

NURSING PRIORITISATION OF THE PATIENT NEED FOR CARE:
TACIT KNOWLEDGE OF
CLINICAL DECISION MAKING IN NURSING

by

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ABSTRACT:

Effective nursing prioritisation of the patient need for care is integral to daily nursing practice but there is no formal acknowledgement or study of this concept. Utilising the retroductive research strategy of critical realism, this thesis explores the nursing literature for the tacit knowledge of the discipline about nursing prioritisation and proposes a 'fit' for nursing prioritisation of the patient need for care within the bigger picture of nurse clinical decision-making.

The tacit knowledge discerned within the literature indicates that nurses use discretionary judgment and ongoing assessment to determine the relative importance of the many aspects of individual patient situations as they unfold. Such nursing prioritisation takes place concurrently between the competing or even conflicting needs of the several individual patient presentations within the nurse's caseload. Varied frames of reference within different practice settings create specific imperatives on this dynamic and non-sequential process.

Starting with an initial set of studies in the 1960s, study of clinical decision-making in nursing has created a significant body of knowledge encompassing a range of approaches. Nursing prioritisation of the patient need for care is most readily discerned in the interpretive perspective and in the plain language descriptions of nurse decision-making. Within the selected literature it is apparent that nursing prioritisation of the patient need for care is an advanced skill of nursing that is developed in practice and honed through experiential learning.

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CHAPTER 1: TO DEVELOP AN INSIGHT INTO NURSING PRIORITISATION

Introduction:

Working as a nurse in hospital wards in the 1990s, I became aware of the gap between my daily practice of nursing and the ways that nursing was described in the documentation within the hospital. There were many different forms of documentation including nursing care plans, ward protocols and patient records. Nurses were aware that much of what they did was outside these records. So what was missing from the required documentation?

My background is as a hospital trained nurse with 20 years nursing experience in different wards and settings within a second level hospital. Many of my colleagues also had a similar long-term commitment. Changes in healthcare delivery continued to happen around us, often apparently without sense, but in the nurse-patient interaction we were involved with change that had meaning, both to us and to the patients. So nursing generally achieved the highest rating of patient satisfaction in the monthly summaries of patient feedback questionnaires. Pursuing graduate nursing education in the mid nineties, I wrote a number of exemplars of significant nurse-patient interactions, both of my own practice and of my observation of the practice of others, and also of nursing practice as part of a combined effort within a ward/unit situation. It became apparent to me that there was an intricacy and complexity of nursing clinical decision-making, that was taken for granted by the nurses themselves and that remained apparently invisible to non-nurses.

The range of documentation recorded the daily hospital activity. For example, the nursing care plan was usually a list of key tasks to inform other nurses on forthcoming shifts of the patient's progress toward regaining independence. Documenting nursing care for the patient record was usually a notation of the key points required to track the patient's progress toward discharge. These were often

written as formulaic fragments of sentences: there wasn't room or time to describe meaningful nurse-patient interactions. Nurses mentioned significant interactions to their colleagues during the verbal handover of patient care between shifts. Some of these interactions were recorded as exemplars, but were usually about the interaction of one patient with one nurse during perhaps ten to fifteen minutes of one shift. The many other interactions of that nurse and her colleagues with all the patients in the ward on that shift (and on other shifts and in other wards on that day) remained unwritten. Although they described where nurses made a difference, the connection with the high satisfaction rating remained implicit and non-nurses saw exemplars as stories with little relevance to daily hospital business.

There was also no provision to write about the significant nurse-patient interactions on the form to be filled in for a job sizing exercise. However, on the form it was possible to see a connection between the range of decisions (about planning and implementing patient care) that nurses made and the large numbers of people who could be involved. Nurses not only interacted with patients, but also with patient families and visitors, medical staff (both consultants and house surgeons), other health professionals (in radiology, physiotherapy, occupational therapy) and hospital support staff (e.g. orderlies, clerical staff, management including line management, payroll and staff training) as well as other wards and departments. So nurses not only delivered nursing care, but also interwove this with a myriad of other requirements for patients, for themselves and for their colleagues.

It seemed to me that the hospital processes and documentation requirements did not enable nurses to describe the way that they worked in complex, dynamic, sometimes chaotic situations and provide nursing care to meet patient needs in the course of the morning, afternoon or night shift. Patients were (and are) admitted, discharged, transferred to and from theatre (and/or other wards), and negotiated (negotiate) crises large and small, while continuing to progress toward discharge following completion of treatment. Increasing involvement of patients in their

plan of care added (adds) to the complexity, as also do the increasing expectations of patients and family members.

Throughout the 24hr daily cycle of shift work, mediated by handover of patient status and progress, nurses attend to patient needs relevant to the course of the patient's hospital stay. Each nurse will look after several patients for the duration of the shift so that there may be unfinished, competing and/or conflicting patient needs for care occurring simultaneously. With increasing patient acuity, decreasing length of hospital stay, family involvement in care, and nursing shortages, the situation can readily become chaotic. Nursing interventions work towards and usually achieve emergent order in this situation.

So, in the midst of all this complexity how do nurses generally 'get it right'? How do nurses make decisions not only about what to do to meet the patient need for care, but also about what to do first? What is the process of nursing prioritisation of the patient need for care used by nurses in hospital wards?

The researcher, nursing literature and tacit knowledge:

As the hospital documentation was unable to address this question, the nursing literature was searched for studies of nursing prioritisation. The results of this search are described in Chapter 2 and form the basis for the method that has been developed for this study. The preliminary indication is that prioritisation of patient care is taught to nurses and becomes part of everyday nursing practice, but there are no studies on this specific subject and further research is desirable. However, before practice based research on nursing prioritisation of the patient need for care can take place, the tacit knowledge within nursing needs to be made explicit. Prioritisation of patient care is an integral component of decision-making, so a review of the literature focusing on the process of clinical decision-making may enable better understanding of this particular aspect of the topic. The question for research then became: what is the process of nursing prioritisation of the patient need for care as inferred, described and/or discussed in the nursing literature? Within this question lie two further questions: what are the practical

and theoretical underpinnings that can be discerned in these findings? And what can be identified and/or proposed as a conceptual framing, (the basis of ‘getting it right’?), of the process of nursing prioritisation?

These questions create four components to this study: the researcher, the literature, the embedded understandings and tacit knowledge, and the ‘fit’ of nursing prioritisation of the patient need for care within the topic of clinical decision-making in nursing. As a researcher I bring years of practice experience as a nurse and also my reflections on my practice and the practice of my colleagues to the study. Schön (1983) describes ordinary practical knowledge as knowing-in-action using examples of common understanding of social gesture and society’s conformity with general behaviour rules. He then goes on to define reflection-in-action as thinking about what one is doing and, in the process, evolving the way it is done, while professionals become researchers in the practice context through reflecting-in-practice. The professional “reflects on the phenomena before him and on the prior understandings which have been implicit in his behaviour” (Schon, 1983, p68), so that following experimentation a new understanding is generated along with a change in the situation. Reflective practice in nursing can be used to construct case presentations (Hall, 1998; Taylor, 2003), enable practitioners to develop expertise (Johns, 1995b; Kuiper, 2002; Myrick, 2002; Rolfe, 1998a), develop nursing knowledge (Johns, 1995a; Rolfe, 1998b; Taylor, 2000a), or transform nursing (Freshwater & Johns, 1998). The understanding developed from years of reflecting on my nursing practice enables me as a researcher to bring thoughtful consideration to the discussions in the nursing literature.

Reviewing the literature to discover embedded understandings of the process of nursing prioritisation requires an appropriate method to select relevant material that specifically discusses the process of clinical decision-making. Nursing citation terminology relevant to this discussion provides the most appropriate method of access. As with the preliminary review, it is likely that discussions of the clinical decision-making process can potentially take place in relation to

various research objectives, but will also incorporate descriptions and embedded understandings of nursing prioritisation. However, the range of research that will be encompassed will also provide a sample of the discipline's understanding on the process of clinical decision-making.

Tacit knowledge, the fact that we can know more than we can tell, is “the outcome of an active shaping of experience performed in the pursuit of knowledge” (Polanyi, 1967, p6). In daily life, familiar activity such as driving a regular route or following a regular routine, may be carried out on ‘automatic pilot’ using knowledge developed over time (Claxton, 1997). While reflection on this activity leads to the recall of some detail, Claxton also points out that gestation of subconscious understanding in the ‘undermind’ can eventually surface as new insight. My personal experience is that such insights are further encouraged through in-depth reflection. Recognition of embedded understandings and tacit knowledge requires the use of an informed eye to review the literature: initially for descriptions, understandings, and/or discussions of nursing prioritisation (of the patient need for care), but also for extant themes and trends and for the underlying rationale(s) to these themes and trends. Such a review is informed initially by practice reflection and also, through the review process, informed by the views on the clinical decision-making process in the selected literature. Understanding the ‘fit’ of nursing prioritisation of the patient need for care within the topic of nursing clinical decision-making derives from sound representation of the discussions on the clinical decision-making process in the literature. The conceptual framing of this understanding is developed through this process.

Methodological issues:

The combination of these four components presents a challenge when determining the methodology for the study. In choosing to review the nursing literature for tacit knowledge of the discipline to develop a conceptual understanding, there is no immediately available congruent methodology with which to structure the work. The usual approach to research synthesis is based on

a formal process known as systematic review (Chalmers, Hedges, & Cooper, 2002; Cooper, 1995). Cooper (1995) names four terms used to describe research synthesis: literature review, research review, integrative research review, research synthesis. Meta-analysis may also be used to synthesise several such reviews. He goes on to emphasise quantitative measures as the method of analysis to synthesise the findings. Much work by nurse scholars is based in the qualitative paradigm and it is not feasible to analyse these studies statistically. Nor does this approach fit with the need to discern tacit knowledge within the literature.

But there is no consistent approach to literature reviews as research. With the advent of systematic review, literature reviews may be published as research in their own right. For instance, the Journal of Advanced Nursing has now developed an Integrative Literature Reviews and Meta-analyses section. Examples of recently published research in this section include a systematic review (Needham, Abderhalden, Halfens, Fischer, & Dassen, 2005), an integrative literature review (Janiszewski Goodin, 2003), a synthesis of qualitative and quantitative research (Nystrom & Ohrling, 2004), and a literature review on meta-synthesis as a method for qualitative research (Walsh & Downe, 2005). None of these approaches are suitable to review the literature for tacit knowledge.

However, the review method not only needs to discern tacit knowledge but also the process of nurse decision-making. For although the literature search focuses on the process of clinical decision-making, this will be more often discussed in relation to a subject rather than as a subject *per se*. A preliminary search of the literature using relevant citation terminology indicated that clinical decision-making is discussed in relation to a multiplicity of approaches and contexts so that it is difficult to make sense of where the approaches and subjects fit in relation to a wider view of the topic. Given this diversity, it was decided to develop a 'map' of the terminology of clinical decision-making, suggesting a structural framing of the approaches with reference to the discussions. A mapping of the relationships not only indicates likely *foci* for embedded descriptions of nursing prioritisation,

but also outlines a framework that may be useful for other scholars considering the topic.

In referring to my personal experiential knowledge, while at the same time working from a framework for nursing terminology, this study's approach does not fit readily within either the quantitative or qualitative paradigms. Critical realism provides an appropriate philosophical approach. McEvoy and Richards (2003) present the potential benefits of adopting a critical realism approach for evaluation research in nursing. The primary purpose of critical realism, which has a broadly similar philosophical stance to scientific realism (McEvoy & Richards, 2003), is to obtain knowledge about underlying causal mechanisms of phenomena that may be identified through their effects. This emphasis on phenomena differentiates from the societal concerns explored by critical theory (Kincheloe & McLaren, 2000). The critical realism approach is based on a retroductive research strategy, where model building, analogy and metaphor are used to postulate mechanisms that account for observed phenomena (McEvoy & Richards, 2003). The approach is proposed for theory driven program and policy evaluation, and while this is not specifically relevant to the present topic, the combination of a realist ontology with a relativist epistemology in critical realism suggests a useful framework with which to structure this study.

Littlejohn (2003) summarises the ontological approach of critical realism as a world encompassing three layers of reality: empirical, actual and real. The empirical layer comprises what is experienced and forms the intransitive aspect of the approach. The actual layer where things happen but are not experienced forms the transitive aspect. The real layer, where generative mechanisms exist, forms the transcendental aspect of the approach. Blakie's (1996) text on Designing Social Research refers to scientific realism as the philosophy underpinning the retroductive research strategy, and notes that the aim of realist science is to explain observable phenomena with reference to underlying structures and mechanisms. He goes on to say that this is "an epistemology of laws as expressing tendencies of things, as opposed to the conjunctions of events advocated by

Positivism” (Blaikie, 1996, p108). Blaikie states that the retroductive research strategy based on scientific realism may include both an interpretive and a constructionist approach, and that this strategy recognises three domains of reality: empirical, actual and real, while distinction is made between transitive and intransitive objects of science. “Transitive objects are the concepts, theories and models that are developed to understand and explain some aspects of reality and intransitive objects are the real entities that make up the natural and social worlds” (Blaikie, 1996, p109).

While the terms are not used wholly consistently by these three sources, the conceptual approach seems clear and provides a framework to inform this study. For the purposes of this study, the intransitive (empirical) aspect is clinical decision-making as it occurs in nursing practice: nursing prioritisation takes place, decisions are made and there is a nursing interaction with the patient. The transitive (actual) aspect is the concepts and language of clinical decision-making as discussed in the literature: these discussions have been undertaken to understand and explain clinical decision-making. Some of the studies and explanations of conceptual approaches are illustrated with descriptions of clinical decision-making in practice (the empirical aspect). From these descriptions, using the tacit knowledge of nursing, the researcher is then able to infer the implicit phenomenon of nursing prioritisation of the patient need for care, and enable this to be made explicit.

Review of the conceptual approaches to clinical decision-making in nursing, which are also incorporated into the discussions in the literature (the transitive aspect), in conjunction with this inference has enabled the development of a proposed conceptualisation of the underlying rationale for nursing prioritisation, which is the transcendental (real) aspect of this study. The ‘mapping’ of the terminology provides a modelling of the known concepts of the transitive aspect, including suggested relationships with the intransitive aspect, and also supports further conceptual development of the transcendental aspect. The retroductive research strategy brings the four components of the study together and facilitates

the juxtaposition of a researcher new to the literature on clinical decision-making with the thoughtful work of nurse scholars, allowing the development of new insights. The findings contribute to further discussion on the topic of nursing prioritisation of the patient need for care and lay the foundation for further research of such prioritisation in practice.

Structure of the thesis:

This thesis is about discerning the tacit knowledge of nursing prioritisation of the patient need for care through review of the nursing literature. Presentation of the findings around both the tacit knowledge of nursing prioritisation of the patient need for care, and the ‘fit’ of nursing prioritisation in the bigger picture of clinical decision-making in nursing follows the interaction of the researcher with the literature. The rationale for the method used to establish this interaction is addressed in Chapter 2.

It was apparent through review of the CINAHL (WebSPIRS 5, 2000) terminology that a number of specific terms are used to describe nursing clinical decision-making processes, while it was evident through review of the Encyclopaedia of Nursing Research (ENR) (Fitzpatrick, 1998) that the topic of Clinical Decision Making is closely related to Clinical Judgment in the literature and research. The ENR provided valuable insights into the relationships between the terms and the field, also giving the background to the development of research on these topics. This discussion is presented as Part I of the search strategy in Chapter 3.

‘Mapping’ of the terminology from CINAHL has been developed in conjunction with a review of these terms in the ENR giving a view of the wider field of clinical decision-making in nursing and forms the basis of the retroductive research strategy. Combinations of the CINAHL terms were then used to search the literature, with selection of relevant discussions being informed by the ENR view of the wider field of clinical decision-making in nursing. The details of this selection process are presented in Part II of the search strategy in Chapter 4.

The selected literature was then reviewed according to a sequence of five themes developed from initial scanning of the abstracts of the selection and the understanding gained through development of the research strategy. The sequence follows five key themes of understanding that encompasses a cross section of the topic of clinical decision-making in nursing, as made available through the selection. Firstly the understanding on nursing prioritisation within nursing education and nursing practice is reviewed to discern the profession's understanding of this concept within these two key nursing research arenas. These form the first two themes of understanding. Then the practice context frame of reference is reviewed in conjunction with the context of the immediate environment as a third theme. This differentiates from the fourth theme which focuses on the understanding around the content of clinical decision-making in practice. For the fifth theme, the way both plain language and nursing terms are used to describe clinical decision-making leads into a review of the conceptual understandings within the literature. The five themes provide a framework of the bigger picture of clinical decision-making against which the researcher is able to position the 'fit' of nursing prioritisation of the patient need for care. Influences on the topic from the wider environment of healthcare are outside these themes and are reviewed in the discussion chapter.

As outlined in the ENR (Fitzpatrick, 1998), nursing research on clinical decision-making can be broadly grouped into the two main fields of nursing education and nursing practice with the emphasis on the development of nursing education strategies of how best to teach clinical decision-making for nursing practice. The literature, including a selection of nursing texts, on the initial teaching and learning about nursing prioritisation in the classroom and the transition from classroom to practice is reviewed in Chapter 5 as the first theme.

The development of nursing expertise in clinical practice, with particular emphasis on the comparison between novice and expert practice has been studied extensively, and the literature discussing this is reviewed in Chapter 6 as the second theme. Discussions on both nursing intuition, as an attribute of expertise,

and early recognition of patient problems imply nursing prioritisation and are included in this chapter.

A further series of studies discussing clinical decision-making in nursing practice are reviewed in relation to specialised field of practice or practice setting in Chapter 7 as the third theme. There is some overlap between practice setting or venue and field of practice such as mental health or palliative care which can be practised in different physical locations. Although experience and expertise also feature in these studies, this series highlighted the variation in emphasis for clinical decision-making according to practice setting and hence the imperatives for each setting.

Papers relating to the content of nurse decision-making are reviewed in Chapter 8 as the fourth theme. Although in practice it is difficult to separate the influence of the context of clinical decision-making from the content, the focus on content is intended to particularly emphasise the elements of clinical decision-making that are nursing decisions. Inferences of nursing prioritisation can be drawn from the patient needs for care that nurses pay attention to and/or see as important for in-depth study. Within the selected literature the complexities of daily clinical decision-making (in some cases signposted through the use of protocols and guidelines), and the ongoing nature of nursing assessment illustrate the dynamic nature of nursing prioritisation.

Throughout the literature, nurse decision-making is described in plain language descriptions as well as the terms and terminology derived from conceptual frameworks, which are also used to study clinical decision-making. The words and language used to describe clinical decision-making and that infer nursing prioritisation are reviewed in Chapter 9, as also is the relationship of the language with the conceptual framings of the discussions. This constitutes the fifth theme of understanding on nurse clinical decision-making.

The discussion in Chapter 10 reviews a range of influences on the study of nurse clinical decision-making that also affect the understanding of nursing prioritisation. Nursing knowledge on clinical decision-making has developed over time and continues to grow. This has been influenced by work in other disciplines and international perspectives from the wider environment of healthcare. Considerations of this study that affect what may be understood about nursing prioritisation are also discussed.

Finally the thesis and the current understanding of nursing prioritisation of the patient need for care are summarised in Chapter 11.

Summary:

The unusual nature of the questions for research in focusing on tacit knowledge has led to the refinement of a method of research to enable this knowledge to be clarified. The critical realism approach has not previously been used to review literature, however, the different levels of reality postulated in this approach provide a congruent framework for the different levels of understanding which are explored in this study.

The retroductive research strategy has enabled a new understanding on the tacit knowledge of nursing prioritisation of the patient need for care to be made explicit.

CHAPTER 2: METHOD

Before practice-based research on nursing prioritisation of the patient need for care can take place, the tacit knowledge within nursing needs to be made explicit by finding an answer to the question for this research which is: what is inferred, described and/or discussed about the process of nursing prioritisation of the patient need for care? The assumption of this research is that the process of nursing prioritisation is integral to nurse decision-making and may be referred to in any discussion on the process of decision-making within the nursing literature. However, there are literally tens of thousands of papers discussing clinical decision-making, covering many and varied aspects of the topic. This chapter outlines the steps of the research strategy developed specifically to address the need to discern the tacit knowledge of nursing on one specific aspect of nurse decision-making within the nursing literature on the topic of clinical decision-making.

Nursing prioritisation in the nursing literature:

An initial review of the nursing literature on prioritisation¹ was carried out to establish the current understanding on nursing prioritisation of the patient need for care. Studies found through this search did not address nursing prioritisation as a specific topic, but prioritisation was discussed in relation to a wide range of subjects. Some studies have no relationship to nursing prioritisation of patient care, such as studies on public or community health (Hanafin, 1997; Marklund, Schaffrath, & Fridlund, 1999; Sloan, 1999; Stanley & Stein, 1998), parents of critically ill children (Scott, 1998), clinically specific issues e.g. prioritisation of audible machine alarms (Stephens, Daffurn, & Middleton, 1995) and instrument cleaning (Spry, 2000), and even associate degree nursing education (Tolland, 1990). A further series of papers focus on the prioritisation of resources (including nurses) for healthcare delivery, such as studies about the Oregon health plan (Burton, 1996), funder provider priority setting (Ryynanen, Myllykangas,

¹ The CINAHL (WebSPIRS 5, 2000) was searched combining the words nursing and prioritisation with the wild card function i.e. nurs* AND priorit*.

Kinnunen, & Takala, 1999; Wells, 1996), user involvement in identifying priorities (Poulton, 1999), prioritisation of case management (Ward, 1998), population screening (Hirsch et al., 2001) and heart transplant surgery (Rourke, Droogan, & Ohler, 1999). Prioritisation of care can also be affected by language barriers (Cooke, Wilson, Cox, & Roalfe, 2000) and inappropriate presentation to acute services (Victor, Peacock, Chazot, Walsh, & Holmes, 1999).

Prioritisation of patient care by nurses was discussed in conjunction with time management. Casey (1997) calls for nurses to make time for the things that matter to nursing, while Alavi, Cooke, and Crowe (1997) demonstrate successful teaching of time management and prioritisation of care. Cronqvist, Theorell, Burns, and Lutzen, (2001) researched the stressors on nurses where the context of constrained finances and shortage of registered nurses created tensions between the 'constraints of prioritisation' and 'wanting to do more'. Casey also refers to the frustration that nurses must feel when unable to spend time on the essence of nursing (the caring and comforting) or the fundamentals of nursing care (such as assessment, protection, hygiene, nutritional care), as well as the urgent tasks.

Prioritisation is also taught to nursing students. Guided visual metaphor can be used to teach nursing process and prioritisation (Jeffreys, 1993) and mentoring of student nurses in clinical practice assisted them to develop prioritisation skills (Lo, 2002). True-to-practice clinical simulations require student nurses to prioritise and manage care for realistic patient workloads. The "students are required to plan their working day, prioritising care and managing their time for the allocated 10 clients, discussing any problems and reflecting on the issues that had an impact on their ability to provide holistic care" (Alavi et al., 1997, p474).

Prioritisation of patient care in practice was discussed in relation to the highly technical nursing responsibilities for percutaneous cardiopulmonary support (Dillon, Jones, & Shawl, 1992) and in relation to improving the management of cancer pain (Lasch et al., 2002). This qualitative research study centred on meanings informants assigned to pain, and "in particular on tensions within

prioritisation, knowledge and meanings that must be resolved before students can be appropriately educated for pain management” (Lasch et al., 2002, p57). Nurses in Hong Kong use the Chinese Minimum Data Set – Home Care to successfully prioritise and plan care for hospital patients discharging to the community (Leung et al., 2001).

Also in the literature were reports on the use of a tool for evaluating clinical prioritisation skills (Peterson, 1987), and prioritisation matrices (Pelletier, Beaudin, & van-Leeuwen, 1999; van-Leeuwen, 2002). Classification systems were used to prioritise intravenous nursing workload (Baldwin, 1989), and in relation to risk reduction strategies (McCloskey & Bulechek, 1996a) and surveillance (McCloskey & Bulechek, 1996b).

Marsden’s (2000) paper on nursing triage did discuss nursing prioritisation and suggested that a process was involved. Marsden evaluates a nursing telephone triage service in an Ophthalmology department against the literature, finding that the decision to deny access was safe in 100% of cases, while overall accuracy of prediction of diagnosis was 76%. The service was delivered by expert nurses and the expectation was that less skilled nurses would not achieve similar levels of accuracy and safety, as “processes undertaken by experts tend to look easy – experts make it so” (Marsden, 2000, p408). However, undoubtedly as one of those experts, Marsden does not describe the specifics of triage decision-making, referring to it as “ the process, whatever it is” (Marsden, 2000, p408).

Marsden’s (2000) evaluation of the telephone triage service focused in some detail on patients whose eventual diagnosis did not match the presenting information, and noted that the phone triage nurses had developed strategies (such as asking the patient to describe the eye condition from a mirror view) to gain the least subjective information from patients. Successful nurse telephone triage involves nurses assessing and prioritising a patient’s need for care without actually seeing the person. This naturally requires a high level of clinical decision-making, particularly as the numbers of patients assessed in this way can

be considerable. In reviewing the literature to develop a nurse triage service Fortune (2001) recommends the use of protocols or standards of triage, training and good documentation for evaluation. It is probable that such protocols would outline the fundamentals of clinical decision-making for specific instances: i.e. patient presentations at the service.

The initial indication from this preliminary search of nursing literature is that prioritisation is not a specifically researched subject, although it is something that nurses, and also other health professionals, discuss as part of healthcare delivery. Many of the papers referring to prioritisation were published in recent years, reflecting the context of decreasing resources for healthcare delivery. But the process of determining priority has apparently not been studied at all, let alone in relation to nursing practice. However, within this limited selection it is apparent that there is an embedded understanding about prioritisation of nursing care and this tacit knowledge is integral to nurse decision-making. Some nurses see that prioritisation is something that nurses do; and that it is relevant to nursing practice. Prioritisation of patient care may be taught as part of undergraduate nursing education, and be used by nurses to describe and plan nursing interventions. Where nurses triage the patient need for care, clinically specific information is sought. This relates to my personal understanding that nurses prioritise patient care many times a day every day. The lack of formal discussion on prioritisation is intriguing and indicates that this is an area of nursing knowledge requiring further study.

Developing a strategy for the research:

There is no known research study or identified research method for discovering tacit knowledge from literature. Texts on nursing research outline various methods of addressing the general principles of research and recognise historical research as a method of analysing documentation and material, but leave the method of analysis to be determined by the researcher and the purpose of the study (e.g. Beanland, Schneider, LoBiondo-Wood, & Haber, 1999; Morse & Field, 1996; Roberts & Taylor, 2000). However, nursing literature on clinical

decision-making is not about an historical phenomenon, although extant themes and trends have evolved over time. And while literature reviews are universally accepted as integral background material to thesis work (Hart, 1998), and systematic reviews of the literature are recommended as a basis for evidence-based practice (e.g. Chalmers et al., 2002), more recent publication of stand alone literature reviews indicate that this is now an acceptable approach to the presentation of new research. But there is no published text on how to do such research in which varied approaches can be used to present the researched findings.

For example, recently published studies in the Integrative Literature Reviews and Meta-analyses section of the Journal of Advanced Nursing include a wide range of research approaches. A systematic review of non-somatic effects of patient aggression on nurses specifies strict selection criteria and refers to a specific method to review 27 studies from an initial selection of 6116 papers (Needham et al., 2005). Lloyd Jones (2004) suggests practical recommendations for the application of systematic review methods to qualitative research (but only in relation to qualitative research and only in reference to an identifiable subject). Thematic data analysis was used to synthesise quantitative and qualitative research findings on parenthood experiences in the child's first year (Nystrom & Ohrling, 2004), while an integrative literature review on the nursing shortage in America used review until saturation was achieved for all possible factors to summarise the themes found in a selection of literature based on a search of key words and date limitations (Janiszewski Goodin, 2003). However, a review of professional codes only describes the selection criteria used in the study (Meulenbergs, Verpeet, Schotsmans, & Gastmans, 2004) and a review of respite care provides only a closer examination of the literature (Jeon, Brodaty, & Chesterton, 2005). A literature review of meta-synthesis as a method for deepening understanding of the contextual dimensions of healthcare (Walsh & Downe, 2005), acknowledges the growing interest in this integrative technique for generating new insights from qualitative research but also notes the current lack of consensus about some of its aspects.

The critical realism approach to research as outlined by McEvoy and Richards (2003) and Littlejohn (2003), combines a realist ontology with a relativist epistemology. The critical realism approach is based on a retroductive research strategy where “mechanisms are postulated to account for observed phenomena via analogy, metaphor and model building” (McEvoy & Richards, 2003, p14). Littlejohn (2003) summarises the ontological approach of critical realism as follows: “the world is made of layers, namely the empirical (what we experience), the actual (where things happen although we do not experience them) and the real (where the generative mechanisms exist)” (Littlejohn, 2003, p650), and goes on to discuss these as intransitive, transitive and transcendental aspects of the approach.

