not indicate their year of graduation and those that did are represented on Table 4.2.

Table 4.2 Year of graduation

Year of graduation	frequency	percent
1956	1	3.1
1976	1	3.1
1982	1	3.1
1989	1	3.1
1990	1	3.1
1991	1	3.1
1992	4	12.5
1993	3	9.4
1994	1	3.1
1995	2	6.3
1996	3	9.4
1997	2	6.3

Source: Analysis of survey data

Questions four and five asked how long the respondents had worked at the RMH or within other hospitals, 34.4% indicated that they had only worked within the RMH. The months of employment within the RMH ranged from 2 to 240 months with a mean of 52.5 months, and a median of 26.5 months. The number of months worked at other hospitals ranged from 1 to 240 months with a mean of 44.3 months and a median of 17.5 months.

4.3 Other qualifications or skills

The remaining questions were developed to explore the relationships posed by the theoretical framework. The first of these questions relates to the Independent Variable *Knowledge held by staff,* and indirectly to the Moderating Variable *Staff, ability to recognise own skill.*

Question three asked the respondents if they had any additional nursing training, 53.1% indicated that they have other nurse qualifications. These

qualifications included midwifery, infectious diseases and psychiatric certificates as well as many short courses.

Questions 7, 8 and 9 asked if the respondents had any qualifications, other than nursing qualifications, if they possessed any other skills other than those from their nursing training and when these qualifications and or skills were obtained. Question 13 and 14 inquired about the respondent's ability to speak any other languages.

Six respondents (18.8%) of those surveyed indicated that they have other qualifications. Those qualifications included:

Teacher secondary

Bachelor of Education, Graduate Diploma of Counselling & Human Services, Master of Counselling & Human Services (completing)

Presently studying Bachelor of Arts/law degree (completing)

Aerobics/fitness instructor, VICFIT registered

Work place first aid certificate

BS Psychology

Current MBA student

Sixteen (50%) of those surveyed indicated that they possessed other skills, several indicated that they possessed multiple other skills. Those skills have been grouped into categories and are shown in Table 4.3.

Table 4.3: Skills identified

Skills	Number of respondents
Business or Management Skills	9
Computer skills	9
Life experience	2
Counselling, communication and education skills	3
Other- fitness health promotion, drawing, craft, running meetings	3

Source: Analysis of survey data

Of those that indicated that they possess other skills or qualifications, 44% indicated that they received these skills/qualifications prior to their general nurse training. A further 44% indicated they received their skills/qualifications after their general nurse training. One respondent answered that they received their skills/qualifications both prior to and post their nursing training. One respondent did not answer this question.

Eleven (34%) indicated that they spoke one or more languages other than English fluently. Those languages included: Tagalog, German, Maltese, Italian, Hindi, Indonesian, Cantonese, Dutch, Polish, Foo chow, Mandarin, Malay, Filipino and Spanish. Two respondents indicated that they were not able to read or write the language or languages that they spoke.

Four (12.5%) respondents indicated that they possessed both other qualifications as well as other skills (see Table 4.4). Of these four, three also indicated that they spoke other languages. Two respondents indicated that they possessed other skills as well as speaking other language/s. Fourteen (43%) of respondents indicated that they had no other skills or qualifications.

Table 4.4 : Cross tabulation other qualifications v other skills

		Other qualifications		
		Yes	No	Total
Other skills	Yes	4	12	16
	No	2	14	16
Total		6	26	32

Source: Analysis of survey data

Looking at skills, qualifications and languages cross tabulated against positions shows us that in regard to skills held, all the Grade 1 nurses indicated that they have other skills. This could be seen as a interesting result considering that these are the least experienced nurses. They also have a higher rate of other languages than those of the other categories. These cross tabulations can be seen in Table 4.5.

Table 4.5: Cross tabulation other skills, qualification, languages v position

		Current Position					
		Grade 1	Junior Grade 2	Senior Grade 2	ANUM	Other	Total
Other skills	Yes	3	3	5	4	1	16
	No		6	5	3	2	16
Total		3	9	10	7	3	32
Other quals.	Yes		1	3	1	1	6
	No	3	8	7	6	2	26
Total		3	9	10	7	3	32
Other languages		2	3	3	2	1	11

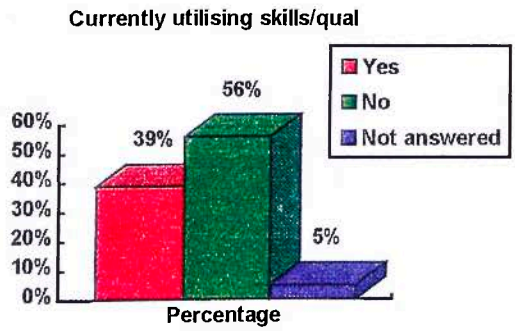
Source: Analysis of survey data

4.4 Utilisation of skills, qualifications and languages

The next group of questions help to explore the two independent variables, *Knowledge held by staff* and *Knowledge needed by the organisation,* as well as the moderating variable *Staff willingness to use knowledge.*

In response to the question asking if they were using any of the previously mentioned skills and or qualifications 43.8% had not indicated any skills or qualifications so it was not applicable to answer this question. Of those that it was applicable to respond one did not answer the question. Of the remaining respondents 39% indicated that they were currently utilising their skills/qualifications, 56% indicated that they were not currently using their skills/qualifications (See Figure 4.1).

Figure 4.1: Current utilisation of qualifications/skills



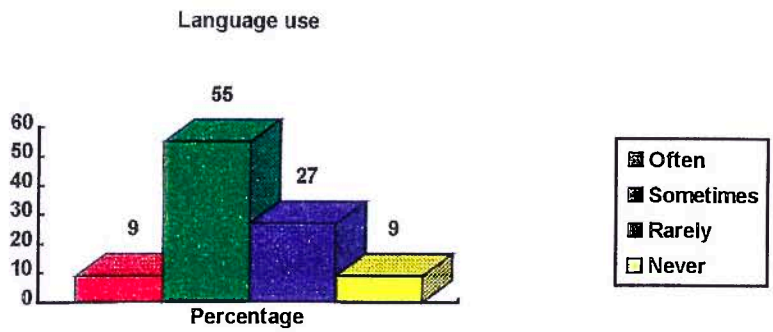
Source: Analysis of survey data

In response to the question regarding the potential to use qualifications/skills within their current position again those who had not listed any qualifications/skills it was not applicable for them to answer this question. Of the remaining respondents again 1 did not answer, 50% saw a potential to use their qualifications/skills 44% did not.