Within the nursing literature on clinical decision-making there are studies of nurse decision-making and descriptions of decisions that were made, and there is also discussion about clinical decision-making. Inferences of tacit knowledge are able to be drawn from these descriptions and discussions. The descriptions of the decisions that were made as written in the literature form the empirical, intransitive aspect of the model, the discussion and conceptualisation of nursing clinical decision-making within the literature form the actual, transitive aspect of the model, and nursing prioritisation of the patient need for care as discerned by the experiential knowledge of the researcher, through inference of tacit knowledge drawn from the written words, forms the real, transcendental aspect of the model. Table 1 outlines the relationship of critical realism to the research project, where the literature provides both the written descriptions of clinical decision-making and the language used to discuss clinical decision-making while the researcher spans all three aspects.

Real	Nursing prioritisation – generates clinical decision-making		
Actual	Language used to discuss clinical decision-making In nursing practice In nursing education Conceptual discussions	The literature	The researcher
Empirical	Clinical decision-making in practice – content and context Descriptions of clinical decision-making in the literature		

Table 1: The relationship of the three aspects of critical realism to the research project.

There are four components to this study: the researcher, the literature, the embedded understandings and tacit knowledge, and the ‘fit’ of nursing prioritisation of the patient need for care within the topic of clinical decision-making in nursing. The model combines the researcher and the literature in a relationship that acknowledges the place of embedded understandings and tacit knowledge within the literature. Discerning tacit knowledge relies on an informed eye to read, analyse and evaluate the selected literature for embedded understandings of nursing prioritisation of the patient need for care within the written words. Determining the ‘fit’ of nursing prioritisation of the patient need for care in the bigger picture of clinical decision-making in nursing requires a way of presenting the bigger picture from within the selected literature. The specific purpose of this study, to discern tacit knowledge and present a fit of nursing prioritisation within the topic of clinical decision-making, has been addressed as follows.

The researcher and tacit knowledge of nursing prioritisation:

Embarking on this research, and with the encouragement of my supervisor, I wrote a series of working papers to examine my understanding of nursing practice. The research starts with two key assumptions derived from these

reflections. The first, about nursing knowledge or the nurse as an expert system, is based on the assumption that nursing education produces a nurse who has and embodies knowledge relevant to the concerns of nursing, and who is able to use this knowledge to achieve the desired outcomes of nursing. It is widely accepted in nursing that nursing knowledge comprises different ways of knowing, which are translated into a range of nursing activity: from the visible tasks and practices to the invisible interactions such as the therapeutic use of self. Carper's (1999) seminal work on patterns of knowing in nursing points out that nursing knowledge incorporates not only empirical knowledge, which can be comparatively straightforward to identify, but also the more personalised attributes of aesthetic, ethical and personal knowing, which are more readily recognised within the profession. Liaschenko (1998) more specifically refers to knowledge of therapeutic effectiveness, knowledge of how to get things done, knowledge of patient experience and knowledge of the limits of medical science. These are also attributes of nursing knowledge that are more readily understood within nursing.

The second is an assumption that the context and complexity of the nursing practice arena could result in chaos without nursing interventions. My experience has been that where the context is hospital secondary services, the more immediate relationship with medical practice influences the complex clinical knowledge required to nurse in a specific area, (e.g. surgery, medicine, paediatrics) and that nursing activity is also affected by hospital protocols and practice patterns. Within this context nurses provide care to meet patient needs according to the concerns of nursing. This care is provided throughout the 24hrs via a cycle of shifts, and is reliant on handover of care from the previous shift to understand (immediate) needs relevant to the course of the patient's hospital stay. Each nurse looks after several patients throughout the shift, so that there may be competing and/or conflicting patient needs for care occurring simultaneously. In an increasingly complex environment, the situation can readily become chaotic. Nursing interventions usually achieve emergent order in this situation.

Although contextual influences do have a major effect on clinical decision-making, the emphasis of the question for research on nursing prioritisation aims to discern the concerns for nursing that underline this specific focus. Hendry's (2001) doctoral dissertation² titled 'Caring for patients: setting priorities' examines the nursing literature on setting priorities in some depth. The aim of the thesis is to explore the process of prioritising care in nursing particularly as this relates to the management of nursing workload. Setting priorities is generally seen as an integral step of the Planning phase of the Nursing Process (e.g. Alfaro-LeFevre, 1998; Leddy & Pepper, 1993; Yura & Walsh, 1988), and Hendry develops a definition of priority setting in which a preferential order for nursing actions is established using notions of urgency and/or importance. The model of priority setting as a key skill for nursing developed within the thesis includes a further step of prioritisation of interventions as well as prioritisation of goals within the planning phase. However, the two strategies for priority setting identified are: the basic needs approach based on Maslow's Hierarchy of Needs, but with unspecified reservations, and mutual agreement with the patient and family (Hendry, 2001). Concepts taught early in nursing education as a fundamental of nursing become implicit understanding when applied regularly in practice, but priority setting relates specifically to the goals of the nurse-patient interaction, rather than the choices that have already been or are being made during the interaction.

In the language of wider society, prioritisation derives from prioritise, defined in the Concise Oxford English Dictionary as to "designate or treat as most important; determine the relative importance of (items or tasks)" (Pearsall, 2002). Prioritisation implies choice of imperatives among options, which also implies ability to recognise these options. Choice and/or determination of relativity are specific aspects of decision-making, while imperatives are influenced by the values of the decision maker and the context in which the decision is made. The emphasis on nursing prioritisation in the present research acknowledges the

² Not found in a CINAHL search, see Chapter 4.

nurse-patient interaction as the nexus of the nurse-patient relationship, and also acknowledges that a nurse brings a particular understanding of the situation to the interaction. In daily nursing practice, nursing prioritisation is the decision by a nurse as to which nurse-patient interaction to address first amongst many potentially competing requirements and options, and includes how this will be done.

This research aims to focus more on the particular understanding or concerns of the nurse decision maker. Within the literature studying the process of clinical decision-making, there are discussions and descriptions of nursing prioritisation of the patient care and also many instances where inferences are able to be drawn from direct quotes of nurses talking about practice situations. Given the particular attributes of nursing knowledge, inferences from the language of nursing practice also require some explanation or 'reading between the lines', to make explicit the common understanding of nursing.

Discerning tacit knowledge within the topic of clinical decision-making:

The need to discern tacit knowledge of nursing prioritisation and determine the fit of nursing prioritisation within the bigger picture of clinical decision-making required a way of selecting literature that focuses on the process of clinical decision-making from within the expansive nursing literature on the topic. A way of grouping the various subjects within which clinical decision-making is discussed is also required. The CINAHL (WebSPIRS 5, 2000) thesaurus and index were reviewed for terminology on the process of clinical decision-making. Relevant terms were then used to appraise the index of the Encyclopaedia of Nursing Research (ENR) (Fitzpatrick, 1998). The relationships between research topics pertinent to the question and the relevant terms from CINAHL were then mapped according to the basic psychological framework for thinking processes used in CINAHL to group the terminology. The mapping is the basis of the retroductive research strategy of critical realism (Blaikie, 1996). The development

of this mapping and the selection of relevant literature are discussed in the Search Strategy Parts I and II.

Through preliminary scanning of the selected literature in conjunction with the mapping it was possible to identify five main recurring topics of interest, which were then named as 'themes' through which to present the review. Prioritisation as an integral part of the process of clinical decision-making can potentially be found in any discussion of clinical decision-making throughout the topic, whether about nursing education, nursing practice, clinical decision-making context, or clinical decision-making content and may also be found within the debate and dialogue of the profession. The research topics in the ENR relevant to the topic of clinical decision-making related fairly readily to either nursing education or nursing practice. Within these two main research arenas, the fundamental understanding of the discipline around nursing prioritisation in clinical decision-making was examined in relation to how this is taught and then how this is practised. These two arenas constitute the first two themes.

It was apparent that the context of practice is discussed in conjunction with the contextual influences of the immediate environment, and this became the third theme. It is improbable that the process of clinical decision-making differs markedly between specialised fields of practice, but the practice context affects the relativity of both the options and the imperatives. Although descriptions of nurse decision-making in practice are incorporated into the discussions, further inferences about nursing prioritisation can be drawn from the patient needs for care that nurses pay attention to and/or see as important for in-depth study, and also from studies discussing the way nurses manage the complexity of daily clinical decision-making. These aspects of nursing decision-making are seen as being relevant to the content of the decision and are considered as a fourth theme. These first four themes work with the literature on the topic to discern descriptions and inferences of nursing prioritisation of the patient need for care that relate to the intransitive aspect of critical realism.

While the CINAHL terminology and research interests of the discipline have specific definitions and meanings attached to the words that are used, the language of every day nursing and nurses may bypass these formal terms, and discuss clinical decision-making in practice in the plain language words or even jargon from the practice setting. Embedded understandings are incorporated into descriptions of decisions that were made, or into ways of talking about clinical decision-making in more conceptual terms. A further series of studies presenting discussion, debate and dialogue on conceptual approaches to clinical decision-making are also reviewed in conjunction with this aspect of the literature. This fifth theme draws through the language and conceptualisations used in the previous chapters and relates to the transitive aspect of critical realism.

A number of influences from the wider environment that affect the tacit knowledge of nursing prioritisation became apparent through the review of the literature and these are incorporated into the discussion on the relevance of the work. The five key themes of understanding outlined above encompass a cross section of the topic of clinical decision-making in nursing as made available through the focus on the process of clinical decision-making, and create a framework against which the literature selected through the search strategy can be examined. The process enabled a conceptualisation of nursing prioritisation of the patient need for care, the transcendental aspect of critical realism, to be discerned.

Considerations of the method:

The dynamics of drawing inferences of tacit knowledge from published research by a researcher as yet unpublished in the field gives rise to a number of considerations. Firstly, while there are no participants in a literature review, and therefore no ethical considerations in the usual sense of field research, I see that the work of previous scholars and the opinions of other nurse writers as eminently worthy of respect in that these are contributions to the discipline which enable discussion, scholarly debate and development of the knowledge base of the nursing profession. Impartiality in representation of the findings can be attempted through a thoughtful approach to the literature, reinforced by congruence within

the method and is also supported by my newness to the field in the literature. However, while prior understanding from practice precludes complete impartiality, an uninformed view would be unable to recognise embedded understandings in the discussions.

The tension between citation, paraphrasing and inference is a feature of the research, and is a reasonable difficulty in such a work where an extremely complex field is reviewed through a focus on one small aspect of the whole. The difficulties in choosing which way to represent the work of others was supported by the researcher's practical interest in the focus of the question and is also limited by that focus. In that the question is seeking to discover tacit knowledge, there is always be the possibility that others would not necessarily see the same emphasis within the work under review. The difficulty in choosing one piece of one sentence for citation is that the wider importance of the work for the original author is bypassed. The further difficulty in paraphrasing and/or drawing inferences from the work of others is that not only the original intent of the work may be bypassed, but also that wider importance of the work is distorted for other readers.

A further consideration is that the view of the clinical decision-making literature is from within the scope of the question only; there are many other ways of discussing or viewing clinical decision-making in nursing that are excluded through the selection criteria. However, review of the expansive literature on clinical decision-making for embedded understandings through the focus on the process of clinical decision-making was enabled because formal terminology to create the literature search existed. Though, once again, selection through the use of CINAHL terminology depends on authors' use of the terminology and appropriate coding within the databases. Within these limitations, the search was structured to identify specifically those papers discussing the process of Clinical Decision Making and Clinical Judgment in the literature encompassing a cross section of the research on nursing clinical decision-making.

Summary:

This chapter has explained the relationship between critical realism and the research project as it has been used to review the literature for tacit knowledge of the discipline. Chapter 3 reviews the terminology in the nursing literature to discern where nursing prioritisation of the patient need for care might fit within the wider topic of clinical decision-making.

CHAPTER 3: SEARCH STRATEGY PART I: REVIEWING THE TERMINOLOGY IN THE NURSING LITERATURE

While the question for research is: “What is inferred, described and/or discussed about the process of nursing prioritisation?” the first step is to identify the key sources of literature relevant to this question. To review the literature focusing on the process of clinical decision-making, it seemed best to work from the terminology of the nursing literature to select relevant literature from within the wider topic of clinical decision-making. The extensive range of subjects through which prioritisation was discussed in the preliminary search is likely to be further extended by a search on this wider topic. However, although this study is made possible by the focus on one piece of the process of clinical decision-making, the embedded understandings are likely to be discussed in relation to a variety of subjects as well as being part of a discussion about the process *per se*, so that the dynamic between the terminology and the topic needs to be considered carefully as part of the selection process.

To determine where the term ‘prioritisation’ fits in relation to the clinical decision-making terminology of nursing in the literature, a review of the Cumulative Index of Nursing and Allied Health Literature (CINAHL) (WebSPIRS 5, 2000) terminology was undertaken in conjunction with a review of the common understanding of some of the terms as defined in the Concise Oxford English Dictionary (COED) (Pearsall, 2002) and a review of these terms (where found as research topics) in the Encyclopaedia of Nursing Research (ENR) (Fitzpatrick, 1998).

CINAHL Terminology and Terms:

Definitions and relationships between the terms from the CINAHL on-disc thesaurus (WebSPIRS 5, 2000) were used to determine relevant terms for the

search strategy³. **Term Details** were reviewed for **Narrower terms**, **Broader terms**, **Related terms**, **Definitions**, and **Scope notes**. The relationships with and links to other terms, which may be relevant to the subject, enabled the searcher to ‘home in’ on a particular focus while also ‘checking out’ other relevant aspects of the subject. Specific term definitions, which are particularly relevant to the literature and nursing’s understanding of this term, are identified where available.

Clinical Decision Making is grouped as one of a number of **Narrower terms** for Decision Making in the terminology **Tree** for Mental Processes as follows: from Mental Processes to Thinking to Decision Making to Clinical Decision Making as outlined in Table 2:

Broader Terms	Narrower Terms
Mental Processes	Cognition Distraction Language Processing Learning Perception Reflection Thinking
Thinking	Autism Concept Analysis Concept Formation Concept Mapping Creativeness Critical Thinking Decision Making Diagnostic Reasoning Emotional Intelligence Introspection Intuition

³ Specific CINAHL thesaurus terms are **bolded** for ease of identification, while CINAHL terminology terms use Title Case.

Broader Terms	Narrower Terms
	Judgment Problem Identification Problem Solving
Decision Making	Decision Making, Clinical Decision Making, Computer Assisted Decision Making, Ethical Decision Making, Family Decision Making, IOWA (NOC) Decision Making, Organisational Decision Making, Patient Decision Making Support, IOWA (NIC)

Table 2: CINAHL terminology Tree for Decision Making.

The **Tree** outlines a structure from higher-level metacognitive Mental Processes, through the abstract concepts of Thinking to the more practical terminology of specific aspects of Decision Making, which would utilise the conceptual and metacognitive processes in practical applications. This follows the principles of the general psychological framework of thinking (Gerow & Bordens, 2005) from the higher levels of abstraction through conceptual framings for discussion purposes to the pragmatic terms of daily practice. As noted previously, the COED (Pearsall, 2002) definition of prioritise implies choice of imperatives among options. While imperatives are influenced by the values of the decision maker and the context in which the decision is made, the decision maker may not be consciously aware of invoking values and context for each choice. This suggests that prioritisation is a metacognitive or high-level thinking activity, requiring an ability to process conceptual understanding as well as recognising practical ‘items or tasks’, which may have a more physical entity. In suggesting that nursing prioritisation of the patient need for care involves all three levels of thinking activity, I see that according to the **related terms** of the more abstract concepts of Thinking, the metacognitive processes involved are Perception, Cognition and Language Processing.

Decision Making is defined in CINAHL as the processes involved in arriving at a conclusion or determination, and has the rider that this term should not be used for searches on ethical issues. (While the values of the decision maker underpin the choices made in a decision, discussions on ethical issues are outside the scope of the research question). The COED does not specifically define decision-making, but a decision is defined as “a conclusion or resolution reached after consideration” (Pearsall, 2002, p371). It is generally accepted that to make decisions can involve deduction (arrival at a conclusion by reasoning), induction (the inference of a general law from particular instances), and/or inference (a conclusion reached on the basis of evidence and reasoning). The present use of decision-making in the nursing literature appears close to the COED definition of reason which is to “think, understand and form judgements logically” (Pearsall, 2002, p1193), while to ‘reason something out’ is to “find a solution to a problem by considering possible options” (Pearsall, 2002, p1193). It is difficult to differentiate between the process and the end point of the process. Clinical Decision Making is identified as a **Narrower** or ‘more specific’ term of Decision Making with links to two **related terms**. All three **related terms** have specific definitions, as outlined in Table 3:

Terms:	Definitions and related terms:
Decision Making, Clinical (Definition of Term: 1991) Used for:	The rendering of a judgment about patient care using analytical and intuitive processes and incorporating professional knowledge. Consider also Diagnostic Reasoning and Critical Thinking. Before 1991 see under Decision Making Clinical Decision Making
Diagnostic Reasoning (Definition of Term: 1990)	The thinking process, clinical judgment used when making a diagnosis – see under Critical Thinking, Decision Making, Judgment. Before 1990, see under Critical Thinking, Decision Making, and Judgment. Less specific terms are: Diagnosis and Thinking

Terms:	Definitions and related terms:
Critical Thinking (Definition of Term: 1989)	The rational examination of ideas, inferences, assumptions, principles, arguments, conclusions, issues, statements, beliefs and actions. Before 1989, see under Decision Making, Problem Solving, and Thinking.

Table 3: Definitions of CINAHL terms relevant to Clinical Decision Making.

The CINAHL definitions of Clinical Decision Making, Diagnostic Reasoning and Critical Thinking cover most aspects of the thinking processes that could or might be used to make a decision, although Critical Thinking is more about the critique or extra consideration of these processes. Given that the question focuses on the processes of clinical decision-making, the term Problem Solving appears relevant at the higher level of the **broader term** Thinking, as well as linking as a **related term** from Critical Thinking. The **term** Judgment also appears relevant in that it is part of the definition of Clinical Decision Making, as well as being a link from Diagnostic Reasoning. (Neither Problem Solving or Judgment are specifically defined. Professional judgment, which may be used in the literature, is not defined as a specific CINAHL **term**.) So all five CINAHL **terms** could be usefully included in the search strategy.

Also related at the level of the **broader term** Thinking, Intuition (1988) is defined as: “a sense of awareness and perception apart from any reasoning process” (WebSPIRS 5, 2000), and is therefore apparently less relevant to the question, although intuitive processes are acknowledged within the definition of Clinical Decision Making as one aspect of the clinical decision-making process. Nursing literature on decision-making refers often to intuition, which may be used to describe decision-making in the more chaotic real life situation, possibly at the level where ‘the rules’ are so well understood that decisions are made without explicit sequential rationality. The COED definition for intuition is “the ability to understand something immediately without the need for conscious reasoning” (Pearsall, 2002, p743), which allows for the possibility that the reasoning is

subconscious, which in turn could be either rational or instinctive. Instinctive reasoning describes a natural or automatic way of thinking, and infers an innate pattern of thought. This definition suggests that wider society's understanding has moved on from the 1964 Concise Oxford Dictionary definition of intuition which was: "immediate apprehension by the mind without reasoning; immediate apprehension by sense; immediate insight" (Oxford University Press, 1964, p639). This earlier definition is closer to the CINAHL definition, which indicates that Intuition may be used in the literature with this specific nursing understanding, so that some instances of nursing intuition in the literature relevant to Decision Making may not be able to be analysed as a process. However, given the prevalence of usage of the term in the literature, Intuition should be included in the search strategy.

On 'checking out' the links for Diagnostic Reasoning, while the more specific term Diagnosis requires linking to a disease term before being used for searching, further links to Nursing Diagnosis and Nursing Process appear. Nursing Diagnosis is defined as: "representing clinical judgments made by professional nurses about client problems which nurses are capable and licensed to treat" (WebSPIRS 5, 2000), which is more about representing an outcome of a process than either the actual outcome or the process itself. The Nursing Process is linked as a **broader term**, but has no definition except to link to Nursing Assessment, Nursing Diagnosis and Nursing Intervention (and presumably provides an overview of these decisions about patient care), but with the exclusions: "do not confuse with Nursing as a Profession, Nursing Care (the patient), or Nursing Service (the department)" (WebSPIRS 5, 2000). These three excluded terms are outside the scope of the research question.

However, the CINAHL definition of Nursing Assessment indicates that this is relevant as an initial step in the process of clinical decision-making in that Nursing Assessment is:

identification by a nurse of the needs, preferences and abilities of a patient; follows interview with and observation of a patient by the nurse;

considers the signs and symptoms of the condition, patient's verbal and non-verbal communication, medical and social history and any other information available. It is the first stage of the nursing process.

(WebSPIRS 5, 2000)

Related terms are Nursing Diagnosis, Nursing Process, and Patient Assessment⁴. This definition covers an early stage of the decision-making process and at the point where the needs, preferences and abilities of the patient are 'identified' some choices have already been made, from which inferences about prioritisation could be drawn. So from the nine **Related terms** for Diagnostic Reasoning, only two: Nursing Process and Nursing Assessment, are useful in selecting literature relevant to the question.

Priority as a term is only present as Research Priority. There is no specific term for priority or prioritisation with links to or relationships with Clinical Decision Making. Furthermore, nowhere in this search of the thesaurus is there a link from Clinical Decision Making to Triage, which is a **term** in CINAHL but is not defined. However, from Triage there is a link to Triage (IOWA NIC), which from 1994 is defined as: "establishing priorities of care in an emergency or disaster situation. Use only as a specific IOWA Nursing Intervention Classification" (WebSPIRS 5, 2000). The COED defines triage as "the assignment of degrees of urgency to wounds or illnesses to decide the order of treatment of a large number of patients" (Pearsall, 2002, p1529-30), which is closer to the usage of the term in the literature. While neither priority nor triage are specific search terms in CINAHL, their close relevance to the question requires that they also should be included in the search strategy.

Index entries in the Encyclopaedia of Nursing Research:

A concurrent review of the Encyclopaedia of Nursing Research (ENR) (Fitzpatrick, 1998) provided some useful information about the CINAHL terms.

⁴ Patient assessment (1995): "assessment of a person to determine health services and care needs, based on the premise that there are standards of performance for activities undertaken in delivery of patient care. – links to benchmarking, evaluation, quality assessment" (WebSPIRS 5, 2000).

The ENR entries relate to research interests or topics rather than the specific terminology of the nursing literature, and provide a summary of each topic by scholars who have research experience in this field. A review of the index found that several of the CINAHL terms were present, and these were cross-referenced to related research topics. So there are some initial similarities with CINAHL, but there are also a few interesting omissions, for instance, there are no indexed entries for Diagnostic Reasoning, Problem Solving, Critical Thinking, Prioritisation or Triage. However, the structure of the relationships between the entries also gives some indication of the place of Clinical Decision Making as a topic in the wider arena of nursing research.

The key terms from CINAHL as indexed in the ENR with related entries are outlined in the table below. Clinical Decision Making and Clinical Judgment both refer to each other, but Clinical Decision Making relates to research and educational links, while Clinical Judgment refers to more practice related entities. Nursing Assessment referred to Nursing Process but also had links to nurse-patient entries which were cross-referenced to each other. The entry for Nursing Diagnosis defines this as “a condition or response of patients or clients that involves nursing care. It is the clinical judgment made by professional nurses based on assessment of objective and subjective patient responses” (Kerr, 1998, p363). However, the related links for Nursing Diagnosis indicates that this is not directly related to Clinical Decision Making, Clinical Judgment or the Nursing Process as a research topic, but that it is directly related to standardised languages which are being used in computerised support systems as representations of nurse decision-making. The focus on computerised representations of Clinical Decision Making is outside the scope of the research question. Many of these topics also cross-referenced. Table 4 gives an outline of the related entries for topics relevant to the question.

ENR Index Entry	Related Entries
Clinical Decision Making	Clinical Judgment Computer Aided Instruction Education: Nurse Researchers and Advanced Practice Nurses Gender Research Nursing Assessment
Clinical Judgment	Clinical Decision Making Clinical Pathways Computer Aided Instruction Nursing Process
Nursing Process	Clinical Decision Making Clinical Judgment Nursing Education Nursing Practice Models
Nursing Assessment	Florence Nightingale Nurse Patient Communication Nurse Patient Interaction Nurse Patient Relationship Nursing Process
Nursing Diagnosis	NANDA Formal Languages International Classification for Nursing Practice OMAHA System Unified Language Systems
Nursing Practice Models	Cost Analysis of Nursing Care Health Service Delivery Organisational Redesign Measuring Quality of Care Transitional Care

Table 4: Key terms from CINAHL as indexed in the ENR research topics with cross-referencing to related entries⁵.

⁵ The index entry 'Nursing Practice Models' has been included to show the extended links from Nursing Process.

Computer Aided Instruction is outside the scope of the question, as also are entries on Nursing Education, Gender Research, Clinical Pathways, Health Service Delivery, Organisational Redesign and Measuring Quality Of Care. The Nurse-patient interaction entries could be relevant, but more as the contextual influences of Clinical Decision Making rather than as central to the cognitive process. The entry for Nursing Practice Models (Jones, 1998) referred to measurement of nursing care rather than to discussion of Clinical Decision Making in practice, but the entry for Cost Analysis of Nursing Care (Fisher, 1998) discussed acuity systems and led via reference to Nursing Workload Measurement Systems (Giovanetti, 1998) to Nursing Intensity (McHugh, 1998b). According to the index entry, the concept of Nursing Intensity⁶ was formally developed in the 1970s but has no universally accepted definition and is “often operationally defined as patient acuity because nursing resources should be based on the patient need for care” (McHugh, 1998b, p370).

Nursing Intensity and patient acuity suggest nursing imperatives and could be deemed relevant to prioritisation of the patient need for care, but as topics appear to be about measuring nursing input and neither are specifically defined terms in CINAHL. Patient acuity is a commonly used term in the nursing literature, but is not found in nursing dictionaries (Anderson, 2002; Brooker, 2002; Weller, 2005). Nor is there a plain English dictionary meaning for acuity in relation to patient acuity; the COED, like the nursing dictionaries, referring only to sharpness or keenness of thought, vision or hearing (Pearsall, 2002). Patient acuity is however indexed in the ENR, but only within the index entries on Nurse Staffing (Halloran, 1998) and Nursing Intensity (McHugh, 1998b).

The entry on Cost Analysis of Nursing Care (Fisher, 1998) notes that the concept of cost analysis has evolved from explaining costs in relation to proprietary acuity

⁶ Intensity of care is one of the five elements of the Nursing Minimum Data Set (Bakken-Henry, 1998).

systems earlier in the 1990s, to justifying professional practice models, evaluating redesign efforts and monitoring costs within an “ever tightening, cost-conscious health care environment” (Fisher, 1998, p127). This provides another perspective on the findings from the initial search on nursing prioritisation that recent years have seen an increased number of papers on prioritisation, reflecting the context of decreasing resources for healthcare delivery. However, while Clinical Decision Making may be discussed in relation to such subjects that constitute the wider practice environment, these do not need to be incorporated into the primary search strategy.

The ENR entry for Clinical Decision Making defines this as

the process nurses use to gather patient information, evaluate the information and make a judgment that results in the provision of patient care. Clinical decision making ability is defined as the ability by which a clinician identifies, prioritises, establishes plans and evaluates data. From this process a judgment is identified. Decision making is central to professional nursing and has vital links to patient care outcomes.

(Lipman, 1998, p84)

From this definition it is apparent that prioritisation is indeed seen as integral to Clinical Decision Making. The entry on Clinical Judgment uses the American Association of Colleges of Nursing definition that “clinical judgment is the process of translating knowledge and observation into a plan of nursing action and the implementation of that plan for the benefit of the patient client” (Phillips, 1998a, p87). The summary also notes that decision making, problem solving and clinical inference have shared meaning with judgment, and that several definitions of judgment exist. Once again, professional judgment is not defined as a separate term, either in the ENR index or in the entry on Clinical Judgment.

The definitions of Clinical Decision Making and Clinical Judgment have a similarity with the index entry summarising the Nursing Process “as a problem solving process composed of the elements of assessment, planning

implementation and evaluation ... [with] decision making as a characteristic of the process⁷” (Phillips, 1998b, p381), which evolved as a concept in the 1950s. The entry reports that interest in this type of systematic identification of a nursing process initially spread rapidly and by the 1970s there was widespread implementation. However, in more recent times studies have shown a convergence of thinking that while the profession values the nursing process as the best vehicle to individualise patient care, “consistently the data support the reality that nurses do not use the nursing process in practice and that the assumptions and characteristics of the nursing process are not supported as tested in a myriad of research approaches” (Phillips, 1998b, p382).

The entry on Clinical Judgment (Phillips, 1998a) records that research in this field has attempted to identify the structure and processes used in arriving at a judgment, and that numerous authors have used similar strategies with great congruity in the findings. While initial work described clinical inference, others have looked to human problem solving theory, and a considerable amount of work suggests that context and patient complexity influence judgment, as does knowledge of, or relationship with the client. The entry also points out that while researched findings have strong congruence with “strategies described in cognitive processing and information processing literature, the process is found to be much less linear than believed in the past” (Phillips, 1998a, p87). The entry notes the importance of research in this area as the changing healthcare arena present opportunities for nurses to move into more unstructured autonomous environments requiring more accurate and complex judgments in ambiguous settings.

⁷ “Nearly all authors define the nursing process as a problem solving process composed of the elements of assessment, planning, implementation and evaluation. Many a priori assumptions have been identified and studied concerning the nursing-process approach to patient care that includes decision making as a characteristic of the process. These assumptions are that the nursing process is a holistic, scientific, individualised, problem-solving approach with an emphasis on diagnosing. The concept emerged as early as the 1950s from Lydia Hall and was more directly described by Orlando” (Phillips, 1998b, p381).

The entry on Clinical Decision Making (Lipman, 1998) focuses more on the specifics of the decision-making process, such as the use of algorithms and the level of knowledge and/or practice experience. It has been found that nurses with case-related experience are more likely to choose appropriate interventions, and that nurse decision-making is affected by the sociodemographics of the patient. The emphasis of this summary is on fostering and cultivating Clinical Decision Making through educational methods.

The entry on Nursing Assessment (Cohen & Tarzian, 1998) looks at the historical perspective as well as the content and process of assessment. Nursing Assessment is seen as the crucial starting point of a therapeutic nurse-patient relationship and for determining how patients and nurses will subsequently interact. "Assessment begins with the initial nurse-patient encounter and continues as long as the nurse and patient interact" (Cohen & Tarzian, 1998, p359). Florence Nightingale's recommendations for observation, specific data, notation of changes in patient patterns and consideration of the wider environment of the patient are cited in relation to the process and content of assessment. The process of assessment focuses on interpersonal relationships and communication skills, while the content of assessment discusses the need to understand the meaning of illness to the patient, in that this will affect how the patient copes with the illness, as well as physical assessment. The entry refers the reader to the entries for Florence Nightingale, Nurse-patient Communication, Nurse-patient Interaction, Nurse-patient Relationship and Nursing Process. However, the first four entries are outside the scope of the question for research.

Relevance of the terms to the question:

The ENR summaries indicate that Clinical Decision Making could be discussed in relation to both nursing education and nursing practice as well as through researched studies of the process, and that four main topics are relevant to the question. It is axiomatic that the Nursing Assessment that happens in the nurse-patient encounter underpins Clinical Decision Making, and also apparent that the discipline has an understanding that the Nursing Process is a valued model of

patient care characterised by decision-making. However, these two topics constitute contextual discussions relevant to the question that refer to the process of Clinical Decision Making rather than discuss this process specifically. The process of Clinical Decision Making and resultant Clinical Judgment are intertwined with Nursing Assessment and Nursing Process, but in that they appear to focus more on the actual decision-making, provide the key *foci* for the literature search.

Within these topics the CINAHL terms Diagnostic Reasoning, Critical Thinking, and Problem Solving are the related terms (from the links to Thinking and more specific terms), which constrain the focus of the search to the process of Clinical Decision Making. Broader terms from the links to Mental Processes that may be helpful in selecting abstracts and discussions are: Cognition, Perception and Language Processing. It also appears that while the CINAHL definition of Intuition suggests that the literature on nursing intuition may be less likely to clarify details of the Clinical Decision Making process, the term needs to be included in the search strategy as the discipline's understanding is that intuitive processes are integral to Clinical Decision Making. Diagnosis and Nursing Diagnosis are representations of an outcome rather than a process; while Nursing Intervention is about the implementation of the process; so these terms are not required for the search. The other more specific terms related to decision-making such as Computer Assisted; IOWA (NIC); and Support Systems are about discussions related to technology and standardised languages rather than Clinical Decision Making by nurses, while Patient Decision Making and Patient Assessment are also not part of this process. Table 5 summarises the relevance of the terminology to the focus of the question for research.

Most relevant	Use as the basis of the literature search strategy
	Clinical Judgment Clinical Decision Making Diagnostic Reasoning Critical Thinking Problem Solving Intuition
Relevant	Include in the search strategy
	Nursing Assessment Nursing Process Prioritisation (and/or Priority Setting) Triage Staff Nursing and/or Staff Nurses
Less Relevant	Include where referred to in abstracts of literature selected through the search
	Judgment Decision Making Thinking Cognition Perception Language Processing
Not included	But may appear in the abstracts and discussions
	Decision Making, Ethical Decision Making, Family Decision Making, Patient Decision Making, Computer Aided Decision Making IOWA (NOC) Decision Making Support, IOWA (NIC) Nursing Diagnosis Nursing Intervention Patient Assessment Nursing Practice Models Formal Languages (e.g. NIC or NOC etc.)

Table 5: Table of findings from the nursing terminology according to their relevance to the question for research.

It is interesting to note that the Terms are identified by the year in which they were added to the CINAHL Thesaurus, and it is likely that the terms used in earlier works may be more inclusive. The ENR entries on Clinical Judgment and Nursing Process also indicate an evolution of thought on these topics. This relates to the wider picture of society where words, terms and terminology are being added to the common vocabulary, becoming more discipline-specific and more specialised over a period of several years, as society and (notably) technology evolve. This limitation affected the findings of the primary search in that use of the term Clinical Decision Making rather than Decision Making to search meant that some discussions on such decision-making prior to 1990 were not found. Selection of early literature relied on review of the reference lists of more recent work.

Summary:

This chapter has determined the relevance of the terminology in the literature to the question for research. Further work done on the relationships between the terms and Clinical Decision Making research topics to finalise the search strategy and select relevant literature is discussed in the following chapter.

CHAPTER 4: SEARCH STRATEGY PART II: SELECTING THE LITERATURE

A structured search strategy was developed through an iterative process between the literature, the terminology, the researcher and the question for research. Initial selection of terminology was reviewed through pilot searches of CINAHL, the understanding refined through the results of the search, leading to further review of the terminology. Mapping of the relationships between the terminology and the bigger picture of research on Clinical Decision Making was developed and used to finalise the search strategy. This chapter discusses the development of the mapping, the process by which the search strategy was finalised and the selection of the relevant literature.

Mapping prioritisation and clinical decision-making:

Using the relevant terms identified in Table 5, a search of the literature was piloted on the CINAHL electronic databases. The number of papers found through searches on individual terms was excessive: e.g. 20,000 plus citations for Decision Making alone. Combinations of terms most relevant to the question were then used and the findings reviewed. A further trial limiting the terms to being present in the abstracts alone reduced the number of papers, but also appeared to exclude relevant discussions, so searches were made using 'terms anywhere' function. The search was piloted on a single database. Terms were combined two by two, e.g. Critical Thinking and Nursing Process, so that instead of around 400 'hits' each, 45 results were retrieved for closer scrutiny of the abstracts. The exception was Diagnostic Reasoning, as this seemed most likely to address the process of Clinical Decision Making including prioritisation. The abstracts were retrieved as text files and read over a period of several weeks. Around 250 papers were also requested, sorted by search tactic and read. The review of these initial results showed that the search was useful but that many papers appeared less relevant and did not need to be read in-depth.

Reflection on these findings, and on the findings from CINAHL and the ENR outlined in the previous chapter, led to an attempt to ‘map’ the terminology. This ‘mapping’ is outlined in Figure 1. Further review of the retrieved abstracts, selected papers, CINAHL terminology and the ENR took place in conjunction with the development of the ‘map’, which was finalised through this iterative process. The ‘map’ builds from the two predominant research fields of nursing education and nursing practice through the practical entities (e.g. Nursing Assessment, protocols) used to describe Clinical Decision Making in practice to the higher level abstract terms forming the basis of conceptual discussions for teaching and studying Clinical Decision Making, and on up through to the metacognitive processes involved in Clinical Decision Making. The mapping suggests that discussions on the process of Clinical Decision Making could use the relevant terminology in relation to both these complementary themes of nursing education and nursing practice and that Clinical Decision Making and Clinical Judgment are recognised as the umbrella terms for clinical decision-making processes. As the relationship with the formal terminology is unclear, nursing prioritisation is positioned between the metacognitive processes and this endpoint, and, based on the common sense understanding of the term, a relationship with practice related terms identified.

It is likely that the education literature discussing clinical decision-making processes will be fairly explicit in that teaching a subject requires detailed explanation, while the literature from practice in discussing the pragmatic reality of clinical decision-making is more likely to require inference of the Clinical Decision Making process. Proposed relationships to nursing practice are identified for the terms Nursing Practice Models and Nursing Diagnosis. These appear to remain peripheral to the question, as indicated in the review of topics in the ENR. A possible relationship of both Nursing Diagnosis and Triage with the protocols arising from practice is also suggested.

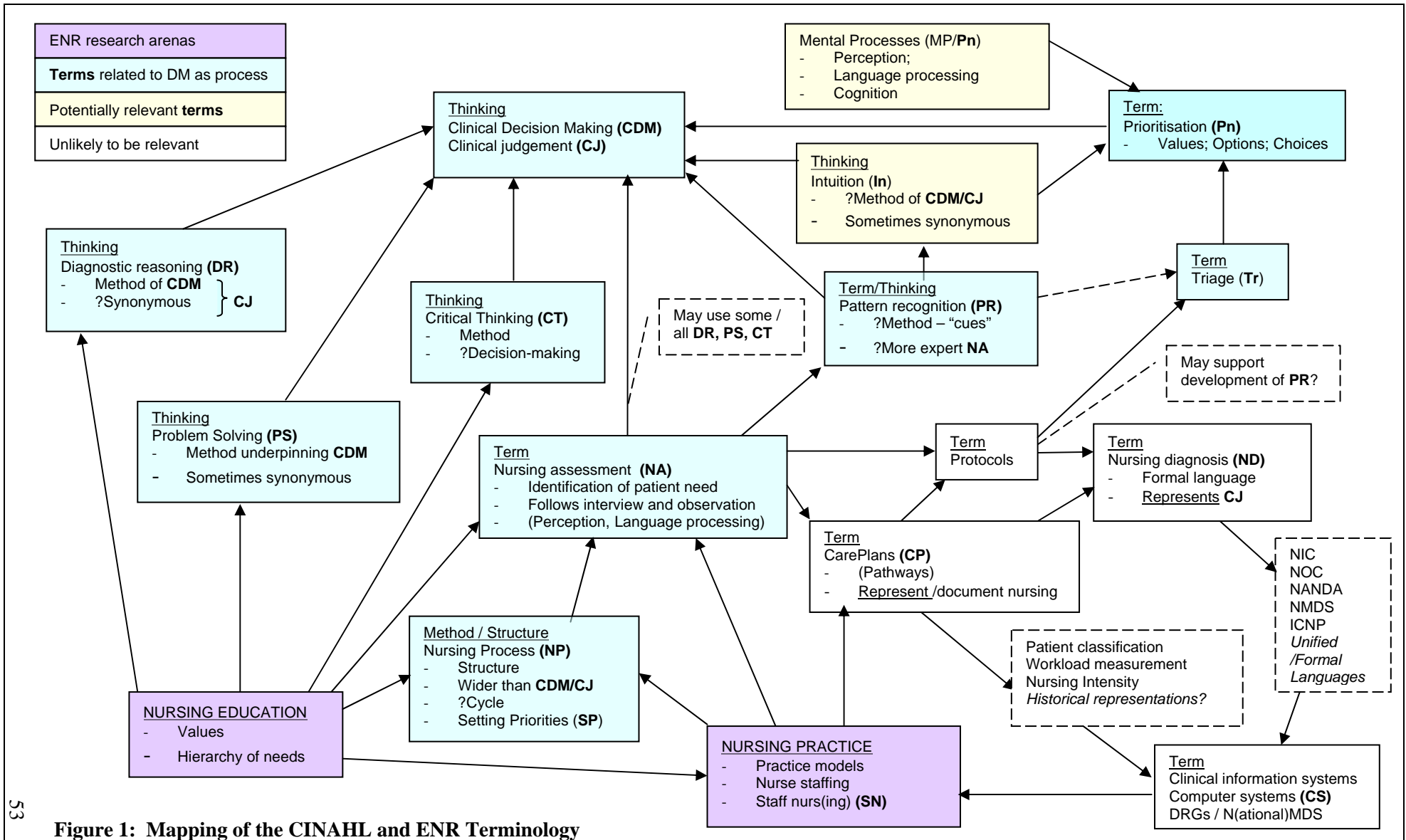


Figure 1: Mapping of the CINAHL and ENR Terminology

The preliminary reading of the abstracts and papers from the pilot searches also indicated that pattern recognition can be inferred as a basis of both Nursing Diagnosis and Clinical Decision Making. Classifications of clinical judgment and outlines of algorithms as protocols for practice both attempt to provide a structure to support consistency of nursing assessment and decision-making and imply recognition or definition of a common understanding about the subject for algorithm or classification. Pattern recognition is not a specific term in the CINAHL thesaurus, nor is it indexed separately in the ENR. However, it is identified within the ENR entries for Hermeneutics (Diekelmann & Ironside, 1998) and Artificial Intelligence (McHugh, 1998a) and is another way of describing perception, which in psychological terms will be affected by past experience, expectation and motivation (Gerow & Bordens, 2005). Pattern recognition is not recognised as a combined word or term in the COED and may be an implicit understanding of the discipline. Some papers (e.g. Buckingham & Adams, 2000b; Cioffi, 1997) also referred to 'heuristics', or 'rules of thumb', which may be another way of describing such recognition of representativeness. The term heuristics is also not indexed in either CINAHL or the ENR.

The mapping outlines a structure that relates the research topics from the ENR to the three cognitive levels of the terminology from CINAHL. Relationships are suggested between the terms and research topics relevant to the research question and other topics and terms that were deemed less relevant (e.g. Nursing Practice Models and Formal Languages) from the wider context of health care delivery. Embedded understandings of nursing prioritisation are likely to appear in relation to the terms used to discuss or teach practical Clinical Decision Making (such as Diagnostic Reasoning, Critical Thinking and Problem Solving), but may also be inferred from the plain language discussions on Clinical Decision Making in the wider arena of nursing practice.

Structure of the final search strategy:

Based on the mapping of the terminology of nursing and research topics, the key terms with which to search the literature were the topics Clinical Decision Making and Clinical Judgment, but these needed to be supported by the related conceptual terms (such as Diagnostic Reasoning, Critical Thinking, and Problem Solving) describing the processes of Clinical Decision Making. Intuition was also included on the basis of the review in the previous chapter and that the CINAHL definition of Clinical Decision Making incorporates intuitive processes. Nursing Assessment and Nursing Process were included as searches on these terms were likely to identify contextual discussions relevant to the question. Terms deemed not relevant (see Table 5), or peripheral in the mapping were excluded. Discussions on these may also have provided insights and inferences on the process of Clinical Decision Making, but were excluded on the basis that diminishing returns were likely because such insights would be covered more specifically in discussions closer to the focus of the question. The words prioritisation (or priority setting), pattern recognition and triage were included in the search strategy as they were particularly relevant to the focus of the question; a search on staff nurses or nursing was added as this subject was likely to relate to practice situations.

The final search strategy was drafted using the topics Clinical Decision Making and Clinical Judgment as the key terms for the search. The terms identified as potentially addressing aspects of the Clinical Decision Making process and aspects of prioritisation were used individually as selection criteria with these two main terms, through the use of the Boolean operators AND and OR as shown in Table 6⁸. This table also shows the ‘coding’ used to simplify discussion of the finding of these searches. The order is based on the relevance of CINAHL citation terminology in as set out in Table 5.

⁸ ‘Wild Cards’ [see CINAHL search tips (WebSPIRS 5, 2000)] were used to ensure citations using either the American and English spelling of Judgment and Prioritisation were retrieved. Truncated terms Staff Nurs* and Set* Priorit* or Priorit* Set* were used for Staff Nurse(s) or Nursing and Setting Priorities or Priority Setting respectively.

	Terminology	Codes
1	Diagnostic Reasoning AND (Clinical Decision Making OR Clinical Judgment)	DR + (CDM/CJ)
2	Critical Thinking AND (Clinical Decision Making OR Clinical Judgment)	CT + (CDM/CJ)
3	Problem Solving AND (Clinical Decision Making OR Clinical Judgment)	PS + (CDM/CJ)
4	Intuition AND (Clinical Decision Making OR Clinical Judgment)	In + (CDM/CJ)
5	Nursing Assessment AND (Clinical Decision Making OR Clinical Judgment)	NA + (CDM/CJ)
6	Nursing Process AND (Clinical Decision Making OR Clinical Judgment)	NP + (CDM/CJ)
7	Setting Priorities AND (Clinical Decision Making OR Clinical Judgment)	SP + (CDM/CJ)
8	Prioritisation AND (Clinical Decision Making OR Clinical Judgment)	Pn + (CDM/CJ)
9	Triage AND (Clinical Decision Making OR Clinical Judgment)	TR + (CDM/CJ)
10	Staff Nursing AND (Clinical Decision Making OR Clinical Judgment)	SN + (CDM/CJ)
11	Pattern Recognition AND (Clinical Decision Making OR Clinical Judgment)	PR + (CDM/CJ)

Table 6: Structure of the final search strategy.

Altogether 11 searches were performed on the complete CINAHL electronic database. Setting priorities and prioritisation were searched separately, but the findings have been combined, as the numbers were less, making a total of 10 searches to summarise. In each case the citation selection criteria was that the term could be found anywhere, rather than in the abstract only. So that, for example, Search One found citations with Diagnostic Reasoning anywhere in the citation as long as Clinical Decision Making or Clinical Judgment was also present anywhere in the citation.

Exclusion criteria and selection of the relevant literature:

Following the searches of CINAHL, the abstracts were reviewed and the selection process commenced. Citations were excluded according to ten criteria, based on the summary of the paper in the abstract, as follows:

1. Papers discussing setting priorities for research.
2. Papers discussing healthcare delivery (e.g. structure/models of care, care plan writing, equipment selection, policy, evidence-based nursing; or diseases of risk to nurses such as Hepatitis C).
3. Papers with an informatics focus, (e.g. use of computer programs for nursing, development of nursing diagnosis).
4. The majority of papers presenting opinion or with no abstract (e.g. personal journeys, commentary on prescriptive authority, or news items – as being too far removed from clinical practice).
5. Papers focusing on interpersonal relationships in practice (e.g. discourse focus, patient experience).
6. Citations of legislation and government or state based clinical practice guidelines (e.g. Montana state law).
7. Citations for allied health professions (e.g. physiotherapy, occupational therapy, chiropractic, audiology, dietetics, social work).
8. Papers from Medical Journals were only included if the abstract discussed cognitive strategies. These were selected more to provide some background conceptual material relevant to clinical practice as nursing discussions on this were limited.
9. Papers from some areas of less acute healthcare (e.g. domestic violence, ethics, rehabilitation/stroke nursing, community/home healthcare, health promotion, school health) were generally excluded as the researcher's experience is in the acute care setting. Papers from some areas of more acute healthcare (e.g. mental health, midwifery, paediatrics) were selected more stringently as the researcher is less familiar with these arenas. In both cases, papers were included if the abstract addressed the specifics of Clinical Decision Making or Clinical Judgment.

10. Papers on performance in nursing education (e.g. measurement of performance, faculty practice, assessment of staff needs).

Altogether 1778 citations were retrieved through the searches of which 738 were identified as being relevant to the question. It was decided to include citations where the higher-level terms relating to Thinking such as Cognition, Perception and Language Processing were mentioned in the abstract. It is interesting to note that the selection criteria Intuition identified the largest actual number of relevant papers, although almost 75% of those identified using the term Diagnostic Reasoning were deemed to be relevant. Table 7 summarises the total citations found and then selected for each of the searches according to the primary selection code for each search. The order is set out according to the order of the search strategies in Table 6.

	Found	Selected	%
DR	170	124	73%
CT	310	103	33%
PS	261	115	44%
In	303	144	48%
NA	90	30	33%
NP	187	101	54%
Pn	191	42	22%
TR	91	35	38%
SN	157	33	21%
PR	18	11	61%
Total	1778	738	42%

Table 7: Selection from the search term combinations.

Citation duplication, further inclusions, and limitations:

While 738 citations were identified as relevant, many were retrieved through more than one search strategy, so that this number was reduced to 343 individual papers being required. Of the 185 (54%) identified in more than one search, 63

were identified in two or more searches, and 18 (5%) were identified in 5 or more (of the 10) searches. Table 8 summarises this correlation.

Found in:	Number	%
1 Search only	158	46%
2 Searches	63	18%
3 Searches	58	17%
4 Searches	46	13%
5 or more Searches	18	5%
Total	343	

Table 8: Duplication of citation findings.

Of the 343 papers found through the primary search strategy outlined above, only 132 had been found in the pilot search. This indicates that the structured search strategy was more effective in selecting literature relevant to the question for research. The literature was requested, sorted into themes using coloured flags and collated in a small database. Preliminary reading identified a considerable number of secondary or antecedent literature related to the topic in the reference lists of the retrieved citations. These were also requested and added to the database to reduce the possible limitations of the coding of early literature in CINAHL and potentially provide background to tacit knowledge in present day literature.

Material from other sources has been selected at the discretion of the researcher. Further searches were made of the Web indexes of Dissertations, University library catalogues (and shelves), and Medical Bookshops. It was more difficult to search these for relevant material as they were indexed according to more general terms. The doctoral dissertation (Hendry, 2001) on prioritising care in nursing was found through a search on 'Decision Making' on the British Dissertation index, but was not found when the search criteria was 'Clinical Decision Making'. Returns were minimal as unfamiliarity with various search engines

hindered such searches. Other papers were already owned by the researcher as being of interest through general reading around the subject of Clinical Decision Making. And some were located through information from colleagues.

A large number of papers have been read and excluded from the final selection as being outside the criteria, including some initially identified in the primary search strategy. The limited numbers from outside this strategy were included where they address the question for research. For example, a few were retained from the pilot search, such as Higuchi's (1997) doctoral thesis on 'Cognitive processes utilised in clinical decision making' that appears to address the research question closely. And for instance, from among those 'found' by the researcher, Crow, Chase, and Lamond's (1995) paper analysing the cognitive component of nursing assessment appears relevant, and may only have been excluded from the search findings because the term 'Nursing Assessment' was combined with Clinical Decision Making or Clinical Judgment in the search strategy, while the paper focuses solely on Nursing Assessment. Likewise, Rolfe's (1997) paper on 'the Fuzzy nurse' writes directly about the cognitive processes used by a nurse to make choices in clinical decision-making, but, because of its focus on abduction as a thought process, will not have been indexed in a way that is retrievable by the search strategy.

Altogether a total of almost 600 books, papers and theses were identified. Following preliminary reading, exclusion, selection, and further inclusion of both antecedent literature and material from other sources, a final figure of around 486 items were selected. A general summary of these numbers is shown in Table 9 giving an indication of the proportions of papers retrieved through the various search mechanisms.

Source	Number	%
Primary search strategy	343	71%
Secondary / antecedent literature	77	16%
Other sources	37	8%
Pilot Search (kept)	15	3%
Researcher identified (found)	14	3%
Total	486	

Table 9: Summary of the numbers of papers by retrieval source.

The main limitation of the search strategy is that it is dependent on the thesaurus and indexing of CINAHL to search for a subject that is not specified in the thesaurus. Using the 'terms anywhere' function has broadened the selection criteria to include citations where the terms are used by authors in abstracts and also in titles of references as well as being present in the CINAHL indexing terms. To cover the potential retrieval of works addressing the question through the higher-level conceptual terms, further *ad hoc* searches on Cognition and Perception combined with Clinical Decision Making and Clinical Judgment were carried out but generally retrieved papers already found through the primary search strategies, as well as papers addressing the wider topic, without adding any new relevant material.

First thoughts on the selected literature:

Preliminary scanning of the selected literature indicates that a reasonable cross section of literature on the topic of clinical decision-making in nursing has been retrieved, and that the processes of clinical decision-making are addressed in the selection. The primary search strategy found only 12 papers from the 1980s, however, a further 37 papers for this decade were found through retrieval of the antecedent literature, and another 12 writings of interest from this period were found through other means. For instance, review of library shelves revealed the early texts on the Nursing Process. The numbers show a trend of increasing publication that peaks early in the new millennium. For the first half of the 1990s, interest in the topic slowly increased, but the subject became of much greater

interest to nursing in the second half of the decade. Strong interest continued in 2000 and 2001, but the reduction in numbers since then appears to be due to a decrease in publication in this area. See Table 10 for a summary of this trend. The earliest relevant research found within the nursing literature is on clinical inference (Hammond, Kelly, Castellan, Schneider, & Vancini, 1966; Hammond, Kelly, Schneider, & Vancini, 1966a, 1966b, 1967).

Year	Primary	Secondary	Other	Pilot	Found	Total
2003+	14		9		12	35
2001-2002	80	4	2	2	1	89
1999-2000	82	2	2	5		91
1997-1998	70	7	2	3	1	83
1995-1996	53	5	4	1		63
1990-1994	32	14	5	2		53
1980s	12	37	10	2		61
1970s		1	3			4
1960s		7				7

Table 10: Table of nursing interest in the topic over time.

A further coding of the selected literature was done according to whether the work aligned with the two main fields of research: nursing practice or nursing education, as identified in the ENR. It was apparent that there were also papers in the selection that further developed the theoretical or conceptual aspects of the field, while some discussed nurse clinical decision-making in more general terms. A smaller number did not fit into any of these such as, for instance, reports of using the “think-aloud” research method in practice (Aitken & Mardegan, 2000; Fisher & Fonteyn, 1995; Fonteyn & Fisher, 1995), which were retained as being able to give a better understanding of such research. The database of the literature was then coded according to these research interests.

Further more in-depth reading identified that some works were more pertinent to the topic, while others provided background information (such as the material

from the preliminary search on prioritisation or editorial comments) or reference material (such as the nursing texts). Those deemed more relevant effectively became the data for this research. Table 11 summarises the distribution of the selected literature according to this understanding and shows that the predominant source of material for this research discusses clinical decision-making in nursing practice.

Research Arena	Data	Background	Peripheral	Reference	Total
Practice	176	12	3	5	196
Education	59	6	1	15	81
Both	23	1			24
Theory/concept	87	10		3	100
Discussion	44	14			58
Medical		2	10		12
Other	3	7	4	1	15
Total	392	52	18	24	486

Table 11: Distribution of the selected literature according to research interest arena and relevance to the topic.

While there are some limitations on the selection of literature, both through the search strategies and also through researcher choice of material, the focus of the question for research gives a yardstick for selection, both for terminology where available and material. The final selection is a sound representative sample of the nursing literature to answer the question “What is inferred, described and/or discussed about the process of nursing prioritisation in the nursing literature?” To this end, the selected literature has been coded according to four groups: whether nursing prioritisation has been actually discussed within the paper, whether prioritisation has been mentioned at all, whether nursing prioritisation can be inferred from the discussion or nurses’ descriptions of decision-making or whether nursing prioritisation was not mentioned or able to be inferred at all, as outlined in Table 12.

Term	Description
Discussed	Nursing prioritisation of the patient need for care is discussed within this paper
Mentioned	Prioritisation is mentioned but no further detail is provided
Implied	Nursing prioritisation of the patient need for care can be inferred from the discussion or from nurses' descriptions of decisions that were made
Not mentioned	Nursing prioritisation is not mentioned in this paper and cannot be inferred from the discussion or description.

Table 12. Terms to answer the question for research.

Summary:

This chapter has presented the rationale for the search strategy and selection of relevant literature, and outlined the proposed strategy for identifying the discussions within the literature. Review of the selected literature begins in Chapter 5 with an examination of the initial teaching and learning about nursing prioritisation.

CHAPTER 5: NURSING EDUCATION – TEACHING AND LEARNING ABOUT NURSING PRIORITISATION

This chapter reviews the literature identified through the search strategy that discusses the initial teaching and learning about nursing prioritisation of the patient need for care, both in the classroom and during the transition to clinical practice. The literature on teaching clinical decision-making is reviewed separately to that discussing the student's perspective, as the issues for learning about prioritisation appear to be different to those for teaching this subject. A series of nursing texts are also reviewed to determine the fundamentals of nursing prioritisation of the patient need for care that are initially taught to nursing students.