The response to question 12 regarding the potential to use skills/qualifications within the RMH or within NWH 50% responded positively to this question 33% responded negatively while 16% did not answer the question.

Question 15 was designed to ascertain the frequency that the respondents use the language/s other than English that they speak. The results can be seen in Figure 4.2. Only one respondent indicated that they never used their language skill, this respondent indicated that they spoke Filipino.

Figure 4.2: Frequency of language use



Source: Analysis of survey data

4.5 Further use of skills/qualifications or languages

Questions sixteen to twenty were designed to ascertain the respondent's attitude to the use of, the potential use of, and the appropriateness of the use of the qualifications, skills or languages that they indicated that they have. Also questioned is the staff willingness to have their skills, qualifications or languages listed on a database so that others would be aware of these assets. The answers to these questions will help to answer the moderating variables of the theoretical framework:

Staff willingness to use knowledge.

Organisations willingness to recognise and utilise staff knowledge.

Opportunity to apply knowledge

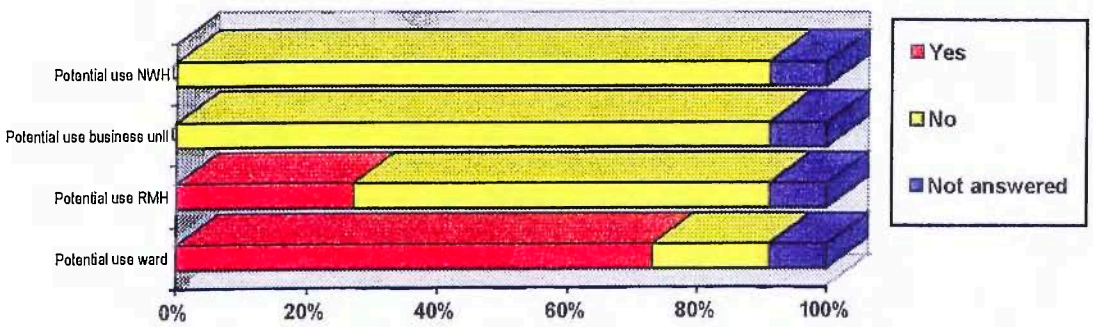
Question 16 looked at the respondent's attitude to the potential use of their language skills not only within their ward but also the business unit, RMH and NWH. The results of this question are represented in Table 4.6 and Figure 4.3.

Table 4.6: Potential use of language

	Potential use ward	Potential use business unit	Potential use RMH	Potential use NWH
Yes	8 (73%)	0	3 (27%)	0
No	2 (18%)	10 (91%)	7 (64%)	10 (91%)
Not answered	1 (9%)	1 (9%)	1 (9%)	1 (9%)

Source: Analysis of survey data

Figure 4.3: Potential use of language



Source: Analysis of survey data

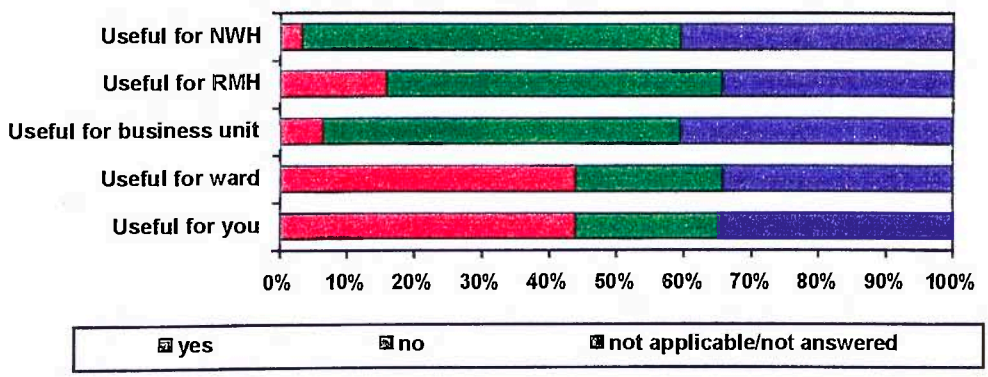
Question 17 asked whether the utilisation of qualifications/skills or languages would be useful. The responses are represented on Table 4.7 and Figure 4.4.

Table 4.7: Usefulness of qualifications, skills and languages

	Yes	No	Not Applicable/Not Answered
Useful for you	43.8%	21.9%	34.4%
Useful for ward	43.8%	21.9%	34.4%
Useful for business unit	6.3%	53.1%	40.6%
Useful for RMH	15.6%	50%	34.4%
Useful for NWH	3.1%	56.3%	40.6%

Source: Analysis of survey data

Figure 4.4: Usefulness of qualifications, skills and languages



Source: Analysis of survey data

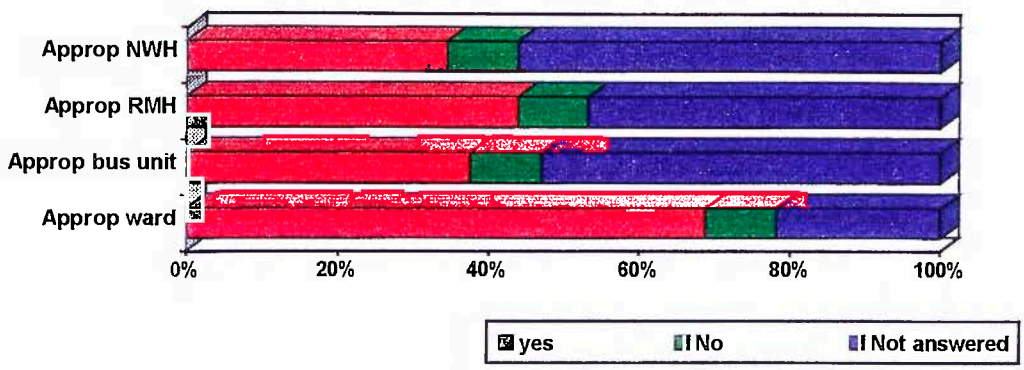
The responses to question 18 regarding whether it is appropriate to utilise the qualifications/skills and languages are represented in Table 4.8 and Figure 4.5.