Background – nursing texts, Nursing Process and setting priorities:

With regard to initial learning about nursing, a sample nursing text was sought to represent how nursing prioritisation is taught during the initial teaching of nursing. A range of early texts was also reviewed briefly to better understand the basis of the tacit knowledge of nursing prioritisation within current texts as well as to check out the understanding within the Encyclopaedia of Nursing Research on Clinical Decision Making and Clinical Judgment reviewed in Chapter 3.

Texts from the 1970s specifically for teaching nursing apparently initially focused more on imbalances in the 'normal' health state, but gradually through the 1970s and 1980s, the emphasis on nursing (rather than psychophysiology) in these texts increased. The second edition (Yura & Walsh, 1973) of *The Nursing Process*⁹ appeared in 1973, the fifth (Yura & Walsh, 1988) in 1988. Both refer to setting priorities as the initial step of the planning phase of the Nursing Process in almost identical words under the heading Priority Setting:

⁹ The early nursing texts were retrieved via secondary search mechanisms, not directly through search of CINAHL.

If specific client problems in relation to human need fulfilment are diagnosed, effort is exerted to assign priority to each. The nurse uses his or her own judgment and considers the clients views in assigning priorities. During priority setting, problems can be conveniently classified as high, medium or low priority. ... The more life threatening the problem is, the higher the priority assigned.

(Yura & Walsh, 1988, p141-2)

Other texts from the 1970s (e.g. Luckmann & Sorenson, 1974; Sorenson & Luckmann, 1979; Watson, 1972) refer to priority setting in similar terms as an integral phase of the planning step of the nursing process. Watson notes that the process is not seen as fixed or linear. “Each step is part of an ongoing process; needs change necessitating frequent reassessments. Revisions, deletions, additions and new approaches are necessary because of changes in the patient’s condition, in his (*sic*) responses, and in prescribed treatments from day to day” (Watson, 1972, p5). The expectation is that the patient should be involved in planning of care and “obviously, certain problems will require immediate action; priorities and immediate and long-term goals should be established” (Watson, 1972, p6).

Luckmann and Sorenson’s (1974) text on Medical-Surgical Nursing focuses on psychological and physiological balances and imbalances and mentions Maslow’s hierarchy, but does not emphasise the nursing process. The later text titled Basic Nursing (Sorenson & Luckmann, 1979) takes a slightly broader approach, including a chapter on legal concepts as well as several on clinical considerations and one on biomechanics i.e. lifting and moving of ‘helpless’ patients. The Nursing Process is promoted as scientific problem solving in action. The first step of the planning stage is to ‘Set Priorities’ where the nurse needs to rank the patient’s problems in order of priority.

High priority patient problems are those which are life-threatening, and as such require immediate professional attention. ... Medium priority problems do not directly threaten the patient’s life although they may

result in unhealthy or destructive physical or emotional changes. ... Low priority problems include problems ... which the patient can handle with minimal assistance from the nurse.

(Sorenson & Luckmann, 1979, p 290-1)

The text differentiates between problems and needs and goes on to note, with reference to Maslow's hierarchy of needs, that the patient's low level needs must be met before high level needs can be considered, as the latter may have a low priority if a patient is critically ill. The expectation is that higher level needs will become more important again when the patient's condition improves and that priorities need to be reassessed at least daily.

A selection of other available texts from the 1980's also refers to the Nursing Process, but not as the only way to deliver nursing care. Murray's text outlines a briefer four step version to establish "the relationship between the scientific method, problem solving and the nursing process" (Murray, 1980, p39). Priority setting follows a similar rationale to that of Sorenson and Luckmann's (1979) text. The Neuman Systems Model (Neuman, 1989) incorporates aspects of the nursing process such as Nursing Diagnosis and Nursing Goals rather than Planning and sees that the format for intervention includes three levels of nursing action: Primary, Secondary and Tertiary, with the first priority for nursing action in each area being to identify the stressors and their threat to the client/client system. Bandman and Bandman's (1988) text on Critical Thinking in Nursing emphasises the value of applying systematic reasoning to everyday nursing and discusses making inferences and the use of critical thinking in the nursing diagnosis as part of the critical analysis of and support for the nursing process.

Other nursing texts such as Conceptual Bases of Professional Nursing (Leddy & Pepper, 1993), take a wider view of nursing than the texts on patient needs for care, while others more directly teach Clinical Decision Making, such as those on Critical Thinking (e.g. Alfaro-LeFevre, 1995; Rubenfeld & Scheffer, 2000) or those on Nursing Process (e.g. Alfaro-LeFevre, 1998; Murray & Atkinson, 2000).

All continue to be heavily influenced by the Nursing Process, acknowledging priority setting as an integral part of the planning stage of the process, thus creating a fundamental understanding around nursing prioritisation. McEwen and Brown found that “the Nursing Process was the most commonly cited component for all types of nursing program” (McEwen & Brown, 2002, p5) in the USA, although (as previously mentioned in Chapter 3), Phillips’ (1998b) ENR summary points out that the data indicate that nurses do not use the nursing process in practice. It is proposed to take the selected texts as a representative sample of the descriptions of nursing prioritisation as it has been historically understood in nursing education and not attempt to review all texts within this research.

Although given such a high profile within nursing texts, the Nursing Process has not been accepted without reservation by all in nursing. As early as 1982, Virginia Henderson’s (1982) discussion paper asked nursing to consider whether the title of The Nursing Process was right. She proposed that the word ‘the’ excluded non problem-solving nursing activities, and that the problem solving process was not peculiar to nursing, as other health professions also solved problems in the service of the client. She noted that it ignored “the subjective or intuitive aspect of nursing and the role of experience, logic and expert opinion as bases for nursing practice” (Henderson, 1982, p109).

A nursing text and nursing prioritisation:

Introduction to setting priorities in patient care continues to be outlined briefly in nursing texts, usually in relation to the planning stage of the Nursing Process. Texts that are readily available to nursing students such as Potter and Perry (1997) refer to setting priorities as the initial step in the planning stage of the Nursing Process. For instance, in Unit II: The Nursing Process and Critical Thinking:

Establishing priorities is not merely a matter of numbering the nursing diagnoses on the basis of severity or physiological importance. Rather, priority selection is the method the nurse and the client use to mutually

rank the diagnoses in order of importance based on the client's desires, needs, and safety.

(Potter & Perry, 1997, p137)

Maslow's hierarchy of needs is proposed as one useful method for designating priorities and a table of examples for high priority, intermediate priority and low priority nursing diagnoses gives a rationale that diagnoses are given high priority when they have immediate effect on the client's physiological or emotional status. This is similar to the understanding in a sample text on Critical Thinking (Rubenfeld & Scheffer, 2000) and to Hendry's (2001) research based understanding. A later chapter on Basic Human Needs: Individual and Family once again refers to this hierarchy and the requirement for nurses to understand the relationship between the different needs for the individual. It also states that: "in all cases an emergency physiological need takes precedence over a higher-level need" (Potter & Perry, 1997, p481). This statement is later qualified with the explanation that "physiological functioning is closely related to body systems, environment, values, ethics, and culture... needs are interrelated in unique ways for each person and the nurse considers such relationships in planning care" (Potter & Perry, 1997, p482).

Setting priorities is also identified as the first step in the planning phase of the teaching-learning process between nurses and clients, where the "priorities for teaching are based on the nursing diagnoses and the learning objectives established for the client" (Potter & Perry, 1997, p273). Timing of teaching is given special mention as the client's readiness to learn may impinge on discharge scheduling. There is very little further writing on prioritisation in this text. Although cited in some detail above, the references to prioritisation take just over one page of writing in a text of around 1500 pages.

Teaching nursing has moved on from the purely physiologically based texts of the 1970s and Potter and Perry's (1997) comprehensive text covers promotion of wellness, professional nursing concepts and practices, basic psychosocial needs

and basic physiological needs. Each section provides information and then uses the steps of the Nursing Process to outline a series of expected nursing activities for each. Both the American Nursing Association Definition and Standards of Nursing Practice, also based on the five steps of the Nursing Process, are detailed in full, following a summary of the goals of 19 nursing theories in the professional nursing unit (Potter & Perry, 1997).

However, the text also reflects the changing environment of nursing practice and mentions the need for nurses to prioritise care in conjunction with the increased present-day scope of the patient's plan of care and the goals of the workplace. In the acute care setting, timely and accurate identification of a client's healthcare needs and their prioritisation are seen as critical, so that all care givers can contribute to the continuum of an integrated plan of care. "For hospitals to survive financially, there is pressure to discharge clients as soon as possible. ... fragmentation is expensive and unacceptable" (Potter & Perry, 1997, p65). It can thus be inferred that prioritisation of care in this setting includes involving not only the patient but also the appropriate member of the multi-disciplinary team in the plan of care as well as time management of the plan.

The emphasis for the nurse has changed from setting priorities to mutually ranking priorities with the patient based on the patient's desires, needs and safety. This infers that the nurse brings the concerns of nursing to this negotiation as well as service expectations. However, the effect that imperatives within the practice environment can have for the concerns of nursing has previously been identified. Although Virginia Henderson's (1991) definition of nursing (which she reviewed twenty-five years after it was first written in 1966), does not describe prioritisation of the patient need for care, she notes that through nursing in army hospitals, she "learned to serve in an atmosphere where the nurse as a representative of society felt indebted to the patient. ... the atmosphere in certain affiliated civil hospitals offered a distinct contrast" (Henderson, 1991, p11). The 1991 addendum notes that a hospital operating to make money operates differently from one known for its therapeutic results. The inference is that the

change in emphasis has the potential to affect prioritisation of the patient need for care once the life threatening (basic ‘low-level’) physiological needs have been met: on the one hand, the need to coordinate care to meet discharge timeframes and on the other, the need to provide a service owed to those who are serving the country. The two systems create different imperatives for nursing and nurses.

Teaching nursing prioritisation:

No reference to nursing prioritisation was made in a range of studies discussing how to teach clinical decision-making. Several discussed strategies for teaching critical thinking (e.g. Cioffi, 2001a; Su, Masoodi, & Kopp, 2000), or problem based learning (e.g. Bechtel, Davidhizar, & Bradshaw, 1999) and many examined the higher-level concepts underpinning the teaching of clinical decision-making in nursing (e.g. Botti & Reeve, 2003; O'Neill & Dluhy, 1997; Welk, 2002; Wong & Chung, 2002) without discussing specific instances. Most of the literature presented researched findings, but there were also descriptive reports of specific programs (e.g. Cannon, 1998; Chartier, 2001; Mariano, 2002). Conceptual discussions were sometimes supported by research, but others drew widely on literature both from within and outside the discipline to support a particular approach to understanding clinical decision-making in nursing.

However, specific reference to prioritisation was made when teaching nursing diagnosis with guided visual metaphor (Jeffreys, 1993). Students were expected to determine appropriate diagnoses for a clinical presentation and then prioritise these, checking validity through class discussion. Prioritisation was also mentioned in passing by several studies as an expectation of nursing practice, and although discussion of setting priorities was related to the nursing process in some instances, there were many other approaches to the discussion of clinical decision-making. For example, Kuiper's study of teaching through reflective learning states that “novice practitioners may have difficulty making efficient and accurate judgments concerning patient care due to a lack of experience in prioritising and accurately applying domain specific data” (Kuiper, 2000, p116), but there is no further mention of prioritisation in the research.

Other descriptions or inferences were found more particularly where students were expected to apply nursing knowledge in practice. Nursing prioritisation of the patient need for care could be inferred from several studies where weighting of information or determination of importance is discussed. Case-based teaching is noted to help “learners understand what points of information are crucial (emphasis added) to the evaluation, diagnosis and management of fatigue, helping to build a pattern of inquiry for this problem” (Thomas, O'Connor, Albert, Boutain, & Brandt, 2001, p522). Similarly, two examples of the clinical reasoning case study allow both students and graduate nurses to follow the line of reasoning used by a nurse practitioner in considering, weighting and selecting informational cues (Ryan-Wenger & Lee, 1997) with thorough documentation of both the nurse’s thought processes and writer’s commentary. Clinical concept mapping as outlined by Baugh and Mellott (1998) is also able to assist students to differentiate relevant information and identify key concepts, allowing students to see a more complete picture of the “patients’ individual patterns and sequelae of disease” (Baugh & Mellott, 1998, p254).

The transition from the classroom:

Many studies found through the structured search of CINAHL discussed student learning of clinical decision-making, particularly critical thinking, but did not refer to prioritisation at all (May, Edell, Butell, Doughty, & Langford, 1999; Peterson & Bechtel, 2000; Tschikota, 1993). However, an inference about nursing prioritisation could be drawn from White’s study which identified five essential components associated with clinical decision-making among nursing students in a practice placement: gaining confidence in their skills, building relationships with staff, connecting with patients, gaining comfort in self as a nurse, and understanding the clinical picture (White, 2003). In connecting with one of the patients, a student took the time to listen to his concerns and found that the reason he did not want to sign a consent form was that he did not understand the treatment. At that point, what he thought the future might hold was more

important than receiving physical care, and in answering this concern first the student was demonstrating nursing prioritisation.

Broughton (1998) presents a comprehensive review of cognitive psychological perspectives in plain language, suggesting that critical thinking in the assessment process links assessment data to knowledge. Units of clinical information are summarised as visual cues, verbal cues (including the change of shift report), written cues (with the notation that nursing documentation is unlikely to include all relevant information) and interactional cues that emerge from the dialogue between nurse, patient, family and other healthcare professionals.

Visual, verbal and interactional cues elicit the essence of the current situation, which is influenced by the severity and anticipated instability of the patient's condition ... being aware of probabilities associated with cue interpretation helped nursing students prioritise clinical interventions.

(Broughton, 1998, p63)

The majority of references found in the selected literature mentioned prioritisation of the patient need for care at the point of transition from the classroom to nursing practice, mostly in relation to teaching case study scenarios or preceptored experience. Only one study program specifically focused on meeting identified difficulties of graduates embarking on nursing practice:

The identified difficulties largely relate to graduates' inability to fulfil personal and organisation practice expectations. The personal expectations are concerned with being able to provide holistic care and work as part of a team. The organisation expectations are primarily related to time management, prioritising care and managing a full patient-load.

(Alavi et al., 1997, p473)

Several actual problem situations taken from the clinical nursing setting are outlined as scenarios for a year 3 laboratory course, one of which includes planning the working day: "prioritising care and managing their time for the

allocated 10 clients” (Alavi et al., 1997, p474) in a palliative care scenario also involving nursing care for pain and comfort, anxiety and distress, death and dying as well as the concerns of the client’s significant others (such as family and close friends).

Goodman (1997) emphasises the benefits of a structured orientation pathway to prepare new staff (principally new graduate nurses) to function effectively in today’s healthcare environment. The pathway covers hospital orientation, unit environment, patient care, integrated case management, standards-based practice and evaluation. The example of an integrated case for the Orthopaedic Unit is the management of the patient with hip fracture and total hip replacement. The case orientates the nurse to the expectations of the facility asking, (amongst other questions), whether the nurse’s approach to the care of the patient is consistent with the organisation’s mission, values, purpose and strategies, and, as the first question: “what are your priorities in the management of the patient with a hip fracture?” (Goodman, 1997, p209).

Preceptorship and learning about nursing prioritisation:

Priority setting is clearly identified in discussions of preceptored nursing practice experiences. McGregor’s (1999) descriptive report of a specific undergraduate nursing program for preceptored clinical placement outlines the course objectives, course requirements, pre-requisites and preceptor responsibilities. As well as aiming to apply the nursing process to the care of an individual, family or group, the course differentiates priority setting and time management: “students learn priority setting, time management, organisation skills and collaboration with other members to meet patient goals” (McGregor, 1999, p14). Roche’s (2002) pilot study of teaching clinical decision-making with the clinical educator model also refers to ‘setting priorities’ as one of the 11 open-ended evaluation questions asked of participants.

Myrick and Yonge (2002) discuss prioritisation along with guidance as the two main attributes of the preceptorship experience for students. Prioritisation is seen

as central to the ability to organise and “students frequently have difficulty defining what is important or what should be done first or why” (Myrick & Yonge, 2002, p131). Preceptors were found to carry out periodic checks throughout the shift to help students stay on track following discussion at the beginning of the shift. Myrick and Yonge then go on to say that:

An essential component in the prioritisation process is the time that preceptors take at the beginning of the shift reviewing tasks that:

- are essential to do at the moment,
- must be completed on schedule,
- must be accomplished during the shift,
- would be nice to do but are not essential.

(Myrick & Yonge, 2002. p131)

From my experience, I would infer that these four simple precepts summarise the differentiation between essential patient safety concerns and those required by the patient’s need for care such as scheduled medication, and professional and organisational requirements such as the need to complete nursing documentation for each shift.

Using grounded theory research, Myrick’s study of the process used in preceptorship to develop and promote critical thinking found that “one of the most common concerns initially confronting the preceptors in this study was their preceptees’ inability to organise and complete their work in a timely manner” (Myrick, 2002, p160). The study also found that preceptors’ role modelling, facilitating, guiding and prioritising was more likely to enable critical thinking than direct questioning.

Prioritisation of patient care, time management and organisation of patient care, and integrating theory into practice were three of eleven areas where students felt they had improved most during a mentor arranged clinical placement program. “By following good role models, ... time management skills, prioritisation of patient care and self-confidence of the students improved” (Lo, 2002, p29).

Using an interpretive phenomenological approach, Nehls, Rather, and Guyette “identified common meanings, relational themes and a constitutive pattern designated *learning nursing thinking*” (*sic*) (Nehls, Rather, & Guyette, 1997, p220). Within this pattern they found that both preceptors and preceptees acknowledged the need to see the big picture of the patient as a whole. One instance refers to when the student was ‘getting behind’ and how an explanation of the ‘big picture’ enabled the student to make sense of the situation beyond the immediate tasks. “Chris immediately recognised that this student was getting overly involved in tasks and simply responding to the situation versus thinking about it and understanding it” (Nehls et al., 1997, p222). The inference is that reprioritisation of patient care then occurred.

Initial learning about nursing prioritisation:

Review of nursing texts and papers on teaching clinical decision-making to nursing students did indeed reflect that prioritisation is deeply embedded in the common understanding of the profession. In most instances setting priorities is mentioned in the textbooks as an integral step of the planning stage of the Nursing Process. This emerged in the texts of the 1970s and, along with the generic nursing education on clinical decision-making, has been refined in light of nursing knowledge development. The basis of setting priorities appears to be that life threatening situations take precedence, followed by those that the nurse can influence in relation to patient well-being, including both physiological and psychological needs. Those that have less immediate effect on patient well-being or those the patient can manage are lowest priority. Currently nursing texts underline the expectation that the patient will be involved in determining priorities, but preparation for practice beyond the classroom requires that the imperatives of early discharge and collaboration with the multidisciplinary team are also to be considered.

While the need to review both priorities and decisions was included in early definitions of clinical decision-making, and an inference can be made that

prioritisation is taught through emphasis on relevant information, the discussion on prioritisation of patient care becomes more specific as nurses move from the classroom into practice. New graduates are expected to be aware of workplace influences and take these into account when delivering care. Time management, referred to only as a nursing intervention for patient stress in a nursing text (Potter & Perry, 1997), and organisation of patient care are identified as new skills for the new environment. At the point of transition, the literature refers to prioritisation of patient care, rather than setting priorities, and this is seen as distinct from time management. Classroom simulations may provide pragmatic clinical situations, but student learning of prioritisation is discussed as a key learning situation in relation to preceptorship or as part of orientation programs. The recent work on preceptorship highlights the need for supported learning in the transition from classroom to practice. The inference may be that nursing prioritisation of the patient need for care is something that has to be learned in practice rather than from textbooks.

Summary:

Overall discussion of nursing prioritisation in the initial teaching of and learning about nursing was limited, and this was discussed more specifically in relation to the student's transition from the classroom. Teaching clinical decision-making in nursing did not specifically mention nursing prioritisation of the patient need for care, although setting priorities is seen as an integral step in the planning phase of the Nursing Process. This embedded understanding is a tenet of initial nursing education. Prioritisation is implied or mentioned more frequently in relation to clinical case studies and/or practical examples of nursing practice. Once out of the classroom and practising nursing, prioritisation of the patient need for care is differentiated from time management skills (where these are mentioned), and new graduates are expected to be aware of workplace influences and take these into account when delivering care. The expectation that priorities will be negotiated with the patient carries a subtext of meaning that is not formally discussed. The significance of these findings is that nursing prioritisation of the patient need for care is not understood as a formal concept in nursing education texts and this tacit

nursing knowledge is learnt in practice, and in fact, may only be able to be learnt in practice.

The studies discussing learning in practice are reviewed in the next chapter. However, it was not always possible to make a distinct separation of papers discussing student and novice practice, so some discussions of the transition from classroom to practice have been included in this next grouping.

CHAPTER 6: NURSING PRACTICE – LEARNING TO PRACTISE NURSING PRIORITISATION

This chapter reviews the selected literature relating to the development and application of expertise in nursing, as the study of clinical decision-making often takes place as a comparison of novice to expert practice. Firstly an overview of expertise within the selection is presented, followed by citation of a specific study where nursing prioritisation is clearly related to the skill level of the nurse. Studies discussing nursing intuition, widely acknowledged as a manifestation of nursing expertise, and early recognition of patient need are also reviewed in this chapter.

Experience, expertise and nursing prioritisation:

Researchers did not specifically study the practice of newly graduated nurses in the transition from classroom to practice; instead, the decision-making of novice practitioners was usually studied in conjunction and comparison with the decision-making of expert practitioners (e.g. Benner & Tanner, 1987; Chase, 1995; Corcoran, 1986b, 1986c; Ferrario, 2003; Girot, 2000; Greenwood & King, 1995; Itano, 1989; King & MacLeod Clark, 2002; Lamond & Farnell, 1998; Pyles & Stern, 1991; Redden & Wotton, 2001; Reischman & Yarandi, 2002; Szaflarski, 1997; Tabak, Bar-Tal, & Cohen-Mansfield, 1996; Tanner, Padrick, Westfall, & Putzier, 1986; Taylor, 1997, 2002a; Westfall, Tanner, Putzier, & Padrick, 1986). Throughout the selected literature there is a strong theme of discussing clinical decision-making processes in nursing practice in relation to the experience or expertise of the nurse decision maker. However, rather than studying these levels separately, the emphasis in the literature is on recognising such expertise and the development of this desirable attribute of nursing practice.

Most studies comparing the clinical decision-making processes of novices and experts did not specifically mention prioritisation (e.g. Corcoran, 1986b, 1986c; Ferrario, 2003; Girot, 2000; Reischman & Yarandi, 2002; Tabak et al., 1996; Tanner et al., 1986; Taylor, 2002a; Westfall et al., 1986), however, inferences

could be drawn from some of the discussions about cue recognition. Both Itano (1989) and Greenwood and King (1995) looked at how novices and experts used information to make decisions. Itano's criteria for expertise included that the nurse was able to prioritise patient problems and not get lost in the detail. The study observed actual nurse-patient interaction rather than simulation and found that experts sought more cues than novices suggesting a greater ability with hypothesis testing strategies. Greenwood and King found that novices collected more information than experts, suggesting they were less able to discriminate relevant information, while experts used more strategies to manipulate the information and make more accurate decisions. Although apparently using opposite data to reach like findings, the difference is in the relevance of the information collected and the discrimination or weighing of information by the nurse. The experts in Itano's study sought information to confirm probable causes, while the novices in Greenwood and King's study were less able to discriminate or prioritise relevant information. This may be better summarised by Thiele, Holloway, Murphy, Pendarvis, and Stucky (1991), who found that

When faced with a clinical event, the novice student was unable to discriminate important information from superfluous pieces of data. Each cue was considered to be of equal priority. Determining both accuracy and inaccuracy rates revealed selection patterns reflecting little data discrimination and/or prioritisation. In addition there was no evidence of weighing, sorting, and clustering cues to form a unique pattern.

(Thiele et al., 1991, p625)

Further, studies on the treatment of pressure sores (Lamond & Farnell, 1998) and nursing assessment required for specific procedures in the hospital setting (Taylor, 2002a) reach similar findings on novice and expert nurses' use of information. Selection of specific information by expert nurses to provide patient care implies weighing and choices being made as part of the assessment process.

At the expertise end of the continuum of skill development, discussions on nurse practitioner practice reveal expert autonomous practice that is an acknowledged extension of nursing expertise. The difference between advanced practice and expertise is shown in the more independent nature of the practice, where the nurse stands as a sole practitioner (with concomitant responsibilities) rather than as a member of the multidisciplinary team. Burman et al. (2002) and Offredy (1998) both saw that pattern recognition or matching and intuition (as well as diagnostic reasoning) were integral to practice in this role, while case studies by Hootman (1996) and Bautch (1997) demonstrate the efficacy of nursing diagnosis without going into the discretionary aspects of the decision. Brykczynski (1999) found that discretionary judgment, background knowledge and experience based practical skills were the three themes of the practical knowledge of nurse practitioners.

Nursing prioritisation from advanced beginner to expert:

One study details the most specific references to nursing prioritisation in the selected literature. Working from a phenomenological approach, Benner, Tanner and Chesla (1992) provide quite specific descriptions of and also inferences about nursing prioritisation according to the nurse's level of nursing expertise. The gradual change in emphasis through the different levels not only differentiates the levels of expertise, but also the skill levels in prioritising patient care and helps to make sense of other descriptions of nursing prioritisation in the literature. The descriptions are drawn from interviews with 105 nurses in critical care practice. The study rather elegantly summarises two interrelated aspects of nursing practice distinguishing four levels of skill, from advanced beginner to expert as:

First, practitioners at different levels of skill literally live in different clinical worlds, noticing and responding to different directives to action. ... Second, ... a developing sense of agency, is determined by one's clinical world and shows up as an expression of responsibility for what happens with the patient.

(Benner et al., 1992, p14)

The study points out that advanced beginners' work is shaped by a concern to 'organise and prioritise' the 'multiple and competing' tasks that must be done for the patient's care. Advanced beginners describe the situation in terms of what it demands of them, rather than the patient's response. "Advanced beginners believe that they can rely on protocols to guide their action even in an unstable, critical code situation" (Benner et al., 1992, p19), so that their responsibility is to follow rules designed by others. Not being sure of what to do in more urgent situations, the advanced beginner nurse has yet to 'own' the knowledge required and looks to sources perceived as being reliable.

The study goes on to describe how the competent practitioner's concerns have moved past following the rules to developing goals and plans that work. "Consistency, predictability and time management show up as important" (Benner et al., 1992, p20). In the progression of learning how to manage the unexpected, extra vigilance and more frequent checking are found to increase awareness of the patient's particular responses to a situation, and limit the deficiencies of a checklist. "It is no longer enough to have the analytical template, and the nurse is struggling to learn to read the situation in relation to past actual situations" (Benner et al., 1992, p22).

The transition from competency (where the nurse is developing knowledge of variations to the 'rules') to proficiency "is marked by an increased skill in seeing changing relevance ... that require actions other than those planned or anticipated" (Benner et al., 1992, p23). This ability enables the proficient nurse to recognise shifts in priorities specific to the unfolding patient situation and to redefine the priorities accordingly.

Proficient nurses read the situation better and can set priorities for what they see in the situation, and they no longer feel anxious about the consequences of what they might leave out because they have more confidence in their ability to notice the important things. This budding sense of salience is not infallible, but it is still a real advance over the

undifferentiated dread and worry of the advanced beginner and the excessive vigilance of the competent nurse.

(Benner et al., 1992, p25)

The exemplar describing the expert nurse's reprioritisation of the patient need for care in the study does not specifically mention prioritisation. However, it does outline the expert's ready identification of salient features from a myriad of complex information that was swamping a less expert nurse and that had gone unrecognised by medical staff. The expert nurse was also aware of and advocated for the appropriate response required to prevent any further deterioration for the patient. When this outcome was not forthcoming, the narrative outlines how the expert was able to reprioritise accordingly and assist the less expert nurse to manage priorities in ways that more closely matched the patient's actual concerns and needs. The study notes that the exemplar illustrates four key aspects of expert practice: 1) pattern recognition, 2) sense of urgency different to other clinicians, 3) management of rapidly changing situations and 4) that the sense of responsibility is more realistic in terms of actual possibilities inherent in the situation.

At the forefront of the expert's concern is the patient's well-being, but this is not constrained by following 'rules', or any limitations on knowledge about the patient situation or what needs to be done; nor is it constrained by the limitations of knowledge of other members of the multidisciplinary team. "For the expert, reading the situation is based on expected changing relevance, including action based on significance inherent in the situation and a practical grasp of other clinicians' perception of the situation" (Benner et al., 1992, p28). The expert knows what is happening, knows what should be done and knows how to negotiate the changing dynamics of the situation, all of which require not only grasp (awareness and understanding) of salient (prioritised) information but also the ability to prioritise (plan or know what to do) and reprioritise as the situation unfolds.