Table 4.8 : Appropriateness for the utilisation of qualifications, skills and languages

	Yes	No	Not answered
Approp ward	68.8%	9.4%	21.9%
Approp bus unit	37.5%	9.4%	53.1%
Approp RMH	43.8%	9.4%	46.9%
Approp NWH	34.4%	9.4%	56.3%

Source: Analysis of survey data

Figure 4.5: Appropriateness of the utilisation of qualification, skills and languages.



Source: Analysis of survey data

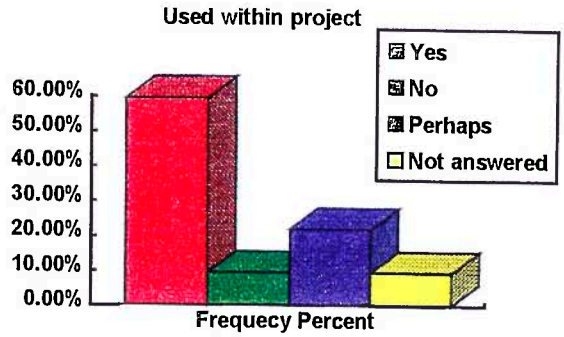
Question 19 looked at the respondents willingness to have their qualifications, skills and languages used within a project for NWH. The results are represented on Table 4.9 and Figure 4.6.

Table 4.9 : Willingness to be involved with projects.

Used within project	Frequency Percent
Yes	59.4%
No	9.4%
Perhaps	21.9%
Not answered	9.4%

Source: Analysis of survey data

Figure 4.6: Willingness to be involved with projects.



Source: Analysis of survey data

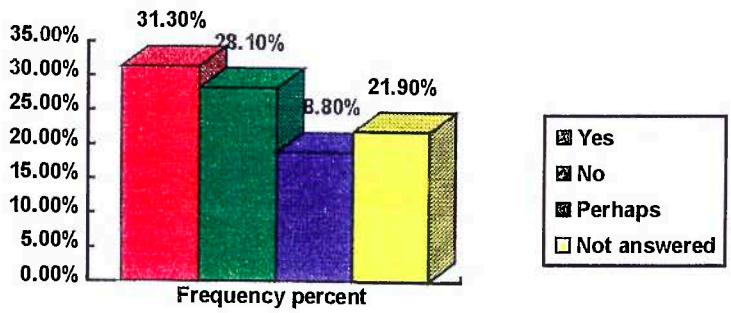
The last question in this series asked the respondent directly if they would be willing to have a list of their qualifications, skills and languages kept on a data base so that others within the organisation would be aware of the assets of the individuals and the organisation. The results of this question can be seen in Table 4.10 and Figure 4.7.

Table 4.10 : Willingness to have qualifications, skills and languages listed

List of qualifications kept	Frequency percent
Yes	31.3%
No	28.1%
Perhaps	18.8%
Not answered	21.9%

Source: Analysis of survey data

Figure 4.7: Willingness to have qualifications, skills and languages listed



Source: Analysis of survey data

4.6 Knowledge transfer within wards and business units

The final few questions on the questionnaire asked respondents about any forums used for the transfer of knowledge within their ward or their business unit. They were also asked what topics would they like to see discussed at these forums. These questions helped to provide information about the moderating variable within the theoretical framework regarding the opportunity to apply knowledge.

Twenty out of 32 (62.5%) respondents answered this question. Fourteen out of the twenty (70%) indicated that there was some type of forum within the ward or hospital for the transfer of knowledge. From the 70% that responded positively nine (64%) indicated that the ward had specific education sessions, five (36%) indicated handover time a forum for the transfer of knowledge. Two (14%) wrote of short courses run by the hospital, a further 2 (14%) indicated that general ward meetings were used to transfer knowledge. Only two respondents indicated what topics they would like in these forums. One asked for more specific information on medical

conditions of patients treated in their specific wards. The other respondent asked for sessions on dealing with aggressive patients.

4.7 Conclusion

This chapter has outlined the quantitative results obtained from the questionnaire. Over half the respondents had additional nursing qualifications. Half indicated that they possessed additional non-clinical skills, and 18.8% indicated that they had other qualifications. These facts all show that there is a large reserve of non-clinical knowledge possessed by staff within the business unit surveyed. Over half of those who indicated that they had additional qualifications or skills said that they were not using these skills. Further to this half indicated that they saw potential to use these skills or qualifications. Over half of those surveyed were happy for their skills and qualifications to be placed on a database. Over 80% were happy to be used in a project within the hospital.

Some further findings from the quantitative data will be discussed in the following chapter, which will also review the qualitative results from the interviews as well as the questionnaire. Some conclusions regarding all the results will be drawn in the following chapter, while the final discussions and conclusions will be made in Chapter 6.

Chapter 5 - Qualitative data analysis and conclusions

This chapter reviews the qualitative data collected from interviews conducted and from comments in the questionnaires. In this chapter the data is used for reflection and discussion. Conclusions are drawn within this chapter while presenting the qualitative data. This method of data analysis was selected to enable the data to be presented in a meaningful way for the reader, while continuing to maintain the confidentiality of those who participated in the interviews.

The themes covered in this chapter include those identified within the theoretical framework as the independent and the moderating variables. The responsibility of the organisation to build non-clinical knowledge is also discussed. The managers' understanding of the principles underpinning this research, that of knowledge management and intellectual capital is also addressed within this chapter.