Intuition, early recognition of patient need and prioritisation:

Intuitive direct grasp of patient situations was frequently referred to in other studies, and along with early recognition and/or anticipation of patient need, infers instances of nursing prioritisation of the patient need for care.

Several studies that were retrieved through the searches on terms such as nursing process, diagnostic reasoning and critical thinking also discussed intuition¹⁰, or early recognition, in relation to expertise and clinical decision-making (e.g. Aitken, 2000; Arries, Botes, & Nel, 2001; Burman et al., 2002; Cioffi, 2000a, 2000b; Cone & Murray, 2002; Jacavone & Dostal, 1992; King & MacLeod Clark, 2002; McCutcheon & Pincombe, 2001; Polge, 1995; Pugh, 2002; Welsh & Lyons, 2001). Other studies were directly incorporated into the selection through searching on the term intuition (e.g. Benner & Tanner, 1987; Conway, 1998; Monkley-Poole, 1998; Peden-McAlpine & Clark, 2002; Rew, 1988; Tabak et al., 1996), or were included through secondary sources (e.g. Cioffi, 2001b; Gruber & Benner, 1989; Minick & Harvey, 2003; Pyles & Stern, 1991). Intuition was seen as a respectable or an important tool (McCutcheon & Pincombe, 2001; Rew, 1988), an important part of the critical thinking process (Polge, 1995) a goal-directed, holistic synthetical-analogical process (Arries et al., 2001), or having an informational basis (Effken, 2001). In some studies, intuition was not solely the domain of the expert nurse but could be seen in the development of expertise (e.g. King & MacLeod Clark, 2002; Lauri et al., 1998; Polge, 1995). These studies do not work from a common understanding of intuition, and in some cases propose redefinitions of the term.

None of these studies specifically mention prioritisation except by inference through the discussion of what is important to nurse clinical decision-making, and

¹⁰ Nursing intuition is understood as an integral aspect of clinical decision making in nursing, reflecting the CINAHL definition of Clinical Decision Making that refers to both intuitive and analytical processes used by nurses to make decisions.

the emphasis on early recognition and anticipation. For instance King and MacLeod Clark (2002) cite a nurse's description of a preliminary visual check as determining priorities before a formal physiological assessment of the patient is carried out. The clinical details in this study relate to post surgical nursing care and nurses talk about assessing patient comfort, post-operative haemorrhage and/or shock from which it can be inferred that these are seen as the priorities of the patient need for care for nursing in this setting. Rew's (1988) study describing the phenomenon of intuition found that the product of the intuitive process "enables nurses to anticipate a variety of things in clinical practice. ... Intuitive knowledge aids the nurse in anticipating what interventions are most likely to result in positive patient outcomes" (Rew, 1988, p31).

Polge (1995) found that the model proposed by Benner (1984/2000) could "be successfully generalised to large and geographically diverse critical care nursing populations" (Polge, 1995, p9). Polge contends that "using intuitively acquired data, nurses can a) use positive and observable behaviours to anticipate changes in patients' conditions before measurable objective data can be obtained, b) advocate for alternate treatment plans; and c) prepare for crisis situations" (Polge, 1995, p9). Such early recognition infers the sense of salience described as a recurring theme in Benner's work (e.g. Benner & Tanner, 1987), i.e. the knowing of what is important together with the ability to prioritise, and reprioritise as necessary.

Anticipation is also discussed in the literature in relation to the early recognition of patient problems (Minick & Harvey, 2003; Peden-McAlpine & Clark, 2002) and decision-making around calling emergency assistance (Cioffi, 2000a, 2000b, 2001b). Early recognition of patient problems was initially discussed by Benner (1983) in relation to Polanyi's (1958) notion of 'connoisseurship': the perceptual, recognitional ability of the expert clinician. Peden-McAlpine and Clark build on Peden-McAlpine's (2000) earlier work on 'thinking-in-action' to study the temporal nature of thinking in nursing practice that informs the recognitional ability of expert nurses. The authors state that: "the elements of time that inform thinking include: learning the particulars of the patient situation over time,

recognising changes in the patient situation over time and recognising the time is right for appropriate ethical intervention” (Peden-McAlpine & Clark, 2002, p145). They conclude that no one set of rules could apply in all situations or at all times in one situation because every situation changes over time. The study, having found that the early recognition experience was largely unconscious, but that nurses could recall their actions in significant detail, analysed the reported nursing actions to reveal the thoughts behind them. The exemplars used to illustrate the study highlight once again the things that nurses saw as important, such as the life threatening situations described in previous studies, and also emphasised the interpersonal nature of the nurse-patient relationship.

Minick and Harvey’s (2003) findings on the same subject are similar, but focus less on the temporal nature of early recognition and more on three ways of knowing about the patient: “(a) knowing the patient directly, (b) knowing the patient through the family, and (c) knowing something is not as expected” (Minick & Harvey, 2003, p293). They found that subtle signs and symptoms could take on new significance when considered as components of a mosaic or pattern of change. Once again clinical indications describing risk situations (arrest, limb amputation, unrelieved patient pain, or changes in patient level of consciousness) for the patient were used to illustrate the findings, but the ‘not as expected’ theme was illustrated by the atypical-ness of a patient’s quiet manner. Salient features such as these become ‘forceful’ (Lamond, 2000) features, calling the nurse’s attention to an impending problem and, as indicated earlier, requiring reprioritisation of the patient’s need for care. Both studies highlighted the nurse-patient relationship ‘knowing the patient’ as the key knowledge to manage the ongoing patient situation, but Minick and Harvey’s finding of the ‘not as expected’ theme also (and once again) highlights the wealth of tacit knowledge of the experienced expert nurse.

Cioffi (2000a; 2000b; 2001b) addresses a similar subject at the point where the nurse calls for assistance in emergency situations. The Medical Emergency Team of a health service in Sydney provides assessment and review as well as

resuscitation for life threatening emergencies. Assessment and review of a patient takes place in response to calls meeting the criterion 'seriously worried about a patient'. The nurses in these studies also emphasised that knowledge of the patient's usual condition, manner and behaviour was a key factor in becoming concerned when the unusual occurred. The unusual could be identified by the nurse through feeling 'not right', awareness of changes in the patient's appearance, or behaviour, and sometimes related to minimal or no changes in the patient's physiological signs. "Being able to recognise that a patient was 'not quite right' was often linked to past experiences" (Cioffi, 2000a, p113). This recognition relied heavily on knowing the patient concerned, having experience nursing many similar patients with the same condition or procedure, and remembering similar exception cases. So, although not explicitly stated, the 'not as usual' knowledge constituted a key component of nurses' concern.

It is just something that you see from the experience of seeing lots of people. Out of a thousand people with abdominal pain, twenty five of them will have something serious. Even though they all say they are in a lot of pain.

(Cioffi, 2001b, p595)

However, here again, at the point of recognising the patient's need for emergency assistance, the focus on this point of salience obscures the mosaic of contributing tacit knowledge, and provides only the inference that nursing prioritisation has taken place.

Developing the skill of nursing prioritisation:

The references cited in this chapter indicate that the nurse's ability to prioritise the patient need for care is developed in practice with experience and the development of expertise. Within this selection, nursing prioritisation of the patient need for care is most clearly described by Benner et al. (1992) in the phenomenological study of clinical decision-making in critical care. The changing emphases of what is important to nurses with differing levels of expertise in the

study speaks of the inherent nature of nursing prioritisation within clinical decision-making, and also of the different ways this may be expressed.

In Benner et al.'s (1992) study of nurses' experience in critical care, the highest priority for all levels of expertise was apparently patient life-threatening situations, however, as the eventuality of patient death became a reality, concern for the family became the expert nurse's priority. This concern for both the family need to be aware of the situation and for them to have time to spend with the patient then came ahead of concern about management of the complex technological interventions required by the patient. Nursing prioritisation described at the levels of lesser expertise did not specify the clinical indications, although the description of prioritisation at the advanced beginner level indicated, similar to the earlier references, that nurses at this skill level were less able to discriminate relevant information even when a critical patient situation developed.

Throughout the work, from the advanced beginner level where the priority was learning and working with the 'rules' or guidelines, to the expert practitioner level where the priority was determined by direct grasp of the action required by the situation at hand, the study infers a subtext of increasing familiarity with patient situations. The underlying inference is that as expertise and the increasingly differentiated clinical world develops, a lesser amount of specific information is needed to prioritise the patient need for care, and that knowledge and confidence lead to much of what is learned becoming background or tacit knowledge, part of the learned experience of the nurse and inherent in her/his practice. This supports the findings from the previous chapter that nursing prioritisation becomes part of the tacit knowledge of nursing, which may then be subsumed in the requirements around time management in the immediate context of nursing clinical decision-making. The further implication is that while the apparently instantaneous clinical decision-making by expert nurses may be described as intuition, or early recognition, this is also a reflection of tacit knowledge of nursing prioritisation.

Summary:

It is evident from the selected literature that learning the skill of nursing prioritisation of the patient need for care takes place in practice. Novice nurses may be overwhelmed by the amount of information, and nurses new to an area of practice may also be less able to differentiate relevant domain-specific information. Increasing familiarity with what is required enables the nurse to gain skill and confidence and make appropriate choices for action, so that eventually, apparently intuitively or instinctively, immediate or even anticipatory action is taken in crisis situations.

Such tacit knowledge, embodied in the practitioner, just 'is' and is difficult to explain in any rationalistic sequence. Benner and Wrubel (1982) describe this as skilled knowledge that "unlike theoretical knowledge, relies on the development of a perceptual awareness that singles out relevant information from irrelevant, grasps a situation as a whole ... and accomplishes this rapidly and without incremental deliberative analysis" (Benner & Wrubel, 1982, p13). An expert nurse's intuitive grasp of a patient situation, or early recognition of a patient problem, in combination with the necessary remedial nursing action is effectively nursing prioritisation of the patient need for care in action.

Studies discussing nursing prioritisation in specialised fields of nursing practice and varied practice settings are reviewed in the next chapter.

CHAPTER 7: NURSING PRACTICE – SPECIALISED PRACTICE, PRACTICE SETTING AND NURSING PRIORITISATION

Clinical decision-making is also discussed in relation to various settings and specialised fields of nursing practice¹¹ rather than expertise *per se*. Differences within the discussions in the literature between scope, specialisation and setting are those of emphasis rather than definition. There is some overlap between practice setting: the environment where nurses practice such as community or hospital, and field of practice: nursing in a specialised field of the profession such as mental health or palliative care which can be practised in different venues. As the researcher is less familiar with non-hospital settings, selection in these areas was limited to abstracts referring specifically to clinical decision-making. And while wound care may be considered a specialised field of nursing, papers on decision-making in wound care are reviewed with the discussions on the content of clinical decision-making in Chapter 8.

The first three sections in this chapter reflect the changing frame of reference for nursing practice in a transition from the acute setting into the community. The first section reviews the literature on clinical decision-making in the hospital setting. Much of this work refers to the specialised field of practice in critical care. Studies of nursing triage in emergency departments and telephone triage that discuss specialised nursing practice at the point of community access to hospital care are reviewed in the second section. The third section review studies of clinical decision-making in specialised fields of practice including community nursing, mental health nursing and palliative care. Home health care and district nursing are reviewed with studies discussing public health and primary care nursing in the community in this section. Contextual factors in practice settings

¹¹ The term specialised field of nursing practice is used rather than scope of nursing practice, to differentiate that the latter may be more formally defined within employment or legislative terminology.

that also influence nursing practice and nursing prioritisation are identified in the fourth section.

Nursing prioritisation in the hospital setting:

Nurse clinical decision-making in the hospital setting was usually discussed in relation to expertise or contextual influences, but studies of clinical decision-making in critical care also discussed clinical complexity in some detail. In accordance with the understanding in the literature, critical care nursing includes practice settings such as coronary care, intensive care, post-anaesthesia care units, cardiovascular units and cardiothoracic surgery units. Early studies by Baumann and Bourbonnais (1982; 1983; 1985a; 1985b) highlighted the rapid and prompt clinical decision-making required by nurses to deal with crisis situations that is a feature of critical care nursing. Since then, studies of nurse clinical decision-making within these settings and situations have discussed the finer points of nurse decision-making with particular reference to the increasing complexity of technology in these settings.

Clinical complexity was evident when weaning a patient from a ventilator (Harris, 2001), or managing third space fluid shift (Redden & Wotton, 2001), using pulmonary artery pressure monitoring (Aitken, 2000), or in the prompt recognition and treatment of low cardiac output following cardiac surgery (Eillis, 1997) and in management of cardiac (Jacavone & Dostal, 1992) or post-operative pain (Guyton-Simmons & Ehrmin, 1994; Stannard et al., 1996). Critical care nurses acknowledge the non-linear nature of clinical decision-making (Aitken, 2000; Guyton-Simmons & Ehrmin, 1994), differentiation and/or titration of options (Guyton-Simmons & Ehrmin, 1994; Jacavone & Dostal, 1992), discretionary judgment (Jacavone & Dostal, 1992; Pyles & Stern, 1991; Stannard et al., 1996), and intuition (Aitken, 2000; Jacavone & Dostal, 1992). Algorithms (Eillis, 1997), concept maps (Aitken, 2000) or protocols (Harris, 2001) were seen as guides to managing the complexity of clinical decision-making, but these could also be disregarded if the situation warranted (e.g. Stannard et al., 1996) or may

not be in the patient's best interests if expert knowledge is available (e.g. Harris, 2001).

The specific clinical details in the studies indicate that life threatening situations take priority, and the discussions refer mainly to physiological data of the bio-medical model. However, references to patient anxiety, comfort, and 'being with' (Guyton-Simmons & Ehrmin, 1994) indicate the holistic nature of nursing prioritisation of the patient need for care in this setting. Guyton-Simmons and Ehrmin also point out that the goal of managing patient pain to achieve a balance between comfort and activity changes with time and that eventually increased activity becomes the priority.

Role modelling (e.g. Baumann & Bourbonnais, 1983; Benner, Stannard, & Hooper, 1996; Bourbonnais & Baumann, 1985b; King & MacLeod Clark, 2002; Pyles & Stern, 1991) is widely acknowledged as necessary to the development of expertise in this setting, and 'knowing the patient' is also emphasised (Benner, Stannard et al., 1996; Benner et al., 1992; Currey & Worrall-Carter, 2001; Peden-McAlpine, 2000; Radwin, 1998; Redden & Wotton, 2001; Stannard et al., 1996). The temporal nature of 'knowing the patient' is one of the significant findings of Peden-McAlpine's (2000) research into the early recognition of patient problems. Past understanding informed the nurse's understanding of the patient's present situation and allowed envisioning of future possibilities (both positive and negative). This in turn allowed nurses to manage the patient appropriately, inferring reprioritisation of the patient need for care throughout the interaction.

Peer consultation and multi-disciplinary collaboration is clearly described as a key feature of clinical decision-making in critical care nursing (Chase, 1995). Clinical judgment is seen to start with the nurse caring for a particular patient, and may involve other nurses and/or medical staff in informal discussion and agreement as to how to proceed. Orders for treatment are "the officially recognised form of communication" (Chase, 1995, p160) in the nursing-medical world, and may be generated at the instigation of the nurse caring for the patient.

Discretionary nurse judgment in carrying out ‘weaning’ from drugs is also described. While patients were assigned to a particular nurse for that shift, face to face communication at handover could become a case study discussion and “‘not knowing’ is something that is brought to the group” (Chase, 1995, p161). Peer consultation or confirmation of practice is also seen as an influence on clinical decision-making in midwifery (Axten, 2000), neonatal nursing (Greenwood, Sullivan, Spence, & McDonald, 2000) and paediatric nursing (Fuller & Conner, 1997), and debate on the need to follow rules or routines also occurred in all these settings.

The unique complexity of clinical decision-making in a specialised practice arena was highlighted in a study on assessment of paediatric pain in infants less than a year old. The study described more than 60 assessment cues grouped in twelve categories. Nurses in the study reported that “ they had learned how to assess paediatric pain ‘on the job’” (Fuller & Conner, 1997, p165). Many of the cues, such as pain tolerance, or the difference between pain cry, angry cry, hungry cry, and/or fussy cry, relies on the subjective understanding of the nurse and would be extremely difficult to teach in relation to paediatric pain in a non-practice situation. As, for instance with the cue parents’-interaction-with-each-infant, many of the cues are specific to the individual presentation, it is unlikely that a useful set of rules or routine practice could be developed to manage the results of such assessment. Willingness to learn and practice experience added to a sound professional knowledge base may be the most effective teacher and manager of such nursing practice.

Specifics of nurse decision-making outside the critical care areas were not usually discussed¹², although a study of surgical ward nursing infers post-operative care as the frame of reference for this setting (King & MacLeod Clark, 2002), and studies of nurses’ decisions to call emergency assistance cite brief statements of

¹² Many papers studied nurse clinical decision making in the hospital setting in the ward situation outside critical care but usually in relation to the development of nursing expertise; these have been incorporated into the discussion in Chapter 6.

nurse concerns (Cioffi, 2000a, 2000b). Two studies of nursing practice in the hospital setting describe 60 factors relevant to determining and communicating patient care (O'Connell, 1998, 2000). Consistency of information communicated to staff across shifts was a key difficulty partly due to the use of the large numbers of charts and forms and the duplication of information. Uncertainty and complexity of decision-making for nurses were increased through inconsistent use of terminology to describe patient problems, incomplete care plans and progress notes and fragmented communication where information could be lost in the oral culture.

It is apparent within the discussions that life threatening and crisis situations are the natural indications for nursing prioritisation in acute settings, and are apparently an integral part of the bio-medical model with clinical decision-making involving large amounts of clinically detailed physiological data. However, discretionary nursing judgment, rapid reprioritisation in crisis situations, and nursing management of complexity in clinical decision-making does not depend solely on these data, but also on the nurse's recognition of each patient's unique responses to the situation and peer consultation.

Triage nursing and prioritisation:

Nursing triage of patients presenting at the Emergency Department (ED) effectively gate-keeps (Fry & Burr, 2002) acute care settings from the community. Triage nurses are required to make rapid differentiation of acuity (Cone & Murray, 2002; Considine, Ung, & Thomas, 2000; Fry & Burr, 2001; Gerdtz & Bucknall, 1999, 2000), sometimes for large numbers of patients (Fry & Burr, 2001; Gerdtz & Bucknall, 2000), according to a five grade scale¹³ (Considine et al., 2001; Gerdtz & Bucknall, 1999, 2001). Patients present along a continuum of urgency (Considine, LeVasseur, & Charles, 2002) from life threatening situations to presentations which may be returned to primary care

¹³ Triage Code 1 = resuscitation; Triage Code 2 = emergency; Triage Code 3 = urgent; Triage Code 4 = semi-urgent; Triage Code 5 = non-urgent (adapted from Considine, Ung, & Thomas, 2001, p102)

without being seen in the ED (Fry & Burr, 2001; Gerdtz & Bucknall, 1999, 2000). Resource allocation in the form of discretionary judgment about treatment (Considine et al., 2001; Fry & Burr, 2001; Gerdtz & Bucknall, 1999, 2000) can also be a feature of this field of specialised practice and could differ further according to whether triage occurred in an urban or rural setting (Fry & Burr, 2001; Gerdtz & Bucknall, 2000). Differentiation of urgency was found to be less clear-cut in the mid range of presentations (Cioffi, 1998a; Considine et al., 2000, 2001; Gerdtz & Bucknall, 2001). Discussions on the implications of variation in triage practice (Considine et al., 2000; Fry & Burr, 2002; Gerdtz & Bucknall, 1999, 2001; Happell, Summers, & Pinikahana, 2002) encourage the use of protocols or heuristics which are seen by some as useful (Cioffi, 1998a; Gerdtz & Bucknall, 2000; Happell et al., 2002; Pugh, 2002) but were also acknowledged as potentially limiting (Gerdtz & Bucknall, 1999; Pugh, 2002), though these are recommended for novices or nurses new to the setting (Cioffi, 1998a; Gerdtz & Bucknall, 1999; Pugh, 2002). Mentoring is also seen as a way of developing the skills for the role (Cone & Murray, 2002; Corcoran, Narayan, & Moreland, 1988; Ruth-Sahd, 1997), where experience (Cioffi, 1998a; Cone & Murray, 2002; Fry & Burr, 2001; Gerdtz & Bucknall, 1999; Happell et al., 2002; Pugh, 2002), background knowledge (Considine et al., 2000, 2001; Fry & Burr, 2001; Happell et al., 2002), and intuitive clinical decision-making (Cone & Murray, 2002; Marsden, 1998; Pugh, 2002; Ruth-Sahd, 1997) are integral to 'cutting through' the complexity of the presentations, which may be affected by experiential bias (Arslanian-Engoren, 2000; Considine et al., 2000; Gerdtz & Bucknall, 1999) and/or patient familiarity with the English language (Cioffi, 1998a; Cooke et al., 2000; Gerdtz & Bucknall, 2001).

Triage decisions are characterised by uncertainty (Fry & Burr, 2001, 2002; Gerdtz & Bucknall, 1999), could be based more on rapid assessment of observational data than objective measuring of vital signs (Fry & Burr, 2001; Gerdtz & Bucknall, 2001; Lyneham, 1998), and could also encompass complex considerations (Gerdtz & Bucknall, 2000; Zimmerman, 2002), including knowing which questions to ask (Cone & Murray, 2002; Marsden, 1999), or reading

between the lines (Edwards, 1994; Marsden, 1998). The triage role involves not only nursing assessment and triage code allocation, but also first aid, wound management, medication administration, referral to other services and directing ongoing nursing management of the patient's need for care.

Literature discussing nursing telephone triage covered similar ground to triage nursing, except that the patient is not actually seen physically by the nurse. Nurses visualised the patient (Edwards, 1998b; Marsden, 1998) or developed strategies [such as asking the patient to describe the eye condition from a mirror view (Marsden, 2000)] to gain the least subjective information from patients. Practice experience was recognised as integral to sound triage (Corcoran et al., 1988; Edwards, 1998b; Marsden, 1998; Nauright, Moneyham, & Williamson, 1999), however, protocols were seen as being more useful (Nauright et al., 1999) although again limitations were acknowledged (Arioto & Rutenberg, 2000; Marsden, 1999; Rutenberg, 2000). Whereas the goal of telephone triage has been to refer patients to the appropriate provider in a timely way (Corcoran et al., 1988) the emphasis in some areas has moved to consultation (Nauright et al., 1999) or 'telephone nursing' and even continuity of care for ambulatory oncology services (Wilson & Hubert, 2002). The change in emphasis provides support for the patient to remain in the community and therefore also a change in the frame of reference for nursing prioritisation of the patient need for care in this field of practice.

Specialised practice and nursing prioritisation:

The wider issues of service provision influenced nursing clinical decision-making in the community (e.g. Billings & Cowley, 1995; Cowley, Bergen, Young, & Kavanagh, 2000; Jacoby, 1990; Lauri & Salantera, 1995; Lauri et al., 1997) and also in mental health nursing (Martin, 1999). Services were targeted to specific groups of patients on the basis of access criteria (Cowley et al., 2000; Jacoby, 1990), inferring prioritisation of the patient need for care at the point of access. A taxonomy of needs assessment (Cowley et al., 2000) outlined such criteria, including ideals, types and timing. Urgency of need was discussed in relation to

timeliness, both according to client's perception of need and time as a resource for the client or service. Mediation of conflicting demands required sensitivity and skill of the practitioner, inferring ongoing nursing prioritisation.

Demonstrating use of resources and evidence-based care form part of the rationale for papers looking at the use of decision trees and/or decision analysis for clinical decision-making in mental health nursing. Bonner (2001) ranks a range of outcomes for the client from involuntary hospital admission (worst) to remaining in the community with no further need of treatment (best). The stated outcomes could influence prioritisation of care, i.e. requiring most immediate to least urgent clinical intervention. The decision analysis approach is also used to calculate risk for a specific medication treatment option in community mental health nursing (Monkley-Poole, 1998). The study reported that the multi-disciplinary professionals found it impractical for everyday use, as each patient situation is unique.

Welsh and Lyons (2001) present the case for a holistic approach to clinical decision-making as the basis of empirically testable insights. The case is supported by an exemplar of mental health nursing practice where the nurse did not follow the recommendations of a 'screening tool' (to admit the patient to hospital) in a high-risk situation where the patient had been determined to commit suicide. Using instead, tacit knowledge arising from years of experience and nursing skill, the nurse negotiated a successful treatment plan with the patient and his family. The case presentation demonstrates an inherent shifting of priorities during the nurse-patient interaction. Decisions incorporating the options around risk, admission to hospital, decision trees and trust are weighed and balanced through expert nursing judgment creating an optimal outcome for that patient.

A study of nurses in the community demonstrates discretionary judgment as integral to everyday clinical decision-making. Home health care nurses used different assessment styles depending on the patient's presentation and requirements of the visit (dela-Cruz, 1994). The 'surveying' style was particularly

used during the first home visit to a patient, and included following a structured question list format to complete required documentation. The style is used to plan patient care with fundamentally short-term goals for routine patient care situations. The 'skimming' style was used to manage predetermined maintenance tasks in follow-up visits.

The third clinical decision making style is the sleuthing used by experienced nurses when managing ambiguous, uncertain, complex, ill-defined, and unstructured problems. In these situations there is little agreement regarding either the definition of the problem or the appropriate solution. ... incoming information direct(s) her search ... implicit in the nurse's flexibility is her stored knowledge and practical experience.

(dela-Cruz, 1994, p224)

dela-Cruz notes that experienced nurses switch from one style to another depending on patient situations. In the study, one instance of the skimming style was used when a new patient was added to the nurse's caseload for the day, and although providing a minimal service, it satisfied the purpose of the visit and maintained the higher priorities of the day.

Such changes of style are implied in other studies, and the importance of the first assessment of the patient is emphasised in district nursing (Kennedy, 2002) community nursing (Bryans & McIntosh, 1996) and mental health nursing (Sjostedt, Dahlstrand, Severinsson, & Lutzen, 2001). Fowler (1997) makes the point that nurses often found that post-visit data contained multiple judgments compared to pre-visit data and that most home health nursing situations are unpredictable. Bryans and McIntosh explore community nurses' clinical decision-making during the initial assessment visit, where the nurse may be faced with a range of patient problems from those that are discrete and easily recognisable to those that are hidden and requiring discovery. They note that "the idea of a temporal unfolding of information will be familiar to community nurses, who

view patient assessment as a continuous process rather than a one-off event” (Bryans & McIntosh, 1996, p28).

Crook’s (2001) contention, in a study of on-the-spot decision-making by mental health nurses, that restricting clinical decision-making to the positivist paradigm loses the richness that is clinical decision-making in practice, is reflected in two studies of nursing in palliative care (Dunne, Coates, & Moran, 1997; Kennedy, 1999). While only a few papers on palliative care nursing were selected¹⁴, two distinctive approaches to nursing prioritisation of the patient need for care were found. Dunne, Coates, and Moran (1997) present a structured approach to clinical decision-making in palliative care using the functional health patterns (FHP) of Nursing Diagnosis applied to a case study. The priority aim of the patient’s care was determined to be “to afford her maximum pain relief and to deal with the other areas of dysfunction so that her quality of life can be enhanced” (Dunne et al., 1997, p328). Eleven of the thirteen ‘cues’ (excluding two relating to the patient’s emotional state), identified from statements by the patient relate to bodily functional assessment. Within this framework, prioritisation of patient care relates only to setting priorities for the goal of patient care.

Kennedy (1999) suggests that nurses in palliative care practice study the principles of how decisions are made to improve the quality of decision-making. She indicates that each patient care decision encompasses six areas. Four sets of patient needs (emotional needs, spiritual needs, psychological needs, as well as physical needs), plus service provision issues and ethical issues are incorporated in this holistic approach. Analysis of possible responses to patient questions is also part of the process of clinical decision-making as “the way in which the nurse decides to act may have a profound effect on the quality of care patients receive” (Kennedy, 1999, p143). Discretionary judgments are seen to be integral to clinical decision-making, not only when deciding about the resources required to

¹⁴ Corcoran’s work (1986b; 1986c) has been mentioned in relation to expertise in Chapter 6 and discussed in relation to decision complexity in Chapter 8.

implement a decision, but also for any of the other twenty or more identified decision points. For instance, to respond to a question about when the patient may die, the nurse will be aware that some patients may suffer increased anxiety if given this information, and will draw on a range of knowledge, including personal knowledge and knowledge of the patient, to answer the question specifically for this patient. The emphasis in this approach has moved from functional (bodily) well-being to holistic (peace of mind) well-being. This broader view, supported by the detail, better represents the complexity of clinical decision-making in practice, although Kennedy notes that it is more difficult to present such in-depth analysis of clinical decision-making within the debate surrounding evidence-based practice. In contrast to the FHP case study, where prioritisation of tasks and patient care is related only to the goal of patient care, in this broader view, prioritisation of the patient need for care is integral not only to the goal, but also to how the goal is achieved.