5.1 Knowledge needed by the organisation

To help answer the questions raised by the independent variable *Knowledge needed by the organisation* the Nurse Unit Managers and the Operation Director were asked: What non-clinical knowledge would it be useful for nurses to have? Three out of the five indicated several skills that would not only help the ward, but also aid the nurses in their clinical workload as well as any non-clinical workload. They include: life

experience, alternative therapies, counselling skills and communication skills. Three out of five also indicated that computer skills and language skills would also be useful. Two indicated that an understanding of different cultures or being of different nationalities is a bonus. Other knowledge that the managers indicated would be useful include any other learning, any other formal education at a tertiary level, general fitness, leadership skills, ability to interpret figures or budgets, English language skills, global view of health or health issues, being 'verbally able', assertiveness and stress management including self management of stress. While discussing knowledge and skills' one of the managers thought that staff participation in team sports was useful, as this helps to build team work skills that are vital in the ward environment. It helps people to recognise other peoples' strengths and weaknesses and to use these to help the team.

5.2 Knowledge held by staff

When asked what knowledge or skills their staff hold the managers identified several staff undertaking or already possessing tertiary degrees. Those areas being studied included arts, science, psychology, architecture, business, and computer courses. They identified skills including mature staff with broad life experience, and staff with alternative therapies skills including aromatherapy and massage. They further identified staff with counselling experience, with second languages or those from different cultural backgrounds. The language and cultural skills were especially important to one manager who relayed the experience of needing an interpreter to

help with explaining a difficult diagnosis to a patient. The patient and the interpreter both came from a very small community within the Melbourne metropolitan area and knew each other socially. The small size and strong culture of this community, along with the delicacy of the subject of interpretation caused much concern amongst staff and, after the event, for the patient. At the time no alternative was seen. If a database of language skills of staff in the hospital had been available, then a staff member who spoke this language may have been able to be utilised.

Other qualifications identified amongst staff that managers did not appear to be aware of included qualifications in education and arts/law. Several staff members identified skills, including running and owning small businesses, although no managers seemed aware of these skills.

The interviews showed that the managers view those staff that have life experience as an important asset. Only two respondents from the questionnaires identified life experience as part of the skills that they possess. This could not be due to the fact that the respondents do not have life experience, greater than 60% of respondents held positions Grade 2 year 3 or above indicating that they had completed their nurse training at least four years ago. From the months worked at other hospitals 60% had worked at other hospitals for greater than 12 months and 50% had worked within the RMH for more than 26 months. This would indicate that they have some life experience to contribute. It could be that the staff are unable to recognise their own skills as suggested by the work of Eraut (1994, p.15) who concluded that 'people do not know what they know'. Alternatively they fail to

recognise the importance of life experience to the ward in which they work, or to the organisation as a whole.

The questionnaires also revealed eight respondents with skills in business or with management experience, several indicated that they had run their own business, this could indicate that they have budgeting experience. Budgeting skills were identified by the managers as a skill that would definitely be useful. At the time of the interviews several managers were actually doing ward budgets for the first time, they expressed the need for assistance with this task during the interviews. At the end of one interview the manager received a phone call from another manager within the business unit asking for help with a memo they had received regarding the format of the budget. They decided to get together to 'nut out' the problem. Although they were gaining help from each other, none indicated that they were or would actively seek out those staff members within their own wards, or the business unit, who had this type of experience. In deciding to get together to solve the problem they were forming a network to facilitate knowledge generation, as advocated by Davenport and Prusak (1998).

Language skills are an important area of knowledge with 34% of those surveyed indicating that they speak another language. From these 11 respondents 14 different languages were spoken. Although not asked within the questionnaire, this could indicate knowledge of the cultures associated with these languages, again fulfilling needs indicated by the managers.

5.3 Organisations willingness to recognise and utilise staff knowledge

The third question asked of the managers regarded the use of staff's non-clinical knowledge within the ward, business unit or the hospital. All those interviewed said they would encourage the use of skills not only in the ward but also within the Business Unit or the RMH. As indicated in the previous section although the managers indicated that they would encourage the use of the qualifications and skills, in terms of business and management they were at present not utilising the skills in the wards. The second question asked (What skills do your staff have?) revealed that several managers were not aware of the skills and qualifications that staff within their ward possess.

From the questionnaires, 56% of the respondents that identified they possessed skills or qualifications indicated that they were not currently using those skills. Several indicated that the skills/qualifications they had were not required for their current position. Although not directly using the skills/qualifications that they possess two respondents had the insight to recognise the use of these skills in their every day work. This was indicated by their comments:

'As a graduate nil management skills directed on job, however I utilise skills gained in my duty of care'.

'Experience and maturity helpful in many nursing situations'

These two perhaps are showing true reflective practice in their everyday work showing expertise in their practice by transforming 'knowing in action' to

'knowledge in action' by using all the knowledge that they have including tacit knowledge (Eraut 1994, Schon 1983).

Comments made by staff regarding the potential to use their qualifications and skills within the RMH or the network indicate that although 50% responded positively to this question, several were concerned about how they would be compensated for their time. One respondent commented,

'Not unless time and resources made available'

The same respondent answered another question regarding the appropriateness of using skill and qualifications with similar concerns,

'Only if appropriate resources made available to enable them to do "extra"'

On the positive side several saw that they would be able to use the skills that they held anywhere within the organisation. They indicated this by the following comments about their own abilities,

'Good organisational skills'

'Ability to communicate & negotiate without being confrontational'

Others saw potential to use additional knowledge when they moved to a new position,

'In Grade 2 position perhaps'

The data reveals that many staff recognise the knowledge and skills they possessed but could not easily see how these could be applied in the organisational setting.

5.4 Opportunity to apply knowledge

All interviewees answered positively when questioned on whether they would mention their staff member's name to anybody organising a project, if they knew the project needed the skills that the staff member possessed. Four out of the five interviewees qualified their answers by saying that their staff would have to be happy to use their skills, and that they would probably mention it to the staff member first to ensure that they were happy to participate. From the survey 59.4% of the respondents indicated that they would be happy to have their qualifications/skills used for a project within NWH, 21.9% indicated that they may be willing to have their qualifications/skills used for a project, giving a total of 80.3% answering this question positively with only 9.4% indicating that they would not be willing. A further 9.4% did not respond to this question. Even with the high positive response comments made regarding this question showed the concern the nurses had for the impact this may have on their clinical and patient load. Also raised was the type of recognition that the organisation would give them for their time and skills.