Although resource constraints are a factor in clinical decision-making in non-hospital settings, the inference from the selected studies is that the main focus of nursing prioritisation in these settings is around maintaining the patient safely within their home environment. Nurses prioritise and reprioritise the patient level of need through ongoing assessment during home visits and here again, in the study of nursing in community mental health, a life-threatening situation provides a key exemplar of expert nurse prioritisation of the patient need for care.

Contextual and environmental factors affecting nursing prioritisation:

Resource constraints and time available are factors of the immediate context of practice that may be beyond the control of the nurse, but will affect nursing prioritisation. In Canada, nurse decision-making was reviewed across settings to promote best nursing practice (Royle et al., 2000). Patient characteristics, including acuity, nurses' knowledge of the patient, complexity of the task and the environment were all seen as factors influencing this process. Available time,

amount of resources, prioritisation in relation to other activities as well as the urgency of the situation, consideration of patient preferences and nurses' gut feeling about the situation were among the 60 items listed as considerations of each nursing decision.

Time management was addressed as a subject in its own right (Brown & Wilson, 1987), and also as integral to the prioritisation of nursing care (Hendry, 2001). Hendry studied this both in clinical simulations and in the clinical setting, where frequent interruptions, experience, critical thinking, the ability to delegate and priority setting strategies were also seen as affecting nurse decisions. Situations where there was not enough time to complete basic nursing care created stress for nurses (e.g. Casey, 1997; Jacobsson, Lindholm, Engstrom, & Norberg, 2001). Casey points out that while nurses may have the skills to give care to a high standard, best practice becomes impractical if there is not enough time to do what is needed. Delegation of some tasks to those with lesser skills is a way of managing some of the workload, but consideration needs to be given to appropriateness of the task delegated and supervision of outcomes (Conger, 1993, 1994).

Nursing is also not exempt from the effects of the rapid adoption of healthcare technologies combined with increasing economic constraints, which lead to nurses 'doing more with less' and affect expert practice (Pelletier et al., 2000). Cronqvist, Theorell, Burns, and Lutzen (2001) show the dichotomy that this creates for nurses with a study researching the effects of such 'dissonant imperatives' on nurses' efforts to deliver professional levels of nursing care.

This dissonance appears to reflect the wider context of the delivery of healthcare where explicit rationing decisions may need to be made (Dawson & Runk, 2000; Fredelius, Sandell, & Lindqvist, 2002; Pelletier et al., 1999; Rodney & Varcoe, 2001). As indicated in the previous section discussing studies of community based nursing and mental health nursing, the need to make decisions based on evidence is a feature of the literature, and guidelines are recommended (McArthur

& Dickinson, 1999). But a dichotomy between the values of nursing and the values of the overall delivery system is highlighted in an evaluation of the QALY¹⁵ model, where the authors present the case that the model does not take into consideration “the nursing care obligation concerning the protection of human dignity and sensitivity to the situation and person involved” (Jacobsson et al., 2001, p299). Rodney and Varcoe draw attention to the likelihood that economic evaluation of nursing practice would not account for the invisible costs of nurses working at 110% capacity, skipping meal breaks or staying overtime in “a race against the clock to complete their required tasks” (Rodney & Varcoe, 2001, p44).

The wider context of healthcare delivery (i.e. changing employment conditions, budget cuts, increasing patient acuity and patient turnover) provides a background to O'Connell's (1998; 2000) work, which highlights the complex environment of nursing practice in the acute setting. The nurses in O'Connell's study “felt personally and professionally compromised” (O'Connell, 1998, p29) as a result of working under difficult conditions. Nurses were able to work through obscurity and uncertainty to enable care by pooling and combining information, checking information, sustaining communication, adapting work practices, taking control, using a prompting mechanism and “organising the doctors” (O'Connell, 2000, p36). Constraints such as these may create competition or even conflict between various patient needs for care. Working through the uncertainty in such situations infers nursing prioritisation and reprioritisation of the patient need for care within these constraints.

A further environmental influence in nurse decision-making is the multi-disciplinary approach to patient care, and a tension between autonomy and collaboration is apparent in the literature. Decision task autonomy had a positive association with task satisfaction (Bucknall & Thomas, 1996), but could involve

¹⁵ QALY stands for Quality Adjusted Life Years and is a statistical entity comprising a number of factors, used for measuring the maximisation of healthcare delivery (Jacobsson et al., 2001).

difficulties with medical staff (Bucknall & Thomas, 1997). A study of incongruence between professional autonomy and hospital employment found that nurses selected responses that were based on patients' needs rather than hospital policies and physician orders, and also that experienced nurses were expected to take the initiative when a crisis occurred (Holl, 1996). However, an ethnographic study of the social context of critical care judgment found that nurses and doctors worked together in an informal way to discuss and make decisions about patient care (Chase, 1995). Although sometimes there was conflict, the two parallel hierarchies (nurse and physician) allowed for checks on judgment, while communication rituals (such as shift report and doctor's rounds) provided a context for group involvement in the critique on judgment processes. Multi-disciplinary conflicts should be resolved on clinical grounds of what is best for the patient (Taylor, 2002b) and care (seen as characteristic of nursing) and cure (seen as characteristic of medicine) are points on a continuum which should be used by all health professionals "to the benefit of the patient, their family and indeed the population, in partnership and collaboration" (Baumann, Deber, Silverman, & Mallette, 1998, p1044).

Frame of reference and nursing prioritisation:

The studies reviewed in this chapter indicate that while nurses may have an equivalent starting point on graduation, an increase in specific skills is required to be able to practice safely in specialised areas. For instance, non-verbal assessment skills are a paramount requirement in neo-natal care (Fuller & Conner, 1997). Long-term practice in one area will therefore enhance clinical decision-making strengths relative to that field of practice, and these may be acknowledged as nursing expertise and nursing intuition.

Within the acute setting matters of life and death are recognised as having the first priority and papers on critical care nursing often focus on 'code' situations where the patient requires full multi-disciplinary team intervention to maintain life as the crux of clinical decision-making. Less immediate patient needs are sometimes referred to, but remain more within the tacit knowledge of nursing. Triage nursing

not only identifies Triage 1 categories which are life threatening situations, but also, at the level of Triage 4 and 5 or where returning patients to GP care, may act as a 'gatekeeper' to acute services. Use of triage guidelines based on mainly physiological criteria assists in maintaining objectivity in these decisions, but studies show that there is most variation in assignment of triage category at the less urgent level of patient need.

Awareness of resource constraints and the need to demonstrate evidence-based practice feature in nurse decision-making outside the acute setting. The changing frame of reference for the different areas of specialised practice affects what sort of patient care is prioritised through the discretionary judgment of the nurse, but each aims to maintain patients in the community with minimal assistance. While the specialised knowledge for each area of practice also affects how nurses prioritise patient care, nurse decisions made in life-threatening situations are described in the most detail.

Across all settings, in daily nursing practice, the three main contextual influences on nurse decision-making and therefore also nursing prioritisation, are time as a resource, resource constraints and multidisciplinary interaction. These create challenges for nurses to continue to meet the patient need for care.

Summary:

The changing frame of reference in different practice settings implies reframing of nursing prioritisation to meet the aims of the patient need for care in each field. The patient need for care may relate to extremely technological procedures such as weaning from a ventilator, through access to acute services, to support for continued independence in the community, or providing support for patients' choices at the end of life. The three different styles of assessment within home health nursing described by dela Cruz (1994) indicate ways that nurses home in on what is important for the patient, and whether described as 'trading off' or weighing and balancing, nurse discretionary judgment is the key feature in all settings for successful management of the ongoing nursing assessment and

prioritisation of patient need. Although nursing prioritisation in life and death situations is more frequently discussed in the literature, it is evident that nurses prioritise the patient need for care in relation to less acute patient needs as an integral part of everyday nursing clinical decision-making. Such nursing prioritisation takes place concurrently between the competing or even conflicting needs of several individual patient presentations within the nurse's caseload.

Studies discussing the content of nursing decisions are reviewed in the following chapter.

CHAPTER 8: NURSING PRACTICE – CLINICAL DECISION-MAKING CONTENT AND NURSING PRIORITISATION

This chapter discusses findings on various intrinsic aspects of clinical decision-making in practice. Nursing prioritisation can be inferred from the emphasis on what is important to nurses and/or nursing. While life and death or crisis situations are often used to explain key aspects of nursing clinical decision-making, particular emphases on nursing prioritisation of patient need for care are demonstrated through nurses' choice of subjects for further study. For instance, within the selected literature, there were 24 papers on the nursing management of patient pain. These are a sample of a significant body of nursing literature, from which it is possible to infer the importance of this subject to nursing. This aspect of nursing prioritisation is discussed in the first section of this chapter.

The primary phase of decision-making is the perception and gathering of information needed to make a decision. During nursing assessment however, the tacit knowledge of nursing incorporates factors and variables that influence which information nurses pay attention to first and these are integral to nursing prioritisation. During nursing assessment, nurses need to be able to prioritise between relevant and less relevant information for each patient instance. This is discussed in the second section.

Complexity of decision-making is also discussed within the literature. Guidelines, protocols and decision trees may be used to assist in managing such complexity by highlighting key relevant knowledge required for a particular decision. The third and fourth sections discuss the relevance of these generic aspects of clinical decision-making to nursing prioritisation.

Many studies also refer to the need for ongoing assessment and reassessment by the nurse. This implies prioritisation and reprioritisation of decision-making

throughout the nurse-patient interaction, so that there is often no one final decision, but an ongoing working through of the issues incorporating feedback throughout the process. This is discussed in the fifth section.

Nursing prioritisation according to the concerns of nursing:

The choice of subject for study is an indication of patient needs that nurses regard as important, and that will influence prioritisation of the patient need for care. While choices may be affected by the clinical decision-making frame of reference in different practice settings, the subject of nursing management of patient pain (e.g. Bird & Wallis, 2002; Corcoran, 1986b, 1986c; Field, 1996; Fuller & Conner, 1997; Guyton-Simmons & Ehrmin, 1994; Hammond, Kelly et al., 1966a, 1966b; Jacavone & Dostal, 1992; Stannard et al., 1996; Tayler & McLeod, 2001; Willson, 2000) crosses such potential boundaries. Inherent in this focus is the emphasis given to the subject in the classroom. As one of the students reported in the analysis of medical and nursing faculty and students knowledge of and attitudes to pain management: “[Pain management] is always involved in every lecture. Even when we did respiratory there was always, ‘how do you make a patient more comfortable’” (Lasch et al., 2002, p63). Such an emphasis creates a primary focus for clinical decision-making in practice, putting achieving patient comfort at or near the top of nursing priorities.

A closer examination of this subject within the selected literature draws forth a mosaic of detail which points to nursing prioritisation within decisions. The original research on clinical decision-making by Hammond, Kelly and colleagues (1966; 1966a; 1966b; 1967) began by looking at nurse clinical decision-making as a research topic and found that the range of decisions that nurses made in the course of a shift were too numerous, and involved too wide a variety of complex cognitive tasks, to be suitable for a research study. Refinement of the topic, acknowledging that nursing decisions about patient pain was also too complex a topic to be suitable for a single research study, eventually focused on nursing

decisions about patient pain following abdominal surgery. They found that nurses carried out at least 17 different actions (implying a wide range of cognitive activity) in response to such pain, only one of which was the administration of analgesia. This was the most common response, but was used for less than half the total cases. This indicates that even when something is a nursing priority, there are multiple possible responses to choose from. How nurses might work through such options addressing both patient comfort and anxiety is presented by Guyton-Simmons and Ehrmin (1994) who point out that 'being with' the patient may also be therapeutic: "“sometimes all you have to do is hold their hand”" (Guyton-Simmons & Ehrmin, 1994, p41).

Studies of administration of analgesia (Di-Giulio & Crow, 1997; Field, 1996; Willson, 2000) indicate that further considerations are involved within this specific response. Di-Giulio and Crow found that nurses appear to collect more information on and from the patient and also more information on symptoms other than pain than doctors. Field found that "while nurses claim to rely on patient's self reports of pain, the most influential factors ... are the dosage, type and frequency of drug prescribed" (Field, 1996, p838). Willson's ethnographic multiple-case study analysed factors which influence nurse clinical decision-making in practice for administration of analgesia following repair of fractured hip. As with the early studies, this case scenario was chosen in that it would provide a comparatively consistent presentation for the study. The existing clinical pathway also outlined relatively predictable expectations for patient recovery.

Influential factors for analgesia administration were found to be: "time, organisation of care, influence of shift worked, impact of the multi-disciplinary team, concerns over the use of opioid analgesia and information giving and collection ... with the factor of time providing a tension between all influences" (Willson, 2000, p1145). Nurses considered the condition uncomplicated and predictable and were influenced by organisational 'goals' (of discharging the patient within 14 days and discontinuing opioids within 48hrs). Verbal and non-

verbal cues were used to assess patients and ‘knowing’ the patient facilitated this assessment. Nurses also “considered trading off pain relief for a more alert patient able to participate in rehabilitation” (Willson, 2000, p1152).

The inference is that within this specific response for one particular patient need there is not only a range of options for this response, but also a variety of influences that will affect nursing prioritisation. Furthermore, once a response option has been chosen, further choices need to be made as to level of intervention for this response. The level of intervention may include negotiation with the patient to support increasing patient activity and regaining of independence. The final judgment for an apparently uncomplicated decision to administer a specific amount of analgesia involves a combination of nursing assessment, discretionary judgment, negotiation with the patient and actual administration of the analgesia according to clinical protocol.

Prioritisation in nursing assessment:

Specific patient needs including pain and discomfort are identified during nursing assessment. According to the CINAHL (WebSPIRS 5, 2000) definition, nursing assessment identifies the needs, preferences and abilities of the patient. Identification of patient need implies prioritisation and choice in the patient concerns to which the nurse pays attention in this initial interaction. Junnola, Eriksson, Salanterä, and Lauri (2002) point out that “unless nurses have access to relevant information about the patient or unless they know how to obtain and prioritise that information, they will not be able to make key decisions about nursing care and to draw up a nursing plan” (Junnola et al., 2002, p187). Such identification is not usually explicitly acknowledged but is an implicit and historical understanding. For instance, a study of intensive care units refers to watchful vigilance and infers an implicit prioritisation of patient care in the American Civil War through grouping of patients according to likelihood of survival (Fairman, 1992). Nursing assessment has developed from Florence Nightingale’s admonition for nurses to have the ‘habit of observation’ through ‘diagnostic monitoring’ to the physical assessment skills necessary for

independent practice (Richardson, 1997). Richardson's emphasis on 'knowing the patient' is not included in Anderson's (1998) comprehensive overview of diagnostic reasoning to improve such advanced physical assessments. However, neither Richardson nor Anderson mentions nursing prioritisation.

Crow Chase and Lamond's (1995) analysis of the literature for cognitive strategies used in nursing assessment concluded that nursing assessment and medical diagnosis appear to be distinct processes "probably leading to the development of distinctive cognitive expertise" (Crow et al., 1995, p211). They found that nursing assessment is based on domain-specific knowledge structures where the gathering and organisation of information is directed by some internally driven search process, and that nurses use some sort of procedural rule for synthesising the information. Prioritisation of nursing care was also referred to as in: "severity was considered to be the important dimension because it was thought to have the greatest impact on the type and amount of nursing care the patient required" (Crow et al., 1995, p210-1). Nursing assessment was found to be a predictive judgment whose purpose was to provide an accurate picture of the patient's current state, and this was also found to be reviewed frequently inferring the dynamic nature of such assessment.

Lamond's (2000) study on the information content of the change of shift report indicates that there are more than 90 items of information that nurses could consider relevant when handing over patient care to the nurse on the next shift¹⁶. Comparison with the patient notes showed that not all items are reported in both the handover and the patient notes, and that while most items are recorded more frequently in the notes than reported in handover, "it appears that certain information within the report situation is communicated orally rather than written

¹⁶ Similar detailed itemisations of specific information for each instance have been described for factors determining patient care in the acute setting (O'Connell, 1998), nursing assessment of infant pain (Fuller & Conner, 1997), palliative care (Kennedy, 1999), and nurse decision making across settings (Royle et al., 2000).

down, often in a particular sequence” (Lamond, 2000, p803). No procedural rule for prioritisation of the patient need for care was identified.

Hardey, Payne, and Coleman (2000) found that the ‘scraps’ of paper used by nurses to notate relevant information about the patient from handover could range from ‘to do’ lists to complex record systems often only able to be understood by the individual author. The nurses who wrote them saw them as dynamic and easily up-dated, improving the perceived inadequacies of ward documentation. As nurses often deferred the completion of ward documentation to the end of the shift, the ‘scraps’ provided an important check for nurses that “they had addressed the needs of their patients and remembered relevant information that may need to be communicated in handovers [reflecting] a broader prioritisation of body-centred care” (Hardey et al., 2000, p213). In both these studies, the inference is that nurses noted what was important, thus ensuring that patient needs were met both during the course of the shift and also on hand over to the nurses on the next shift, but no explicit prioritisation of the patient need for care was described.

Nurses also accessed information from the patient, patient documentation and miscellaneous other sources (families and the healthcare team in particular) as well as handover (Taylor, 2002a). Other studies (e.g. Corcoran-Perry & Graves, 1990; King & MacLeod Clark, 2002; Rew, 1988; Tanner et al., 1986) point out that nurses also actively seek ‘supplemental’ information from a variety of sources to enhance or reinforce clinical decision-making. This could include institution and procedure specific information (Corcoran-Perry & Graves, 1990), or further non-specific information to validate concerns (King & MacLeod Clark, 2002; Rew, 1988). Peer review and peer discussion were also seen as useful support for clinical decision-making (e.g. Brykczynski, 1998; Chase, 1995; Cioffi, 2000a; Ellis, 1997; King & MacLeod Clark, 2002; Marsden, 1998).

Hedberg and Larsson (2003) report that in observing patients and selecting information for decision-making, nurses considered cues indicating a serious biomedical problem involving the patient’s health status ahead of psycho-social

related cues. “Not until the nurse was able to dismiss her suspicion that the patient might have a heart condition did she consider other problems, which the cues identified might indicate” (Hedberg & Larsson, 2003, p218). Sometimes a ‘snap judgment’ could be required as with a proficient nurse’s first check when assessing a patient in a surgical ward – “does he look shocked or in discomfort?” (King & MacLeod Clark, 2002, p326). This brief phrase infers not only which patient needs take priority for nursing assessment in this practice setting but also awareness of the need for potential reprioritisation of patient needs.

Complexity in clinical decision-making:

Large amounts of detailed information imply complexity requiring nursing prioritisation. However, several studies looked specifically at the complexity of nursing decisions (e.g. Aitken, 2000; Boblin-Cummings, Baumann, & Deber, 1999; Cioffi & Markham, 1997; Corcoran, 1986b; Corcoran, 1986c; Hammond, Kelly et al., 1966a; Higuchi & Donald, 2002; Hughes & Young, 1990; Lewis, 1997; Taylor, 2000b; Watson, 1994). Complexity is evident in the concept mapping of the interrelationships between the multiple factors for consideration in pulmonary artery pressure monitoring in advanced intensive care nursing practice (Aitken, 2000). However, both complexity and tacit knowledge can be inferred from the decisions that nurses see as “‘common sense’ or ‘automatic’” (Watson, 1994, p355) in daily clinical practice. Nurses were unable to explain the rationale for ‘trivial’ decisions such as hand-washing or bed-linen changes, and these were excluded from Watson’s study. However, such actions can greatly affect patient care outcomes (Gawande, 2004) and patient comfort, and also contribute to the detail and thus complexity of decisions made by nurses. Other studies found that factors that were extraneous to the clinical decision, such as the complexity and uncertainty of the environment, could also increase the complexity of decision-making (O’Connell, 2000). An inverse relationship between decision consistency and task complexity has been found where consistency decreased with increased complexity (Hughes & Young, 1990).

Over time increasingly sophisticated criteria have been used to describe decision complexity. In one of the earliest studies done on nurse decision-making, Hammond et al. (1966) recorded nurse decision-making over a 24hr collection period and learned that “the number of decision making incidents was much larger and the kinds of decisions much more varied than anticipated” (Hammond, Kelly et al., 1966a, p136). Corcoran’s criteria for complexity were “the number of pain related problems presented by the patient in the case, the interrelation of the pain related problems and the extent to which hospice protocols for pain control could be applied to the case” (Corcoran, 1986c, p108). Watson studied complex decisions incorporating the following characteristics:

1. miscellaneous medical and nursing diagnoses frequently met by nurses in the care of ill adults;
2. properties of the situation that are thought to influence diagnostic reasoning strategies, including the complexity of the diagnosis and complexity of cues and cue-diagnosis relationships; and
3. multiple possible outcomes available to the situation.

(Watson, 1994, p355)

Although not specifically described as complexity, ‘multiple possible outcomes’ create and infer increased complexity of decision-making.

Cioffi and Markham’s (1997) study of clinical decision-making in midwives¹⁷ related complexity to work done on uncertainty, defining high complexity as involving “relationships between the signs and symptoms that were not easily predictable, and [where] there was a reduced level of relevant information” (Cioffi & Markham, 1997, p267). The high complexity case study was defined in only three words: ‘ante-partum haemorrhage’. The inference of the high risk inherent for both mother and child in this life-threatening situation is immediately obvious to all clinicians. Prioritisation of care for this patient presentation takes immediate precedence over other patient concerns.

¹⁷ The Cioffi and Markham (1997) study was included in the selection as, although focusing on clinical decision making by midwives, it is also frequently used as a reference in the nursing literature selected for this study.

Hopkins' (2001) educational piece on the psychological aspects of wound healing refers to various authors in discussing the need for understanding endurance, coping mechanisms, pain, guilt, altered body image, depression and supporting relatives to promote better nurse decision-making in caring for patients recovering from major trauma. Each variable is an option to consider when making decisions for this presentation and may be given different emphases or weightings for an individual patient (e.g. Kennedy, 1999; Rolfe, 1997). Such variables are a natural part of the inherent knowledge used by nurses to make clinical decisions and affects each decision where relevant. Keeping 'up to date' and aware of good practice in all these areas requires time and effort, for which a summary such as Hopkins' is a really useful educational resource.

A more comprehensive list of variables for complex decisions would include multiple clinical variables and contextual factors as discussed previously, as well as the psychological aspects mentioned above. However, it can be seen that, while complexity was defined in an early study simply as 'many and varied' incidents, the term came to include consideration of the interrelationship of 'cue-diagnosis variables', then that multiple possible outcomes were available, and eventually also decisions that are made with a lesser amount of relevant information. In managing such complexity, nursing prioritisation of the patient need for care becomes the key nursing skill for making the choice as to which aspect of the decision is currently the most important.

Guidelines, protocols, decision trees and nursing prioritisation:

Protocols and decision trees have been developed for a variety of reasons including being used as a way of navigating or learning to navigate complexity. Protocols on hand-washing, medication administration or epidural infusion management, such as that discussed by Bird and Wallis (2002), outline a range of organisationally required skill sets that affect practice decisions. Most studies on

protocols are outside the scope of the searched literature, but the studies found on wound care nursing in particular have a strong emphasis on decision trees (e.g. Beitz & van-Rijswijk, 1999; Letourneau & Jensen, 1998; Melchior-MacDougall & Lander, 1995; Nunnelee, 1996). Such standards appear to make it simpler to study outcomes of clinical decision-making, with, for instance, Ainsworth and Wilson (1994) presenting decision trees as a method of ensuring clinical decision-making accountability. This relationship between decision trees and accountability also underpins studies on mental health nursing (Monkley-Poole, 1998), community nursing (Bonner, 2001) and palliative care nursing (Corcoran, 1986a)¹⁸. Other studies (e.g. Prowse & Lyne, 2000) taking a broader view of accountability to such standards have been excluded from this study.

The papers on clinical decision-making in wound care nursing found decision trees useful adjuncts to providing good patient care. Letourneau and Jensen (1998) followed up on Melchior-MacDougall and Lander's (1995) study and found that nurses who used the wound care decision tree had better outcomes than those who did not. But the percentages for better outcomes were between the 50% and 75%, (i.e. indicating only that this is more likely to happen rather than an explicitly predictable outcome). Nunnelee (1996) outlines specific clinical indicators for normal and abnormal decision points on a patho-flow diagram for arterial leg ulcers. These indicate quite specific priorities, but although specific, the recommendations are for the practitioner to not be constrained to these alone.

Beitz and van-Rijswijk (1999) reviewed wound care algorithms for content validity and found that while definitions were not standardised, wound care experts generally responded positively to the algorithms, but believed that their options were sometimes restricted. The experts also indicated that "things might be different for different patients [and that] their use of intuition and allowance of variability when making decisions was most apparent when considering a deep, full-thickness wound with compromised surrounding skin" (Beitz & van-Rijswijk,

¹⁸ This is discussed in Chapter 7.

1999, p245). This suggests that even where there is an aspect of nurse decision-making that is amenable to decision tree and/or algorithms to provide standardised practice solutions, not all eventualities can be foreseen and/or catered for, particularly in complex situations where expert knowledge is available. The algorithms were seen as a useful guide for those who were new to the area, but may not need to be followed too closely by an expert nurse, as a final decision in a complex situation would depend on the circumstances.

This finding was similar to Pugh's (2002) view of protocols (or guidelines) for flight nurses, Greenwood et al.'s (2000) discussion of neo-natal unit routines, and was also Harris's (2001) key finding in a review of the literature on weaning from mechanical ventilation. In relating the literature to nursing practice, Harris saw that the nurse's role in weaning was both art and science and found that the literature placed little emphasis on subjectively assessed cues that may affect success or failure of weaning. She pointed out that objective signs were notoriously late in presenting and recommended that methods other than protocols be followed for difficult to wean patients when expert knowledge was available.

Triage nursing assessment is also based on triage categories and protocols, but these are about grouping multiple potentially complex assessments in an urgent situation, rather than a formal outline of a decision-making process. However, the physiological discriminators for the Australasian Triage Scale indicate a descending scale of urgency relating to prioritisation (Considine et al., 2002). The discriminators are grouped from life threatening conditions in level 1 to level 5 conditions that could be managed by general practitioners rather than in emergency departments. But even within this simple classification there can be variation in assessment particularly within less urgent categories (e.g. Cioffi, 1998a; Considine et al., 2000, 2001; Gerdtz & Bucknall, 2001), indicating the inherent difference between comparatively straightforward grouping of clinical indicators and clinical practice. Issues around achieving improved consistency for such decisions were discussed in relation to education (e.g. Cioffi, 1999; Wilkinson, 1999; Zimmerman, 2002) and skill level (e.g. Considine et al., 2001;

Gerdtz & Bucknall, 2000; Ruth-Sahd, 1997). Triage clinical decision-making is also discussed in Chapter 7.

Protocols and decision trees can be found at different levels from decision specific (wound care), through environment specific (protocol books in hospital wards) to advanced practice situations (flight nursing or critical care). Such guidelines are a useful way of outlining the information a nurse may be expected to 'pay attention to' and take into consideration when making a decision. However, the use of protocols and guidelines can also undermine nurses' discretionary judgment in choosing between options (e.g. Arioto & Rutenberg, 2000; Rutenberg, 2000). Many studies pointed out that nursing expertise places less reliance on protocols and that judgment at this skill level depends more on specialised assessment of the actual patient situation.

Ongoing assessment and discretionary judgment:

Changing patient circumstances also require ongoing nursing assessment and revision of judgment as further information comes to the attention of the nurse (e.g. Guyton-Simmons & Ehrmin, 1994; Jacavone & Dostal, 1992). Both ongoing assessment and discretionary judgment are touched on in many instances in the selected literature. Many references are made to the 'chunking' of information into manageable amounts (e.g. Corcoran, 1986b; Corcoran, 1986c; Ferrario, 2003; Fonteyn, 1998; Greenwood & King, 1995; Offredy, 2002; Reischman & Yarandi, 2002; Ryan-Wenger & Lee, 1997; Westfall et al., 1986)¹⁹. This would imply that key information is prioritised and retained in the short-term memory, while less immediately relevant information may be discarded, 'put on hold' or perhaps stored for later use. Others refer to the ongoing or temporal nature of nursing assessment (e.g. Bryans & McIntosh, 1996; Chase, 1995; Cioffi, 2000a, 2000b; Offredy, 1998; Peden-McAlpine, 1999, 2000; Redden & Wotton, 2001; Stannard et al., 1996) indicating the continuous nature of practical clinical decision-making in nursing, which also, naturally, involves continuing prioritisation and

¹⁹ This approach is based on Miller's (1956) work which showed that short term memory can only hold seven (plus or minus two) pieces of information at one time.

reprioritisation of the patient need for care. Various aspects of such discretionary judgment are discussed by many (e.g. Beitz & van-Rijswijk, 1999; Brykczynski, 1999; Bucknall, 2000; Chase, 1995; Jacavone & Dostal, 1992; Kennedy, 1999; Rolfe, 1997; Stannard et al., 1996), and this may sometimes be referred to as ‘trading off’ (e.g. Boblin-Cummings et al., 1999; Willson, 2000).

Ongoing nursing assessment, discretionary judgment and revision of clinical judgment are very clearly described in Jacavone and Dostal’s (1992) narrative study of a life-threatening patient situation. Nuances of discretionary judgment have also been described within one everyday example of nursing prioritisation (Rolfe, 1997). Rolfe’s exploration of expertise describes preparation of a patient for surgery, where the nurse weighs the patient’s pre-operative anxiety with previous knowledge²⁰ and decides to ‘titrate’ the amount of information given to the patient to meet their specific need. This ‘weighing’ and ‘titrating’ is integral to the everyday clinical decision-making of nurses, and is indicative of the ongoing prioritisation that takes place throughout the nurse-patient interaction. The example, as Rolfe points out, is “to attempt to illustrate how they *already* (*sic*) do practice” (Rolfe, 1997, p1074).

Trade-offs in nursing prioritisation of patient care take place not only within a decision but can also be inferred between types of nursing decision. Brykczynski’s (1998) study further develops the seven domains of skilled practice first identified by Benner (1984/2000). Within the listed domains and competencies, it can be inferred that nursing prioritisation takes place between a range of nursing decisions as an integral part of daily practice. For instance, some examples (in no particular order) of competencies from a table of domains and competencies in the study:

²⁰ The nurse’s previous experiential knowledge was that while it is preferable to give patients full information about surgery to enhance post-operative recovery, too much detail may make anxious patients more so and may increase both post-operative awareness of pain and recovery time (Rolfe, 1997).

Negotiating agreement about how to proceed when priorities of patient and provider conflict...

Timing: capturing a patient's readiness to learn...

Coping with staff shortages and high turnover – contingency planning...

Assessing what can safely be omitted from or added to medical orders...

Identifying and managing a patient crisis until physician assistance is available...

Creating a wound management strategy that fosters healing...

Maximising patient participation and control ...

Interpreting kinds of pain and selecting appropriate strategies for pain management and pain control...

Anticipating problems: future think.

(Brykczynski, 1998, p354)

These examples (by no means Brykczynski's complete listing) give an indication of the many aspects of daily nurse decision-making requiring weighing and balancing of options, timing and urgency to choose precedence among imperatives. The study outlines the nature of practical clinical decision-making in nursing, inferring continuing prioritisation and reprioritisation of a "constellation of complex decisions" (Boblin-Cummings et al., 1999, p7).

Making choices among the imperatives:

The literature shows the complexity of nurse decision-making within the areas of concern to nurses. Looking at nursing assessment as the starting point of the nurse-patient interaction, it is possible to identify some of the myriad of detail that informs nurse decision-making. The clinical information of the nursing texts has become inherent nursing knowledge and the discussions now refer to this only briefly as it is used in a variety of combinations and applications to meet the particular patient need for care.

The complexity of specific concerns of nursing for one type of nursing decision are perhaps best illustrated by Aitken's (2000) concept mapping in critical care.

However, everyday nursing decisions also involve similar complexity. It is not possible to completely disregard environmental influences such as the multi-disciplinary team or resource and time constraints, but it is apparent that nursing decisions about the patient need for care are specific to nursing. However, as the comparison of the several studies on guidelines for wound care show, the use of such protocols is equivocal and in more complex situations, final decisions will still depend on the particular circumstances.

The ongoing nature of nursing assessment amid complexity highlights the iterative nature of nursing clinical decision-making. This indicates that the use of a sequential model of clinical decision-making such as the five step nursing process is unlikely to effectively represent the dynamics of the nurse-patient interaction, except perhaps in the broadest sense where evaluation and feedback are also incorporated in the ongoing reprioritisation and decision-making. Nursing prioritisation of the patient need for care occurs not only in relation to the concerns that the nurse initially sees as important but is also ongoing throughout the unfolding situation.

Discretionary judgment throughout the nurse-patient interaction implies the ability to determine the relative importance of available options, but there is no identifiable rationale for nursing prioritisation of the patient need for care once life-threatening situations have been addressed. Where discussed at all, as in a text on critical thinking (Rubenfeld & Scheffer, 2000), the general principles identified for setting priorities are that immediately life threatening issues take precedence, then patient safety issues, then patient identified priorities, and finally nurse identified priorities. These may also be the underlying principles of nursing prioritisation, but this is not formally discussed. There is formal discussion of discretionary judgment as an advanced skill of decision-making, and also considering options, making choices and learning to perceive or identify relevant clinical problems. However, no rationale for nursing prioritisation of the patient need for care is described in the selected literature, nor is this able to be inferred from the discussions.

Summary:

Overall the literature reviewed in this chapter indicates that nurse clinical decision-making involves both management of complex situations and complex interpersonal interactions, and that the whole is much more than the sum of the parts. Guidelines and protocols can be used to reduce complexity through identification of key features and decision points, but the complexity of nursing clinical decision-making should not be constrained or limited by fixed rules. Ongoing assessment and discretionary judgment are needed to manage complexity, uncertainty and individual patient responses in unfolding situations. Confidence with discretionary judgment is evidently a feature of expert nursing. However, while general principles are mentioned, the rationale for nursing prioritisation of the patient need for care remains within the tacit knowledge of nursing.

The following chapter reviews the language nurses use to describe clinical decision-making in the literature, and looks at the conceptual framing of this usage.

CHAPTER 9: *DISCUSSING CLINICAL DECISION-MAKING AND NURSING PRIORITISATION*

This chapter outlines the key terms and language used by nurses to discuss clinical decision-making that are relevant to nursing prioritisation. The words that most clearly describe or infer nursing prioritisation of the patient need for care are sought from among formal terms, nursing language and plain English descriptions of how nursing decisions are made. The relationship of the language and terms to the theoretical framings used to discuss clinical decision-making in nursing is also outlined. This review aims to discern which approach most readily supports understanding of the tacit knowledge of nursing prioritisation.

Identifying priorities amid complexity:

As outlined in the previous chapters, interactions (including initial assessment at the time of first interaction) between nurse and patient require the nurse to potentially review an extremely extensive range of information. Factors relevant to clinical decision-making include service constraints and practice setting, as well as complexity of patient presentation and multiple options for nursing intervention. To be able to quickly choose one or other appropriate option among the many is the key to effective prioritisation of nursing care. The literature uses a variety of terminology to describe how a nurse may pay attention to key information. Cue or cues is the most frequently used term for such information (e.g. Cioffi, 2000b; Di-Giulio & Crow, 1997; Ferrario, 2003; Fuller & Conner, 1997; Greenwood & King, 1995; Hedberg & Larsson, 2003; Itano, 1989; Lamond & Farnell, 1998; Pyles & Stern, 1991; Redden & Wotton, 2001; Reischman & Yarandi, 2002; Tanner et al., 1986; Taylor, 1997; Watson, 1994; Wright & Neill, 2001). Other studies refer to concepts (Aitken, 2000), ‘critical noticing’ (Eillis, 1997), ‘triggering cues’ (Dowding, 2001), ‘forceful features’ (e.g. Lamond, 2000; Redden & Wotton, 2001), ‘red flags’ (e.g. Burman et al., 2002; Cone & Murray, 2002), or ‘salient features’ (e.g. Cioffi, 2001b; Lamond, 2000; Radwin, 1998).

Another frequently used term is 'hypothesis' (e.g. Corcoran et al., 1988; Di-Giulio & Crow, 1997; Ellis, 1997; Lyneham, 1998; Offredy, 1998; Redden & Wotton, 2001; Szaflarski, 1997; Tanner et al., 1986; Taylor, 2000b; Watson, 1994; Westfall et al., 1986). This term can be used to describe not only the 'problem' presenting in the cue information but also an idea about which nursing intervention should be carried out to address this problem. A working hypothesis, or a number of working hypotheses (e.g. Szaflarski, 1997), may be used to describe an initial solution to the presenting problem, and may be revised as new information becomes available. Such 'supplemental information' (e.g. Corcoran-Perry & Graves, 1990; Di-Giulio & Crow, 1997; Ellis, 1997; Tanner et al., 1986) may be gathered from sources other than the patient or patient record, such as peers and colleagues, family of the patient (e.g. Taylor, 2002a), diagnostic tests (e.g. Szaflarski, 1997) or may result from an initial trial of the hypothesis in practice (e.g. Rolfe, 1998a). Discretionary judgment in knowing where to go and what to look for arises from nursing prioritisation. Other ways of describing this process are generating alternatives (Corcoran, 1986b) or a goal directed process (Ellis, 1997).

Pattern recognition, heuristics and schema:

Pattern recognition is a commonly used term (e.g. Benner & Tanner, 1987; Gruber & Benner, 1989; Harris, 2001; Kennedy, 2002; Offredy, 1998; Redden & Wotton, 2001; Ritter, 2003), and also forms the basis of the Functional Health Patterns in Nursing Diagnosis (e.g. Dunne et al., 1997). The term acknowledges that patient concerns may present through a combination or series of several cues. The widespread nature of this understanding is emphasised by the use of phrases such as 'pattern of pain' (Guyton-Simmons & Ehrmin, 1994), 'pattern matching' (Burman et al., 2002), 'patterning' (Aitken, 2000), recognition processes (Bryans & McIntosh, 1996), patterns and configurations (Radwin, 1998), and is also inferred from 'sense of salience' (Benner & Tanner, 1987). Nurses also referred to the 'predictable nature' (Willson, 2000) of some situations, categorisation (Crow & Spicer, 1995), cognitive prototypes (Fowler, 1997), cognitive schema (Tabak et al., 1996), sets (Benner, 1984/2000; Brykczynski, 1999) and global sets

(Benner, 1983). Pattern recognition could derive from “past experience of similar circumstances” (Sjostrom, Dahlgren, & Haljamae, 2000, p116), while variation in expected patterns led to recognition that a patient is “not quite right” (Cioffi, 2000a, p113), “just not right” (Cioffi, 2000b, p267) or “not as expected” (Minick & Harvey, 2003, p294).

Further understanding of patterns in clinical decision-making has been developed through studies of heuristic decision-making. Some saw heuristics as the basis of the clinical decision-making process where different types of knowledge group are activated from memory (e.g. Burman et al., 2002; Cioffi, 1998a, 2001b; Cioffi & Markham, 1997; Ferrario, 2003), others as a way of describing an aspect of clinical decision-making as a ‘rule of thumb’ (e.g. Conway, 1998; Taylor, 1997). Schema and schema theory were also referred to when discussing sets of information used in clinical decision-making (e.g. Dowding, 2001; Lamond, 2000; Offredy, 2002), while Greenwood (2000) also refers to action schema and schemata (which represent an individual’s procedural knowledge and what to do) as ‘scripts’.

Referring to nurses’ management of the uncertainty inherent in complex decision-making, Cioffi (2001b) outlines three heuristic decision-making strategies: the ‘representativeness’ heuristic accesses prior probabilities based on personal experiences or knowledge from memory; the ‘availability’ heuristic accesses probabilities affected by recency, vividness, and salience; and the ‘anchoring and adjustment’ heuristic accesses an anchor point from experience and knowledge and makes adjustments based on additional information. This analysis describes nurses’ personal knowledge development, and may well be another way of describing Benner’s (1983) ‘global sets’, accrued over time, developed by nurses about patients²¹. Such heuristics explain some detail of the ways that nurses’ previous experience may support present-day prioritisation.

²¹ Sets have been defined “as a predisposition to act in a certain way in particular situations ... sets can sometimes be uncovered, though they can never be made completely explicit” (Benner, 1983, p40)

Nursing language and prioritisation:

Some phrases used in the literature are nursing-specific, though nursing prioritisation is also described in plain language. Nursing experience and domain-specific knowledge (e.g. Cioffi, 1998a; Cone & Murray, 2002; Marsden, 1998; Pugh, 2002) are seen as integral to being able to identify key patient concerns. Domain-specific knowledge is seen as important in more structured approaches to the triage of psychiatric patients (Happell et al., 2002), cue utilisation (Reischman & Yarandi, 2002), and the use of intuition in making clinical nursing judgments (Polge, 1995).

Knowing the patient (e.g. Currey & Worrall-Carter, 2001; Danerek & Dykes, 2001; Jenny & Logan, 1992; Liaschenko, 1997; Redden & Wotton, 2001; Wilson & Hubert, 2002), background knowledge (e.g. Brykczynski, 1999; Hams, 2000), tacit knowledge (e.g. Hams, 2000; Marsden, 1999; Welsh & Lyons, 2001), nursing gestalt (Benner & Wrubel, 1982; Pyles & Stern, 1991), and connoisseurship (Benner, 1983, 1984/2000; Jacavone & Dostal, 1992) also contribute to ready identification of patient concerns. This language may be used in everyday practice, as also are salient features and a sense of salience as mentioned in the previous sections.

Such knowing was seen to develop over time, featuring temporal unfolding (Peden-McAlpine, 1999) or temporal understanding (Peden-McAlpine & Clark, 2002), and involved thinking in action (e.g. Benner, Stannard et al., 1996; Peden-McAlpine, 2000), requiring a highly developed sense of practical wisdom (Oberle & Allen, 2001), which could also be described as embodied knowledge (Brykczynski, 1998), or embodied intelligence (Minick & Harvey, 2003). However, intuition is effectively the nursing language used to describe or infer patient concerns requiring nurses' priority attention (e.g. Arries et al., 2001; Benner, 1984/2000; Benner & Tanner, 1987; Benner et al., 1992; Benner & Wrubel, 1982; Gruber & Benner, 1989; Jacavone & Dostal, 1992; Peden-McAlpine, 2000; Ruth-Sahd, 1997).

Nursing understanding couched in plain everyday language also effectively describes nursing prioritisation. Discretionary judgment (e.g. Beitz & van-Rijswijk, 1999; Chase, 1995; Stannard et al., 1996) and trading-off (e.g. Boblin-Cummings et al., 1999; Willson, 2000) both provide this inference. Benner's (1984/2000) seminal work simply states that the defining characteristic of expertise is the ability to "perceive(s) the situation as a whole, use(s) past concrete situation as paradigms, and move(s) to the accurate region of the problem without wasteful consideration of a large number of irrelevant options" (Benner, 1984/2000, p3). The ability to adapt to changing outcomes is also mentioned, and 'effective management of rapidly changing situations' is identified as one of seven domains of expert nursing practice in acute care settings (Benner, 1983). The nursing prioritisation portrayed in the exemplars is about juggling and sorting multiple patient needs and requests, and is defined by Benner as "the advanced skill of judging the relative importance of different aspects of the situation" (Benner, 1984/2000, p24).

Conceptual framing of the various discussions:

The variation in terms and language used to describe nursing prioritisation derives from differences in conceptual approach to both the understanding and the study of nursing clinical decision-making but terminology is not a consistent indicator of conceptual framing. Use of the terms 'cues' and 'hypotheses' predominates in the analytical or rationalistic approach to discussion of clinical decision-making, but many other studies use this terminology as part of general descriptions of clinical decision-making. Four main approaches to the study of clinical decision-making have been identified (Tanner, 1998), but a variety of other approaches are able to be identified in the literature and these are further underpinned by a variety of philosophical approaches. The CINAHL definition of Clinical Decision Making as using both analytical and intuitive processes (WebSPIRS 5, 2000) reflects the discussions within the literature.

Discussions of clinical decision-making in nursing follow a trajectory from the analysis of the specifics of each step of the decision-making process (e.g. Narayan & Corcoran-Perry, 1997; Narayan, Corcoran-Perry, Drew, Hoyman, & Lewis, 2003), to intuitive gestalt (e.g. Benner & Wrubel, 1982; Pyles & Stern, 1991) where expert clinical decision-making is seen as grasp of the situation combined with action. This spectrum encompasses a wide range of approaches including grouping of the specifics of clinical decision-making in heuristics rather than steps (e.g. Cioffi, 1997; Cioffi & Markham, 1997; Wilson & Hubert, 2002) and attempts to provide an analytical basis for intuition (e.g. Miller, 1993; Rew, Agor, Emery, & Harper, 2000). Individual scholars, sometimes working in collaboration with like-minded colleagues, are more likely to follow one approach than another, and development of nursing scholarship on clinical decision-making over several decades is shown in an increasing sophistication and refinement of discussion.

Giving a comprehensive review of the field of clinical judgment in relation to evidence-based practice, Tanner (1998) identifies “four major theoretical perspectives [that] have informed most of the research on clinical judgment in nursing” (Tanner, 1998, p20). In the first perspective, decision-making as choice under uncertainty views the clinician as an informal statistician. In the second perspective, problem solving behaviour as an interaction between the problem solver and a task environment views the clinician as an imperfect information processing system. The third perspective incorporates several philosophical approaches and views the clinician as a fully situated interpreter of meaning. The fourth perspective deriving from the Nursing Process, where the clinician is viewed as a scientific problem solver and critical thinker, has perhaps the widest implicit acknowledgment in the background understanding of nursing.

Work continues to develop knowledge in all four approaches and it is sometimes difficult to distinguish between approaches in the increasing sophistication of the discussion. The early work on Nursing Process in the problem solving approach has been developed into texts on diagnostic reasoning (e.g. Carnevali, Mitchell, Woods, & Tanner, 1984; Carnevali & Thomas, 1993), clinical reasoning (Higgs,

Burn, & Jones, 2001; Higgs & Jones, 2000), and *Thinking Strategies for Nursing Practice* (Fonteyn, 1998). However, Fonteyn's work has developed the problem solving approach to include not only setting priorities as a formal approach to describing clinical decision-making in nursing practice, but also eleven other thinking strategies including pattern recognition, making choices, generating hypotheses, stating propositions and asserting practice rules. Practice rules, described as truisms and maxims²², appear to be similar to the heuristics and rules of thumb discussed earlier in this chapter. Here again, there is no blanket rule for all situations and Fonteyn goes on to recommend review and validation of such maxims rather than non-critical acceptance. While various aspects of nurse thinking for decision-making are now more specifically identified, attempting to understand and practise all twelve strategies may increase decision-making complexity for nurses in practice.

The work in the clinician as statistician perspective now extends to work on line of reasoning decision analysis (Corcoran, 1986a; Corcoran-Perry, Narayan, & Cochrane, 1999; Narayan & Corcoran-Perry, 1997; Narayan et al., 2003). Inherent in the weighting of probability of best outcomes for a decision is that nursing prioritisation is taking place, but this relates to specific decision points rather than the principles underlying the decision. This work is being done in collaboration with development of decision support systems and differentiates from the recent work on heuristics, which also relates to the statistical perspective. O'Neill and colleagues have taken O'Neill's early work on heuristics (e.g. O'Neill, 1995), proposed a longitudinal framework for fostering critical thinking and diagnostic reasoning (O'Neill & Dluhy, 1997), and have now developed a model of novice clinical reasoning for computerised decision support (O'Neill, Dluhy, & Chin, 2005). However, in a series of research studies, Cioffi (1997) refers to cognitive psychology to relate an heuristic framework to intuitive clinical decision-making, proposing this interpretation as a partial explanation of

²² Reference is made to Benner's (1984/2000) definition of a maxim as deriving from the 'wealth of untapped knowledge' embedded in the practice and know how of expert nurses (Fonteyn, 1998, p72).

intuition. This understanding is first put forward in a study of clinical decision-making in managing case complexity (Cioffi & Markham, 1997) and is followed through with several further studies (Cioffi, 1998a, 2000a, 2000b, 2001b), and development of educational strategies (Cioffi, 1998b, 1999, 2001a).

At a more conceptual level, Effken (2001) discusses intuition in relation to the underlying assumptions about perception within an ecological psychology framework and suggests that intuition could be termed direct perception. The perceptual aspect of the art of nursing is explored further by Johnson (1996) who finds that perceptions are not necessarily accurate and may need to be verified, and suggests further exploration of these limitations. However, she also notes, despite this finding, that “nurses must possess the ability to grasp the significance of particular patient cues and behaviours” (Johnson, 1996, p320), inferring that nursing prioritisation of the patient need for care does indeed take place through knowledgeable perception.

Many other studies do not specifically follow an identifiable approach. Some studies are progressed through discussion of practice situations, others through interview and yet others through descriptive narrative or practice exemplar without necessarily aligning with a particular conceptual framing. While the nuances of decision-making in practice are most readily seen in nurses’ plain language descriptions, an alternative true-to-practice reasoning approach, that of abduction complemented by ‘fuzzy logic’ (Rolfe, 1997), is proposed as the primary clinical decision-making process rather than deduction. Abduction is a form of logic that starts with the conclusion and works back to the premise, as in determining how much pre-operative education a particular patient needs. Rolfe explains that fuzzy logic proposes that the weighting given to any choice is a matter of degree, rather than an either/or solution, and suggests that this is a more current way of articulating expertise. To my mind this thinking strategy reflects nurse discretionary judgment for particular patient instances.

Benner's (1984/2000) model of novice to expert skill acquisition for nursing practice moves beyond clinical decision-making as process steps to study clinical decision-making in practice. The model is based on the work by Dreyfus and Dreyfus (1986) and the Heideggerian notion of experience as "refinement of preconceived notions and theory through encounters with many actual and practical situations that add nuances or shades of difference to theory" (Benner, 1984/2000, p36). However Benner makes the point that such experience-based skill acquisition should rest upon a sound educational basis, and also points out that the discretionary judgment used in actual clinical situations in the study transcends the limits of formal rules.

In this approach, the emphasis is on understanding the value of perceptual awareness to develop skilled clinical knowledge (Benner & Wrubel, 1982). Further work by Benner Tanner and Chesla (1996; 1997) presents the case that nursing knowledge is socially constructed and that storytelling between colleagues can pool clinical wisdom and technological knowledge. This work is further developed into a "Thinking-in-action" approach to teaching clinical judgment to advanced practice nurses (Benner, Stannard et al., 1996) based on exemplars from practice, some from a major research study, some from the course participants. Five central issues, named as being typically excluded from classic approaches, are taught:

1. Learning to perceive or identify relevant clinical problems
2. Learning to address the limits of formalism by situating clinical problem solving according to the most relevant goals and intents
3. Learning to reason in transition about the particular clinical situation
4. Learning the ethical skill of problem engagement and interpersonal involvement, and
5. Learning to take a stand as a responsible agent by making clinical judgments, acting on them, and advocating for the patients/family.

(Benner, Stannard et al., 1996, p70)

The first three are about choices: prioritisation and/or ongoing reprioritisation of the patient need for care. The research behind this work has been published as a potential textbook and interactive learning program (Benner, Hooper-Kyriakidis, & Stannard, 1999), and provides a model for the development of further experiential learning programs.

When the selected literature was grouped according to the four perspectives (Tanner, 1998) it was apparent that this did indeed cover much of the discussion, though several alternative approaches to the study of nurse clinical decision-making could be identified in more recent work. Some studies discussed either a combination or a comparison of one or more perspectives, a further number discussed decision-making in nursing practice without identifying a theoretical perspective, and a number discussed decision-making in more general terms. Table 13 indicates the number of papers in each of the various perspectives.

Perspective	No of papers
Problem solving *	76
Information processing *	66
Interpretive *	55
Combination	37
Nursing practice	32
Clinician as statistician *	30
Comparison	18
Triage	17
Alternative model	14
General discussion	116
Total	461

Table 13: Theoretical perspectives identified in the selected literature²³.

²³ A further 25 papers selected at the beginning of the study were deemed peripheral to the topic and are not included in this analysis. Asterisks identify the four acknowledged perspectives

Key perspectives of knowledge development within nursing have been highlighted in this section but alternative paths are also indicated as nurses endeavour to understand and describe the complexity that is clinical decision-making in nursing practice. However, there is no conceptual discussion of the principles of nursing prioritisation of the patient need for care.

Dialogue, debate and synthesis:

The variation in conceptual approach has created dialogue and debate within the profession. Distinctive emphases according to nationality are also apparent. The increased emphasis on a rationalistic approach in some countries may be due to the selection criteria, or it may be that professional debate has developed in different ways in different countries²⁴. Discussions within the American literature either align more readily with the analytical paradigm or come from a qualitative research approach that aims to explore the wider aspects of nurse decision-making. Several studies (all from countries outside the USA) provide overviews of the conceptual approaches to clinical decision-making, helping to make these accessible to a wider readership (e.g. Greenwood, 1998; Harbison, 1991; Moore, 1996; Ruland, 1996). Variations in understanding however, are apparent within these summaries. For instance, Moore and Harbison group conceptual approaches as rationalistic (analysis leads to choice) and phenomenological (action precedes thought); Ruland and Greenwood group approaches into descriptive (information processing and skills acquisition, i.e. both rationalistic and ‘phenomenological’ approaches) and prescriptive (decision analysis).

Discussion can also focus on one or other end of the continuum. Sarvimaki and Stenbock-Hult (1996) find intuition a problematic form of nursing knowledge and use a three level framework of practical, empirical and philosophical knowledge to explain the different and sometimes opposing ways intuition is described in the

²⁴ For instance, within the selected writings the rationalistic approach to clinical decision making in nursing appears prevalent in Hong Kong (e.g. Leung et al., 2001; Wang, Lo, Chen, Hsieh, & Ku, 2002; Wong, 1995; Wong & Chung, 2002) while no studies or discussions on the process of clinical decision making were retrieved from the New Zealand nursing literature.

literature. Intuition is also seen as *falsae memoriae* (Lamond & Thompson, 2000), and Benner's approach has been critiqued by a number of writers (e.g. Cash, 1995; Edwards, 2001; English, 1993; Padgett, 2000; Paley, 2002). Toward the other end of the continuum, Taylor's (2000b) review of the literature on clinical problem solving covers decision theory (including Brunswik's lens model), Bayes' theorem on probabilities, utility theory, information processing theory, and a general model of problem solving. However, the paper's rationalistic approach makes no attempt to locate the review in the wider field of the literature. An earlier paper by Jones (1988) reviews rationalist approaches in relation to nursing diagnosis and expert (decision support) systems.

While discussion and debate inform the literature in a more general sense, Muir's (2004) summary of the varying approaches as analytical or intuitive is specifically to be used as a basis for reflecting on practice to gain a certificate of learning. The summary mentions the cognitive continuum (Hamm, 1988), and refers to intuition both as 'understanding without rationale' and also as use of heuristics based on experience and pattern recognition. More comprehensive overviews of the field, but with a particular focus on the understanding within nursing in the USA, are provided by Tanner (1987; 1989; 1993; 1998).

A debate between Thompson (1999; 2001) and Harbison (2001) reviews the 'middle ground' based on the decision-making continuum proposed by Hamm (1988)²⁵. Thompson groups approaches to clinical decision-making in the systematic-positivist stance and the intuitive-humanist stance, but sees that neither offer "a unitary theory able to reconcile the apparently different worlds of normative theory and clinical reality" (Thompson, 1999, p1227). He supports the continuum as a relevant approach to developing evidence-based nurse decision making with explicit balancing of patient preference, clinical expertise, available resources and best quality research evidence.

²⁵ Hamm's (1988) continuum is based on a psychological framework earlier outlined by Hammond and encompasses both analytical and intuitive decision-making depending on task complexity and skill level.

Taking a unifying approach and working with concepts from another discipline, Buckingham and Adams (2000a; 2000b) propose a comprehensive realignment of nursing constructs of clinical decision-making with the general model of psychological classification. At the point where scholars theorise the thought processes used in clinical decision-making, it seems appropriate to refer to work in other disciplines which study these in depth. A limitation of presenting such a wide-ranging review in only two papers is that a considerable amount of work must be simplified to be included, or bypassed altogether. Buckingham and Adams address four main concepts in clinical decision-making: the hypothetico-deductive model (including probabilities), thinking strategies including clinical reasoning as a spiral process, pattern recognition and heuristics (as a basis for intuition). These terms are related as appropriate to the classification model and new insights into clinical decision-making processes are explained. Weighting of information and that choices are made throughout are implicit in the model, and also the commonalities of cognition that are central to comprehension of a general system of decision-making. According to the model, outcomes of all decisions can be grouped according to three levels of priority, though all groupings through the various levels of the model are 'fuzzy' to some extent. The authors suggest that such a system, applicable both to other professions and decision-making in general, reduces factionalism and could break down barriers created by terminology.

Words, terms and language:

Nurses use a wide range of words and terms to discuss clinical decision-making, both in practice and in the literature. The terms "cues" and "hypotheses" have a fairly common usage, but are not necessarily used in conjunction with a rationalistic approach to the understanding of clinical decision-making. Where the rationalistic approach is emphasised, there is a loss of richness in the descriptions [compare especially Dunne, Coates, and Moran (1997) with Kennedy (1999) on palliative care, and Szaflarki (1997) with Jacovone and Dostal (1992) or Stannard et al. (1996) on critical care], and the finer points of nurses' discretionary

judgment are not evident. There is also a common understanding that pattern recognition is a key component of the nursing assessment required to make a decision. However, refinement in understanding of such patterns can also be described as heuristics, rules of thumb, maxims and/or practice rules. Inferences of nursing prioritisation can be drawn from the usage of such terms, through the acknowledgment of options for consideration, but these do not indicate the relative importance of the options.