> *'Only on the condition appropriate resources were made available and that I was not required to do it in my own time or during clinical time/ward time'*
> *'Only if I was financially recognised for my time and that there was no on call requirements'*
> *'Depends on what it was and my present workload as either way I am not going to get paid any more for doing so!'*
> *'As long as it didn't compromise patient care'*
> *'Only if it was of benefit to me too!'*
> *'I want to concentrate on nursing and advance in the area of nursing'*

When asked what they thought of having access to a database that would list the skills/knowledge held by staff within the hospital all agreed it would be useful. All agreed that staff would have to give permission to go on the database and that it would need to be monitored to ensure that it wasn't or those on the database were not abused. Comments included:

'Yes definitely I would be seeking it, looking for it'

'As long as it wasn't abused..I think that it would be quite valuable'

Although all managers agreed it would be a positive thing to have a database, all commented on problems with the database, including the need for staff to agree to go onto the database voluntarily.

'I think that person should rightly have the right to say look no, I can't, I am not available at the moment and that has to be understood by people'

'I guess the issue is how much it would impact on their time in the clinical area'

Question 20 within the questionnaire asked the respondents about their willingness to have their qualifications, skills and languages kept on a database. Fifty percent either did not answer the question or indicated that they would not be willing to have their qualifications/skills kept on a database. The remaining 50% indicated they would or may be willing to be on a database. The comments from those that responded to the survey were all negative, perhaps reflecting on the mood within the hospital at the time, especially with a strike regarding work issues, including cutting back of staff numbers. The comments included:

'It gets down to privacy!'

'Nursing is my priority'

'Prefer to offer my skills myself and whenever I want to'

During the discussion on the use of a database one of the managers told a story about the difficulties encountered when they had been trying to find someone in the organisation to help them write a submission for a grant for a research proposal in a limited time frame.

> *'I think we have lost, you sort of used to historically know who was doing what or who was good at what and you would seek them out, but now we don't know much about the skills...about many people in our hospital at the moment'*

They went on to say,

> *'many positions and people have been made redundant there has been a large turnover recently'.*

This reflection on the downsizing at the organisation and the number of redundancies and the amount of turnover, with the perceived loss of knowledge from within the organisation mirrors the ideas expressed by Eisenberg (1997) who pointed out that those who are retrenched are often those that are the building blocks of the organisation's memory and culture and that their leaving breaks down well used communication networks which ultimately effects the efficiency of the organisation.

The skills identified by managers as useful to have on a database included languages, computer skills and alternative therapies.

Contrasting the two major questions within the questionnaire regarding the opportunity to apply knowledge showed that while 82% of respondents were willing to be or may be willing to be used within a project, only 50% of the respondents were happy to have their skills or qualifications kept on a database. The data indicated that managers lack knowledge about the skills and qualifications held by their staff. Just how the respondents expect to be used within a project without letting those involved in setting up projects know of the qualifications or skills that they possess is unknown.

Four interviewees commented on the sharing of clinical skills within the hospital. All agreed that it occurred regularly. The comments made during the interviews indicate that all wards share clinical skills on a daily basis and that it never appeared to be a problem for anyone. The comments included the following quotes:

'It (sharing clinical knowledge) is part of day to day work'

'For the betterment, a lot of wards really do use each other as resources'.

'I have never had a problem with anyone not willing to help, usually people are very happy because it is recognising their skills'

'It is a recognition of people's areas of expertise'.

These comments indicate that effective knowledge management practices are utilised on a daily basis for clinical matters.

5.5 Opportunity to build non clinical knowledge

In regard to the question about whether the hospital should supply on-going education to build the non-clinical skills of the nursing staff, all five managers agreed that the hospital should supply some on-going education. One qualified this positive answer to this question by commenting that:

'nurses can't keep being spoon fed'

'self directed learning is important'.

Another interviewee commented that:

'The employing organisation has some responsibility to develop their staff'.

This was qualified with comments including

'If it (ongoing education) is related to their work'

and it should,

'match the level of the person doing it - not a graduate doing budgeting'.

All those interviewed agreed that computer skills should be part of the hospitals on-going education. One commented

'they sort of dumped the hardware on the desk and told us well there it is and somehow you are supposed to learn how to use it'.

All the managers went on to comment that the hospital already supplied some computer services. Three out of the five complained at the introduction of payment for the computer courses. The complaints centred on the fact that the cost had been introduced without notice. The wards and units had not been able to incorporate this cost into their budgets, therefore several managers could not see how the wards or

units would be able to send any staff to these courses and aid them financially. One of those interviewed did not agree that the cost was a problem, they said:

> *'It is about cost and benefit, for example a Nurse Unit Manager or Associate Nurse Unit Manager or somebody else, if we invest in them for half a day it might cost $150 a course. In a months time we would hope that we would get that investment back by them being more efficient in what they are doing'.*

Another said that computer skills should be included as part of the hospital's ongoing education *'because they are a support service'.*

Other ideas for on-going education included cultural issues, counselling skills, communication skills, complementary therapies, Occupational Health and Safety issues, Fire and Safety training. One of those interviewed talked of previous on-going education sessions that looked at relaxation and 'stress release days' as highly beneficial. None of the respondents from the questionnaire suggested any topics outside those directly related to their clinical practice that should be taught.

5.6 Knowledge management and Intellectual capital

The last question asked of the interviewees regarded their awareness of, or knowledge of the terms 'intellectual capital' and 'knowledge management'. All were asked to give their ideas as to the meaning of these terms even if they had never heard of them. Four out of five of those interviewed had never heard of either term before, one had heard of both the terms.

In regards to the term intellectual capital two commented that they did not like the term.

Four gave their ideas on the term as,

'A body of knowledge or something like that',

'A pool of resources ....say we have a whole lot of skills so that we are very rich in it'.

'It could be the intellect that is supplied by individuals within an organisation, the combined intellect'

The interviewee that had heard of the term made the following comments:

'Whether you have intellectual capital in nursing is questionable'

'It has a research and development context and obviously things like patents, those type of things. That side of business where-by an idea is actually a new idea and where an individual or a group becomes the capital of that group, you then go onto develop it (the idea) in-house and make it a reality but they actually have ownership of it.'

They went on to comment that intellectual capital must be something 'new', an idea like gene shearing.

With the term knowledge management the two who indicated they did not like the term intellectual capital liked the term knowledge management better. One suggested that knowledge management could be what we had been talking about during the interview. Other comments were:

'You have got all these people that know different things within the hospital it (knowledge management) is how to figure out how you make everyone aware of this so they are utilised effectively for the knowledge they have'

'Knowledge management I suppose is sort of self explanatory I would say, it is how to manage the knowledge that we have and utilise the resources that we have in a way that is beneficial for both parties that are involved'

> *'Knowledge management I guess is how you go about utilising the knowledge within the organisation, how you use the knowledge of individuals within the organisation and how you achieve the outcomes that you want by utilising the knowledge in a strategic way'.*

The idea of what the term Knowledge Management refers to from the interviewee that had heard of the term before can be seen from the following quote:

> *'Knowledge management would probably be more into things like the Internet and that accessibility (to knowledge)...in nursing well...that's one of the weaknesses we (nurses) don't actually have a knowledge base to work from.'*

The manager who had heard of the term's knowledge management and Intellectual Capital before has taken a 'structural view' of both the terms. Using this perspective both terms must have an element that can be codified, written down and transferred by technology or used via things like patents. Knowledge is viewed as something that has been 'proven' as indicated by the notion that nurses do not have a knowledge base. In contrast the managers who did not have previous knowledge of the terms have indicated a more human resource attitude, taking into account all areas involved. These findings are consistent with Stewart's (1997) and Saint-Onge's (1996) ideas of Intellectual Capital as containing three areas, Human, Structural and Customer capital. Two managers even mentioned the outcome or goals of the organisation being met within the definitions they gave of knowledge management.

5.7 Conclusion

The results gained from the questionnaire and the interviews in this project indicate that a considerable reserve of skills, knowledge and know how is contained within each and every business unit within the RMH and North Western Health. However, the way to tap this knowledge is unclear. Managers appear reluctant to nominate staff for projects without gaining the agreement of staff members in advance. Staff members are reluctant to have their details listed in a knowledge database. There are many fears related to what rewards would flow from participation in such a new approach to non-clinical work roles. There are also fears related to the loss of clinical time, perceived by many to already being denigrated by cuts to funding and staff. These are problems that seem to emanate from a lack of trust in the system of work allocation. The Royal Melbourne's recent history of industrial action would, no doubt, have contributed to a culture of mistrust and conservatism. Nevertheless, both managerial staff and nursing staff held the view that knowledge management was worthwhile and would assist the operations of RMH.

Chapter 6 - Discussion

The changes within the Victorian health sector over the last five years have included modifications to the funding mechanism, funding cuts, and the formation of health care networks. These changes have had a profound effect on individual hospitals. Staff numbers within single hospitals have fallen with senior managers being made redundant, as their positions become network wide. Middle managers have been lost with decentralisation within single hospitals bought about by the implementation of business units as the preferred management structure. The effect of these changes on the remaining staff has been enormous, and the organisation's reliance on the remaining staff has grown. This project has been carried out to investigate what type of knowledge the nurses within NWH hold and to examine if this knowledge is being used or could be used to assist the organisation. This final chapter will discuss some of the findings of the research and their implications.

6.1 Utilisation of knowledge

We have seen from the research that a large amount of non-clinical knowledge is held by staff within the business unit used in this project. This knowledge is present in many forms including formal qualifications, identified skills and languages and the still unidentified tacit knowledge held by staff. The managers were not aware of all the non-clinical knowledge held within their wards, and appeared to have little or no awareness of the non-clinical knowledge held in other wards within the business unit. All the managers indicated that they would use the knowledge held by the staff in the wards and if they had a database they would use the non-clinical knowledge of others

in the hospital as they do with clinical knowledge. Although they did suggest that they would use the knowledge, except for the language skills and one manager relating that they used the counselling skills of a member of their staff, no others appeared to be utilising the skills within their wards. The managers were using each other's knowledge and skills but not other members of their staff. The reasons for this may be many. One may be the relatively rapid changes that have occurred within the health system, changing from a bureaucratic hierarchical institutionalised system to a more team based decentralised workplace. Managers have to be able to ask and accept assistance from staff that may be the most junior members of their team with limited clinical experience. This may mean a change for managers in their leadership and management techniques. The effectiveness of leadership skills and a leadership style that encourages collaboration and openness are all needed if an organisation is to use the knowledge within the organisation effectively. These ideas are seen in the work of many writers on the subject of intellectual capital and knowledge management, including Bennis (1995), Beyers (1995), Graham & Pizzo (1996), Grantham, Nichols & Schonberner (1997), Helgesen (1995), Kerr & David (1995), Malone (1997), Saint-Onge (1996), Stewart (1995) and Uhlfelder (1996).

6.2 Language Skills

The research shows that within NWH there are many bi and multi-lingual nurses. Even with this small sample of 32 nurses, 11 spoke 13 different languages. The potential benefits of this resource to patients and the organisation are innumerable. Also, the potential for this resource to grow seems likely. Of the Grade 1 nurses who responded to the questionnaire 66% indicated that they spoke another language. This, the least qualified group had the highest percentage of other languages of any group

surveyed. This could be due to the multicultural nature of Melbourne. This high percentage could also be an indication of a change in attitude of some cultural groups in regards to nursing as a 'suitable' profession and to increasing diversity in the workplace.

Although the network has an excellent interpreter service all of the managers interviewed agreed that on many occasions family members were inappropriately used as interpreters in an emergency. These times include out of 'normal' nine to five hours. Although the interpreter service is available most managers suggested that staff were reluctant to use them out of hours because they worried about being chastised regarding the cost of this service. This misconception is indicative of a lack of knowledge management within the organisation, as the cost of the out of hours interpreter service is built into the cost of the overall service. Time pressures also contribute to this problem. In an emergency an interpreter is required at short notice, perhaps at 2 o'clock in the morning when a patient requires emergency surgery or treatment waiting for 1/2 an hour for an interpreter is often not an option. In this situation families are often used inappropriately, but if it was known that a nurse or doctor within the hospital spoke that language they could be used in emergency and allow the interpreter to address the family later. This option would maintain the appropriate ethical code of hospital and patient confidentiality. The use of non-medical personnel is inappropriate.

6.3 Working Together

Employees appear to have some amount of loyalty to the Royal Melbourne, but they do not have the same loyalty to the business unit in which they work. This can be

seen in the results of questions 17 and 18 that asked whether the respondents think that the utilisation of their qualifications or skills would be useful and appropriate for the respondents themselves, the ward in which they work, the business unit in which they work, the RMH or the Network (see Table 4.7 or Figure 4.4). If we take out those that did not answer the question or it was not appropriate for them to answer the question (they did not identify any skills, qualifications or languages) 67% thought it would be useful for them and for the ward in which they work while 24% thought it would be useful for the RMH. Only 11% thought that the business unit would benefit and 5% thought the network could benefit. If we look at the responses regarding the potential use of language skills, 73% saw potential to use their skills within the ward, 27% saw potential within the RMH but no one saw a potential use for their language skills within the business unit or NWH.

It is obvious from these examples that staff within the organisation have little or no connection with the business unit in which they work. North Western Health has stated within its strategic plan a specific strategic goal of *'Working Together'* incorporating the objective *'to encourage and enable staff to be high performing to maximise organisational capability'* and a desire to develop a culture that is *'team based'* and involves a *'learning organisation'* (North Western Health 1998). The organisation must, if it is to realise its strategic goals, build trust within the business units. It may be that staff feel a loyalty for the hospital because of the length of service, or they do not see a benefit from the business unit structure now used within the network. More work needs to be done to achieve these objectives. Building trust at a ward and business unit level will be vital to begin this process. The works of Stewart (1995) and Kerr and David (1995) all emphasise the importance of teamwork

and the building of an organisational structure that ensures a division between departments and an hierarchy do not exist. For NWH to begin to fulfill their organisational strategic plan and to use the knowledge held within the organisation changes must be made. Perhaps the recognition of employee's knowledge and their ability to contribute to the effective management of an area and the utilisation of this knowledge is a starting point.

6.4 A database of knowledge

All the managers agreed that a database of employees' non-clinical skills and qualifications would be useful. Staff responded to a similar question regarding putting their qualifications, skills and languages on a database with 50.1% of respondents answering positively, 28.1% negatively, the remaining did not answer the question. If and how a database could be set up was not tackled in this research. If the organisation decided that a database could be useful then a starting point could be at a ward level. From the research we see that at a ward level managers are not aware of all the knowledge that is held within the ward. All staff including managers expressed concern about the impact the use of non-clinical skills would have on the clinical workload of the wards. If a database was first set up at a ward level then the knowledge in that ward could be utilised within the ward making the time used in non-clinical and clinical work more flexible and easy to monitor to ensure time is not taken from the patients. If this system worked it could then be extended to a business unit level. Further research would be needed to investigate the cost benefit of setting up the database and then it's use within the ward or business unit. Other possible uses of the database would also need to be researched including career and succession planning, also training and development planning.

6.5 Areas for further research

The organisation could benefit from closer investigation of staff who indicated that they hold other qualifications, skills or languages. From Table 4.5 we see that three of the respondents indicated that they hold a Grade 1 position, all indicated that they have other skills and two indicated that they have other languages. The most junior respondents were all able to identify skills that could be useful for the organisation. In contrast of the most senior respondents that of ANUM only 57% indicated that they have other skills and only 14% indicated that they have other qualifications. If this group of respondents wish to further their career they will need to be able to identify other skills and qualifications to enable them to function in a higher grade or position. The recognised next step in the career path of this group is into a Unit Managers position or into education, both of which will require non-clinical skills.

A further interesting finding is that the highest percentage of staff having other qualifications was found in the Senior Grade 2 group. Here 30% indicated that they have other qualifications. This is the highest percentage of any group for qualifications. This group also had a high percentage of other skills, with 50% indicating that they possessed other skills. Further research into this group of employees to investigate why they do not hold more senior positions, such as CNS or ANUM positions, may be of benefit. It may be that they have been focusing on gaining further qualifications in order to obtain new positions. If these targeted positions are not within the organisation then the organisation may need to discover what knowledge may be lost by these employees leaving. This knowledge would include additional qualifications and skills that they possess as well as clinical skills and knowledge. This group represents some of the most senior nurses in the

organisation with between 5 and 40 years of nursing experience. Closer investigation of these staff members and the use of career planning at a ward and business unit level could assist both the employees and the organisation to retain clinical expertise and additional knowledge. To use career and succession planning the organisation needs to be aware of the additional skills and qualifications that employees hold, as this research shows at present management are not aware of the depth of non-clinical knowledge held by staff.

6.6 Conclusion

This research provides grounds for the assumption that the nursing staff within NWH have skills and knowledge which are currently untapped by the organisation. Many reasons have been identified as to why their knowledge is not being utilised. Management is largely unaware of the knowledge held by their staff members. Managers appear to lack the managerial and leadership skills to be able to utilise the knowledge other than clinical knowledge. A lack of trust exists between staff and management, leaving staff reluctant to utilise their knowledge. Staff were concerned about the effect the utilisation of their non-clinical knowledge would have on their clinical workload and the ultimate effect on their patients. Concerns were also raised by both staff and management about the administrative processes required to utilise knowledge. Any system introduced would need to ensure that clinical areas were not adversely affected

Knowledge management involves the recognition and the utilisation of knowledge to benefit both the organisation and the individual. The use of intellectual capital involves the use of *human capital,* or the individual's knowledge as well as

structural capital, the organisation's knowledge and systems, to aid both the organisation and individuals. This research has found that a vast reserve of knowledge is held within NWH, this knowledge is not being managed or utilised to assist either the organisation or individual employees. Further research is necessary to ascertain the benefits North Western Health could gain from managing the knowledge within the organisation effectively and also to determine the most appropriate methods to manage this knowledge.

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Appendix 1

Questionnaire

1. Your Current Position:

Grade 1
Grade 2 Year.....
CNS
ANUM Grade 3
Other : please state.....

2. General Nurse Training

Hospital
University
-Diploma
-Degree
Year completed.....

3. Additional nurse training since general training

Certificate
Degree
Graduate Diploma
Please state.....
.....

4. Where was this qualification gained

Hospital
University
Other
Please state.....

5. Years at RMH ....Years .....Months

6. Years at other hospitals ....Years .....Months

7. Do you have any other qualifications other than nursing? Please include tertiary, certificates, courses.
Please list.....
.....
.....
.....
.....
.....
.....

8. Do you have any other skills, other than those from nursing training? eg: computer skills, management skills, running meetings etc

Please list.....
.....
.....
.....
.....
.....

9. Were these qualifications/skills received prior to or after your general nurse training?

Prior
Post

If you have more than one qualification/skill please give indication when received.....
.....
.....

10. Are you currently utilising any of the above mentioned qualifications/skills within your current position

Yes
No
Please explain.....
.....
.....
.....
.....
.....
.....
.....

11. Do you see potential to use the above mentioned qualifications/skills within your current position

Yes
No
Please explain.....
.....
.....
.....
.....
.....
.....
.....

12. Do you see potential for your qualification/skills within the Royal Melbourne Hospital or the North Western Health Care Network

Yes
No
Please explain.....

.....
.....
.....
.....
.....
.....
.....

13. Do you speak any language, other than English fluently?

Yes
No

If you answered NO please go to Question 17
If you answered Yes please go to Question 14

14. What language/languages do you speak, read and/or write?
Please List indicating fluency.....

.....
.....
.....

15. Do you currently use this/these language within your current position?

Often
Sometimes
Rarely
Never

If more than one language is involved please indicate the amount of use

.....
.....
.....
.....
.....
.....
.....

16. Do you see a place for the utilisation of your language skills?

Within your ward
Within your business unit
Within the RMH
Within the NWH

Please comment

.....
.....
.....
.....

Please include any languages spoken when considering the remaining questions

17. Do you think that the utilisation of these qualifications/skills as described above would be:
(Please tick more than one box as appropriate)

Useful for you
Useful for your ward
Useful for your business unit
Useful for the RMH
Useful for the NWH

18. Do you think that it is appropriate to utilise the qualifications/skills (other than nursing) of staff
(Please tick more than one box as appropriate)

Within your ward	Yes	No
Within your business unit	Yes	No
Within the RMH	Yes	No
Within the NWH	Yes	No

19. If you were aware of or informed of a project or need for a qualification/ skill that you possess within the NWHN would you be willing to utilise your skills?

Yes
No
Perhaps

Please comment

.....
.....
.....

20. Would you be willing to have a list of your qualifications/skills kept by the NWH so that others within the organisation could be aware of these qualifications/skills, and contact you if need be?

Yes
No
Perhaps

Please comment

.....
.....
.....
.....
.....
.....

21. Is there a forum for the transfer of knowledge within your ward/unit? This includes clinical/nursing knowledge as well as other types of knowledge. For example education sessions, handover time.
Please comment

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.....
.....
.....
.....
.....

22. Are there any topics that you would like within one of the above mentioned forums that are currently not discussed.

Please list

.....
.....
.....
.....
.....
.....

23. Your Name: (optional).....

Please feel free to make any comments on this survey or project.

.....
.....
.....

Thank you for your time and cooperation

Appendix 2

Interview Questions

What type of non-clinical knowledge do you think would be useful to have within your ward, business unit, RMH.

Are you aware of any non-clinical knowledge held by your staff?

If you were aware of some non-clinical knowledge held by your staff member would you encourage it's use within the ward, business unit , RMH.

If you were aware of a project within the RMH that needed the skills that your staff member possessed would you mention their name to the person organising the project, or tell your staff member of the project and encourage them to apply.

Do you think that ongoing education within the RMH should help to build the skills of nursing staff to fulfil the non-clinical needs of the ward?

If you had access to a data base of skills held be staff within the RMH that could be of use within your ward/business unit would you use it?

What do you understand by the terms intellectual capital or knowledge management?

Appendix 3

Covering Letter

Victoria University of Technology
PO Box 14428
MCMC
Melbourne
Victoria 8001
Australia

McKechnie Street
St Albans

Telephone
(03) 9365 2111

Facsimile
(03) 9366 4852

Department of Management
Telephone
(03) 9365 2386

Facsimile
(03) 9365 2593

VICTORIA UNIVERSITY OF TECHNOLOGY

Dear Colleague,

My name is Norma Currie and I am a CNS working in ICU. At the same time I am completing a Masters of Administrative Management at the Victoria University of Technology.

As part of my course I am writing a minor thesis in which I will be exploring the use of knowledge within the RMH. The attached survey forms the main body of data collection, and asks questions regarding your non-clinical or non-nursing knowledge. I have also included general demographic data. Within the questionnaire there is a question asking for your name, this question is entirely voluntary. Responses to the survey will be kept confidential and anonymous. The answers to the majority of the questions are routinely found in a CV and asked at entrance interviews.

The results of this survey could benefit the RMH, as well as individual employees through the better use of their skills and knowledge.

This survey will take approximately 15 minutes to complete. The completed forms can be left in the box provided within the ward or sent via internal mail to Norma Currie in ICU.

If you have any questions regarding this survey or my research please feel free to ring me in ICU on 7209 or at home on 93144495. Or you may contact my supervisor at VUT, Stephanie Miller, on 93652178.

Thank you for your assistance.

Yours faithfully,

[redacted]

Norma Currie

Appendix 4

Permission to conduct research

The Royal Melbourne Hospital

NURSING RESEARCH REVIEW PANEL

7th July 1998

Ms Norma Currie
134 Severn Street
YARRAVILLE VIC 3013

Dear Norma

Re: Research Proposal - "The Use of Intellectual Capital and the Management of Non-Clinical Knowledge within the North Western Health Care Network"

The Nursing Research Review Panel and Mr Greg Rickard, Chief Nursing Officer, have approved the above proposal.

The Panel wishes you success in your research project.

It is a requirement that you provide the Panel with feedback as to the progress of the project within a six month period.

Yours sincerely

[redacted]

BETTY WILLIAMSON
Secretary
Nursing Research Proposal

REF:MISC\NURSESREVIEWMTG.DOC/kv

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