Throughout the research each paper was notated in the database according to the terms specified in Table 12 at the end of Chapter 4. Nursing prioritisation of the patient need for care could be referred to as a discussion point within the study, could be mentioned in passing, or could be inferred from the study content and context of nurse descriptions of clinical decision-making. In that the concept ‘priority setting’ creates the initial understanding of nursing prioritisation, reference to this has been included in the ‘mentioned’ grouping unless this was accompanied by discussion. Table 14 shows the incidence of the topic according to the research interest arena as identified at the beginning of this research (see Table 11, Chapter 4).

Research Arena	Discussed	Mentioned	Implied	Not mentioned	Total
Practice	15	38	102	38	193
Education	8	20	24	28	80
Both	4	2	13	5	24
Theory/concept	4	6	31	57	98
Discussion	1	2	19	36	58
Other	2	2	3	1	8
Total	34	70	192	165	461

Table 14: Nursing prioritisation of the patient need for care according to research interest.

This summary was then grouped according to the theoretical perspectives identified earlier in this chapter. It was apparent that while the tacit knowledge of nursing prioritisation of the patient need for care is discernible throughout the literature, it is more readily acknowledged in discussions within the interpretive perspective, or where nursing practice is described in plain language. Table 15 indicates the various perspectives of the studies and the numbers in each group where prioritisation of the patient need for care was discerned. This is compared as a percentage to the total in each group.

Perspective	No of papers	Discerned	%
Interpretive *	55	55	100%
Nursing practice	32	30	94%
Triage	17	14	82%
Alternative model	14	10	71%
Information processing *	66	46	70%
Clinician as statistician *	30	19	63%
Combination	37	22	59%
Comparison	18	10	56%
Problem solving *	76	40	53%
General discussion	116	50	43%
Total	461	296	64%

Table 15: Incidence of the thesis topic according to theoretical perspective.

It is apparent that there is a significant body of work describing and discussing clinical decision-making in nursing, in relation to both nursing education and nursing practice. This is characterised by diversity in language and also in theoretical perspective as nurses endeavour to describe the complexity that is nurse decision-making. Nursing prioritisation of the patient need for care is most readily identified as the choice of imperatives among options in the plain language of everyday nursing practice. For instance, to paraphrase Benner (1984/2000), direct grasp of the situation without wasteful consideration of

irrelevant options and the ability to manage in rapidly changing situations is a description of effective nursing prioritisation in action.

Summary:

This chapter has reviewed the terms and language used to describe and discuss nursing clinical decision-making, from which inferences about nursing prioritisation can be drawn. There are many different approaches to discussing and understanding nursing clinical decision-making. The variety and interchangeability of the terms suggests that no single approach is able to reflect the wider understanding within the profession, or be identified as the preferred way to describe nurse clinical decision-making. The tacit knowledge of nursing prioritisation of the patient need for care can better be understood from the plain language of everyday nursing practice, rather than through formal and/or conceptual discussions within the literature.

Nursing prioritisation is effectively defined by Benner as “the advanced skill of judging the relative importance of different aspects of the situation” (Benner, 1984/2000, p24). However, conceptual discussion of such decision-making is not apparent in the selected literature.

The next chapter outlines the key considerations of this study and of the wider aspects of the field that influence both the way nursing prioritisation is understood and the outcomes of this study.

CHAPTER 10: DISCUSSION

Inferences of the tacit knowledge of nursing prioritisation of the patient need for care have been drawn from close examination of the nursing literature, more especially from specific descriptions of decisions made in practice. However, although some of the selected papers were not specifically relevant to the development of this insight, review of all papers selected through the search strategy gave a sense of the wider field of the study of clinical decision-making in nursing. This chapter considers the relevance of the selected literature to this research.

Discerning nursing prioritisation of the patient need for care:

Reviewing the selected literature through the five themes apparent in the selection has shown that large amounts of clinically relevant information are assimilated according to practice frame of reference against the background knowledge established in nursing undergraduate education. Detail and complexity are prioritised with increasing confidence as nursing expertise develops and such nursing prioritisation of the patient need for care is integral to daily nursing practice.

The process of nursing prioritisation commences during the initial nursing assessment of patient need and while initial choices are made, these are reprioritised as the situation changes and new imperatives come to the fore. Discretionary judgment and ongoing reassessment are the key discussion points highlighting this process in the selected literature. Everyday phrases such as “just not right”, “not quite right”, “not as expected” and “trading off” indicate the innate understanding of this process. Though no doubt improvement in patient situations also warrants reassessment and reprioritisation. Different styles of nursing assessment such as surveying, skimming and sleuthing (dela-Cruz, 1994) also imply that nursing prioritisation takes place in different ways. Surveying provides an initial assessment of a patient situation, identifying what needs

nursing attention. Skimming updates this assessment and infers that when the situation is “not as expected” alternative priorities are determined, while sleuthing indicates that more in-depth investigational assessment is taking place where the situation is uncertain and there is potential harm for the patient. Implied within this language is that the nurse knows what to pay attention to, what should happen to improve the situation and also knows what to do next.

This understanding differentiates between nursing prioritisation of the patient need for care, setting priorities and time management. Nursing prioritisation is effectively defined by Benner as “the advanced skill of judging the relative importance of different aspects of the situation” (Benner, 1984/2000, p24), and relates to the ongoing assessment and discretionary judgment used by nurses both during the interaction with a particular patient and also concurrently with the many other responsibilities, including nursing care of other patients, which may be competing for the nurse’s attention. Initial setting of priorities at the start of the nurse-patient interaction or working period is usually overridden by later arriving imperatives which may eventually impinge on the time available in the working day. As this happens, the useful skill of time management will assist in the nursing management of more rather than less nursing imperatives. However, from the nursing point of view, choosing which patient-related imperative requires more immediate attention is the key to achieving optimal nursing care within dynamic situations. It is apparent within the literature that nurses address this concern as an integral aspect of clinical decision-making.

The enormous range of clinical information outlined in initial nursing texts is mediated somewhat by the limitation of a practice situation, where for example, paediatric or surgical or community nursing is practised. However, as the literature indicates, within each specified frame of reference there is a further extensive range of specific clinical information and practice know-how to be mastered before nursing prioritisation can be practised effectively. Furthermore, service related goals such as early discharge affect nurse decision-making within the hospital setting, while for nurses in the community the goal may be for the

patient to remain safely in the community. For nurses in palliative care decision-making is affected by the need for the patient to have the major say in how the situation is managed rather than preserve life. However, while life threatening situations and thus admission for treatment are readily identified by triage nurses through a triage scale, triage decisions for lesser priority patient presentations are shown to be less clear-cut (see Chapter 7). There are also no specific prioritisation criteria identified within the selected literature for any of the many and varied imperatives of daily nursing practice. It may be that these areas of decision-making cover so many grey areas that it is not possible to be specific, however, nurses do manage to effectively prioritise the patient need for care within such complexity in many different settings. It may be possible to discern such prioritisation in studies of the nurse-patient interaction, which were excluded from the selection criteria, but it is also likely the amount of detail within these situations may be overwhelming unless a rationale for nurse decision-making can be understood.

The reasons why nurses might emphasise a particular priority are even less able to be identified, although inferences were able to be drawn from concerns that nurses saw worthy of in-depth study such as nursing management of patient pain. Glimpses of nursing values were also seen through some of the direct quotes as to what matters to nurses (e.g. Casey, 1997; Jacobsson et al., 2001) However, once again, in excluding literature on ethical decision-making from the selection criteria, this aspect of clinical decision-making was unlikely to be addressed in this study.

The main clinical criteria that can be identified both in nursing texts and in the literature, where such situations are often used to illustrate nurse decision-making, are that life threatening situations take priority. A modern text noted the nurse's obligation to negotiate with the patient to determine priorities for nursing care and this emphasis on valuing patient involvement in clinical decisions is borne out in

the literature, for example where scholars refer to ‘knowing the patient’²⁶. However the principles of nursing prioritisation remain unclear, although no doubt similar to those proposed in the literature (e.g. Hendry, 2001; Rubenfeld & Scheffer, 2000) for setting priorities, but dynamic and ongoing throughout the nurse-patient interaction. It is apparent that once life-threatening imperatives have been addressed, the priorities for other decisions of lesser urgency are much less clear-cut. ‘Concerns for patient safety and/or well-being’ provides an extremely broad umbrella-term to cover this aspect of nursing prioritisation, and is the tacit knowledge implied as the nurse’s contribution to ‘negotiation’ with the patient. Furthermore, as well as clinical decision-making, other types of nurse decision-making (e.g. Brykczynski, 1998, see Chapter 8) also affect nursing prioritisation of the patient need for care. There is no one right answer for all patient situations, as the ‘right answer’ for a particular patient instance is unlikely to be the ‘right answer’ for another [see also Peden-McAlpine and Clark (2002), as discussed in Chapter 6]. This difference is increased by the trade-offs within the discretionary judgment required for a particular patient instance.

It is evident in the selected literature that nursing prioritisation of the patient need for care is a skill that is developed in practice over time with experiential learning. For novice nurses this skill is best fostered through preceptorship programs, while role modelling is acknowledged as a key learning experience for nurses in the various practice areas. Educators and researchers note the difficulty in creating true-to-practice simulations for both teaching of and research on nurse decision-making. Studies in the interpretive perspective and teaching through experiential learning appear to offer the best depiction of the complexity that is clinical decision-making in nursing. The selected literature also provided insights into the wider picture of clinical decision-making in nursing. These insights are summarised in the following sections.

²⁶ The emphasis on the patient need for care in this study has skirted around such knowing, although the CINAHL definition of nursing assessment encompasses patient preferences and abilities as well as patient need (WebSPIRS 5, 2000). These create further patient specific variations for each decision.

Development of understanding within nursing:

The development of nursing knowledge on clinical decision-making shows in the increasing refinement of definition and different ways of describing clinical decision-making. Cross-fertilisation within this evolution is apparent in the referencing of discussions to previous work. Both evolution and influence are perhaps best seen through a focus on the work of Christine Tanner, which has often been achieved in collaboration with other scholars. Tanner refers to the personal nature of knowledge development in one of several overviews (Tanner, 1986, 1987, 1993, 1998) of the relationship between research on and education for clinical decision-making, where “the limitations of the rational models became increasingly clear [as] they simply could not capture some of the important aspects of skilled nursing performance” (Tanner, 1993, p16). This understanding is borne out through research and published work from as early as 1977. Tanner’s (1977) doctoral dissertation focused on the effect of hypothesis generation as an instructional method on the diagnostic processes of nursing students. Further discussion of the problem solving approach can be found as two contributing chapters (Tanner, 1984a, 1984b) to an early text on diagnostic reasoning in nursing (Carnevali et al., 1984), that is frequently (42 references) referred to in the selected literature. Further work with Westfall, Padrick and Putzier (Padrick, Tanner, Putzier, & Westfall, 1987; Putzier, Padrick, Westfall, & Tanner, 1985; Tanner et al., 1986; Westfall et al., 1986) has also been a major influence in the field, particularly the latter two papers (referred to in 83 and 42 papers respectively). However, work from the next stage where Tanner collaborates with Benner and others (Benner & Tanner, 1987; Benner et al., 1992; Benner, Tanner et al., 1996; Benner et al., 1997; Tanner, Benner, Chesla, & Gordon, 1993) on intuition in clinical judgment (Benner & Tanner, 1987) (107 references) and the phenomenology of knowing the patient (Tanner et al., 1993) (34 references) is at least as influential if not more so. Further developments within the profession are reflected in several editorial opinions (Tanner, 1994, 1996, 1997, 2000) that explore the case for critical thinking as a way forward from Nursing Process.

Frequently referenced sources were recorded for 350 studies. Almost 70 of the selected papers were referred to in more than 10 studies, while 43 were referred to in more than 20 studies. The maximum number of such references was 33 papers, though 88 studies used more than 11 of these references, and a further 110 used more than 5. Twenty-eight such sources were referred to in more than 30 studies, 23 from within nursing, and a further 5 from other disciplines. The main nursing reference points for the nursing studies selected in this research are identified in Table 16.

Study	Citations
From Novice to Expert (Benner, 1984/2000)	182
Clinical judgment: how expert nurses use intuition (Benner & Tanner, 1987)	107
Diagnostic reasoning strategies of nurses and nursing students (Tanner et al., 1986)	83
Tanner's work on clinical judgment in research and education (Tanner, 1986, 1987, 1989, 1993)	72
Either or both of Corcoran's research studies from 1986 (Corcoran, 1986b, 1986c)	69
Skilled clinical knowledge: the value of perceptual awareness (Benner & Wrubel, 1982)	52

Table 16: Key influences within nursing scholarship.

It is evident that Benner's (1984/2000) work has overwhelming resonance within the field, no matter which perspective is used to study nurse clinical decision-making. The book is referred to in 69% of the studies that used more than 5 of the 70 key references, while the Benner and Tanner (1987) paper is next in 45% of these writings

Influences from other disciplines:

Study of clinical decision-making in nursing does not exist in isolation, but has been and is influenced by work in other disciplines such as medicine (e.g. Elstein, Shulman, & Sprafka, 1978). Further references are made to work debating cognitive science (e.g. Dreyfus, 1999), or discussing cognitive psychology (e.g.

Anderson, 1993; Hammond, 1966; Miller, 1956), psychology (e.g. Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 1973), and the social sciences (e.g. Polanyi, 1958, 1967; Schon, 1983). It is worth noting that Elstein et al.'s (1978) key work on medical problem solving in clinical decision-making states at the outset that the several doctoral studies that were completed in this project focus on the analytical perspective of clinical decision-making as this is easier to research. The book introduction also acknowledges the much wider arena of clinical decision-making that was not covered. A later reader in clinical decision-making (Dowie & Elstein, 1988) incorporates a considerably wider approach to clinical decision-making with the inclusion of work on reflection-in-action (Schon, 1988), clinical intuition and the cognitive continuum (Hamm, 1988), a theory of clinical expertise (Kassirer, Kuipers, & Gorry, 1988), and a chapter on the psychology of clinical reasoning (Elstein & Bordage, 1988). These have become key reference points for nurse scholars engaged in the study of clinical decision-making. An emphasis of this reader is on the uncertain nature of clinical decision-making, including whether or not uncertainty is disclosed to the patient (Katz, 1988). The continuing development of thought in the area is highlighted in Elstein's recent collaboration with others (Hicks, Merritt, & Elstein, 2003) on critical thinking in critical care that also acknowledges the intuitive nature of clinical decision-making in nursing.

The referencing database provided the information in Table 17 on key influences from other disciplines: Works by these authors were referred to in more than 30 of the selected nursing studies of clinical decision making in nursing.

Study	Citations
The work of Dreyfus and Dreyfus (e.g. Dreyfus et al., 1986)	66
Medical problem solving (Elstein et al., 1978)	61
The work of Newell and Simon on Human Problem Solving (e.g. Newell & Simon, 1972)	58
Schon's work on the reflective practitioner (Schon, 1983, 1988)	42

Table 17: Four key influences from other disciplines.

Although the discipline now has a significant body of work on the study of clinical decision-making, it is an interesting observation that the nursing literature continues to reference some quite early work from other disciplines. Some scholars develop these concepts further within nursing. For instance, Cioffi (1999; 2001a) has applied her research on the use of heuristics in nursing to the development of simulations for nursing education. Schon's (1983) work on reflecting on practice and thinking in action continues to be hugely influential where the emphasis on the study of clinical decision-making is around effective daily practice of nursing, and this has led to further work in nursing by Johns and colleagues (Freshwater & Johns, 1998; Johns, 1995a, 1995b, 1999) on reflective practice. The "thinking in action" (Benner, Stannard et al., 1996) learning program has also no doubt been influenced by this work but takes an uniquely nursing approach to create further nursing knowledge.

Other studies reference early works from other disciplines merely to underline discussion points for the particular perspective of the study, when work exists within the nursing literature that would also meet the need. A further consideration is that work in other disciplines has also developed over time and if nursing continues to refer to external influences it would be prudent to review current work in the area. And if, as *per* the CINAHL thesaurus (WebSPIRS 5, 2000) and the large amount of nursing research done on cognitive strategies, clinical decision-making is a subset of thinking and cognition, it would seem reasonable to consider recent work in this field. Claxton's (1997) overview of recent developments in understanding how we think acknowledges the place of the subconscious or 'undermind' contribution to knowledge development. This is posited as a contrast and complement to deliberative thinking in 'd-mode' and is seen to be the foundation of wisdom and creative thinking. Such tacit knowledge may be learnt by osmosis through everyday activity as the individual responds to and learns to negotiate the environment. Similar understandings are inherent in the nursing literature, as nurse scholars endeavour to fully describe and understand clinical decision-making in nursing.

Before further diversity is created, and given the body of knowledge that now exists on clinical decision-making in nursing, it may be useful to acknowledge the range of approaches in this work through a unifying framework such as suggested by Buckingham and Adams (2000a; 2000b, see Chapter 9). The proposed general model of psychological classification incorporating three general levels of prioritisation would seem to be best able to acknowledge the integral place of nursing prioritisation of the patient need for care in nurse clinical decision-making. A further reason to develop an inclusive approach is that international perspectives on clinical decision-making in nursing do not necessarily align with main body of work. That, to date, has mainly been done in the USA.

International perspectives and nursing prioritisation:

Internationally there is greater diversity in approach to the understanding and study of clinical decision-making in nursing, yet inferences around nursing prioritisation of the patient need for care can be drawn from the discussions. Nursing practice in the United Kingdom has been deeply influenced by the Roper-Logan-Tierney Model of nursing (Roper, Logan, & Tierney, 1996). Popularised in a series of articles in 1983 (Roper, Logan, & Tierney, 1983a, 1983b, 1983c, 1983d, 1983e, 1983f) the model comprises five components²⁷ and builds on the Nursing Process as discussed in the USA theoretical literature. Individualisation of nursing care is integral to the model and priorities amongst the twelve Activities of Living (*sic*) that form the basis of the model are seen to change according to circumstance and relevance. The Patient Centred Care model (Faulkener, 1996), is also based on the nursing process, but the patient vignettes throughout the book clearly illustrate nursing prioritisation and in particular negotiation of ‘tradeoffs’ with the patient (e.g. Faulkener, 1996, p132).

Nurse decision-making in Canada was reviewed by Royle et al. (2000) as part of the Province Wide Nursing Project. While no models of nursing are mentioned,

²⁷ The five components are: Activities of Living (ALs), Life span, Dependence/Independence continuum, Factors influencing the ALs and Individualisation of nursing care to meet the patient’s individuality in living (adapted from Roper et al., 1996, p293)

clinical decision-making, problem solving and clinical judgment were seen to be the three components of nurse decision-making in “choosing what care to provide for patients from amongst a number of alternatives ... [involving] prior problem solving, including the determination of preferences and values, and often involves tradeoffs as preferences for decisions are considered” (Royle et al., 2000, p11). An earlier study by members of the same group found that nurses also “focused on a complex network of decisions they made in determining *how (sic)* they would implement” clinical decisions (Boblin-Cummings et al., 1999, p7). Key decisions, such as how long to spend with the patient, how hard to push for resources, or whether and when to call in the physician, involved timing and priority setting as to when and where the intervention would take place.

A series of studies led by Lauri and Salanterä (Lauri & Salanterä, 1995; Lauri et al., 1997; Lauri et al., 1998; Lauri et al., 2001) in collaboration with nurses from different countries draws comparisons between clinical decision-making models of nurses across nationalities and healthcare settings. Results of the studies showed an increasing understanding of variations within the selection criteria and also an increasing sophistication of study method. Statistical analysis of a survey of 200 Finnish nurses and public health nurses showed that subjects (*sic*)

with long experience in the job applied decision-making models that contained features of both systematic-analytical and holistic-interpretive approaches. It would seem that the nature of the nursing task and context is more relevant to the choice of decision-making model than has previously been assumed.

(Lauri & Salanterä, 1995, p526)

However, a similar study of public health nurse decision-making found that different models of decision-making on the job were used in different countries. “Five different models were identified each exhibiting features of different decision-making theories” (Lauri et al., 1997, p158). This variation was attributed to the difference in healthcare systems as well as the nature of the nursing task and the context. A further survey of nurse decision-making in intensive care in

five countries found that “there were clear country differences in terms of nurses’ experience and their knowledge structure” (Lauri et al., 1998, p141), but that this was not associated with different decision-making approaches. The study concluded that there were “different stages in decision-making that involve both systematic and intuitive decision-making” (Lauri et al., 1998, p141). Modification of the survey tool for a further international study of nurse decision-making in hospitals and/or nursing homes enabled the rationales for each of the five decision-making models to be explained (Lauri et al., 2001). The results indicated that participants (*sic*) used both analytical and intuitive models of decision-making and that different models were employed in different situations. The intuitive approach was found to be more predominant where a rapid response was required.

Influences from different cultures and differences in understanding of language are also apparent in the literature. There are varying approaches to the concept of nursing expertise in the United Kingdom (e.g. Conway, 1998; Edwards, 1998a; Jasper, 1994) and Japan (Nojima, Tomikawa, Makabe, & Snyder, 2003). Cultural context and background can also affect both assessment and ongoing patient care (e.g. Chen, 2001), and even the definition of nursing (e.g. Pang et al., 2004). Differences in language and understanding can affect not only translation from an original language (e.g. Arries et al., 2001; Lauri et al., 1998; Lauri et al., 2001) but also assessment of the patient need for care (e.g. Cioffi, 1998a; Cooke et al., 2000; Gerdzt & Bucknall, 2001).

A further key influence in the international arena is the development of formal or standardised languages such as Nursing Diagnosis to record and monitor healthcare in large computer databases. Nursing Diagnosis was specifically excluded from the selection criteria for this study in that it represents a nursing decision rather than describes the process of decision-making. However, within the selected literature it is apparent that Nursing Diagnosis is inextricably embedded in the discussions. Not only as the 5th step between assessment and planning in the problem solving model of nurse decision-making, but also as an

effective way to acknowledge nursing in the wider arena of healthcare. Nursing work in this area is summarised in the 'state of the science' of Nursing Informatics by Henry (1995). The aims for one such formal language, the Nursing Intervention Classification, are identified by McCloskey and Bulechek (1996c) as follows:

1. To provide a standardised nomenclature of nursing interventions,
2. To expand nursing knowledge about the links between diagnoses, treatments and outcomes,
3. To support the development of nursing and health care information systems
4. To teach clinical decision making to students,
5. To assist determination of the costs of nursing services
6. To support resource planning for nursing practice settings
7. To communicate the unique function of nursing
8. To articulate with the classification systems of other health care providers.

(McCloskey & Bulechek, 1996c, p15)

However, within the limitations of the present study, formal language²⁸ and the problem solving approach to the study of nurse clinical decision-making (see Table 13, Chapter 9) are least able to acknowledge nursing prioritisation of the patient need for care.

Considerations of this study:

The understanding of the tacit knowledge of clinical decision-making in nursing that has been developed in this research is unprecedented in the literature. The method used to closely examine the nursing literature has shown the complexity and intricacy of nurse decision-making that is part of the embedded understanding within nursing, but has not previously been drawn together in this way. In using the CINAHL terminology (WebSPIRS 5, 2000) that focuses on the process of decision-making to select relevant nursing literature, it has been possible to show

²⁸ As discussed in Chapter 9.

that nurse decision-making is considerably more than a sequential process. Rather it is shown to be a dynamic and interactive process, subject to frequent review, that works with an extensive range of knowledge to develop the optimum response for a particular patient presentation. Effective nursing prioritisation of the patient need for care is the skill, rather than the process, that enables this to happen within changing circumstances and uncertainty. This understanding is implicit in the literature even though the ostensible focus of the selection criteria was on the process of decision-making.

However, while this particular view of nurse clinical decision-making has been made possible through this selection, there are further areas of nursing research that have been deemed outside the selection criteria that may have contributed further to this understanding. Studies of the nurse-patient interaction may assist better understanding of decision-making for individual patient situations, while review of studies of ethical decision-making may better explain discretionary judgment and concerns of nursing. Exemplars of reflective practice may also better describe the nuances of nurse decision-making.

A key issue in working with the literature has been the choices as to which to include as citation and which to pass lightly over. In that the final selection encompassed almost 350 papers plus a further selection of antecedent literature, and the requirement was to review for inference, this study can be seen as an attempt to collate themes from several hundred interviews. Some were self-selecting omissions as with those discussing conceptual aspects of critical thinking, which may however, be a useful technique in developing the skill of nursing prioritisation. Others have been by-passed with regret, such as Bennett's (1980) early doctoral work on clinical decision-making which framed nurses' use of experiential learning and nursing prioritisation in the formal language of Bayesian probability. In that Hendry's (2001) question is very close to this one, his work has been reviewed with deep thoughtfulness which has helped to clarify what this study has been looking for in the requirement to review for inference as well as description and discussion.

Frequent reflection on the question for research by the researcher while considering the literature has also helped compare the variation in the definitions of specific terms such as expertise and intuition between different studies. The extent of the field that has been covered within the selection is such that many works are only mentioned as an adjunct to a discussion point, or touched on in passing. Other discussion points, such as the insight into the implications of nurse negotiation with the patient have percolated into existence as considered comment through iterative reflection over a period of many months. However, citation of specific text has been used as much as possible to show the embedded understanding within nursing.

A dynamic field of nursing enquiry:

This study has shown that tacit knowledge and embedded understanding about nursing prioritisation of the patient need for care underpins much of the discussion on clinical decision-making in the literature. The dynamic and non-sequential process of discretionary judgment and ongoing reassessment as the patient situation unfolds is shown to be integral to daily nursing practice. But criteria and possible rationale for nursing prioritisation of the patient need for care remain tacit knowledge except in the broadest sense that incorporates nurses' concerns for patient safety and/or well-being.

Prioritisation of patient care is mentioned to student nurses, usually as an integral step of an overall Nursing Process, in relation to the setting or negotiation of priorities for the goal(s) of patient care. But at the point of transition from the classroom into practice, nursing prioritisation is identified as a key teaching skill in preceptorship relationships. In nursing practice, nursing prioritisation relates both to the goal of patient care and how this may be achieved, and 'getting it right' is the key to navigating complexity and uncertainty. Further development of this skill is through experiential learning in relation to both the practice setting and the development of nursing expertise.

From early beginnings in the 1960s, the study of clinical decision-making in nursing now incorporates a significant body of work. While influences from other disciplines featured in earlier works, intra-disciplinary themes now predominate. Four main approaches to this work are identified in the literature, but a further range of approaches is evident, particularly where the study is of decision-making in practice situations, and in the international arena. Nursing prioritisation of the patient need for care can be discerned in these studies. As nurses endeavour to understand and teach the complexity that is nurse clinical decision-making, the work indicates that there is a common understanding that nurses make decisions in both analytical and intuitive modes of thinking. An inclusive conceptual framework would enable further international intra-disciplinary collaboration and knowledge development.

Summary:

From close examination of and reflection on the literature it is possible to infer nursing prioritisation of the patient need for care as it is initially taught to nursing students and is then developed in practice and influenced by practice setting. The process of nursing prioritisation of the patient need for care involves discretionary judgment and ongoing assessment throughout and between unfolding patient situations. It is best understood from studies addressing clinical decision-making in nursing through the interpretive paradigm and in the plain language descriptions of nurse decision-making. The principles of such decision-making are discussed only in very general terms and the rationale remains the tacit knowledge of nursing.

It is evident in the literature that nursing knowledge on clinical decision-making has developed over time. This work had initially been influenced by work in other disciplines, and continues to be influenced by perspectives from the international healthcare environment. An inclusive collaborative approach to the acknowledgment and further development of this work is recommended.

The key implication of these inferences from the literature is that the skill of nursing prioritisation of the patient need for care is currently best learnt through experiential learning, and may be fostered by preceptorship programs or role modelling by experienced or expert nurses. Experiential learning programs also specifically address this skill set. However, while Benner's definition (1984/2000) as identified in Chapter 9 provides a basis for development of further understanding, there is no formal recognition or study of this concept in the nursing literature. Further study needs to be done to better understand the concept of nursing prioritisation of the patient need for care, and possibly determine more specific principles guiding such nurse decision-making. But given the extensive ranges and complexity of knowledge involved, the individuality of patient responses and the uncertainty of the environment, it may not be possible to ever fully understand the rationale of nursing prioritisation of the patient need for care.

The final chapter summarises the specific points from each of the preceding chapters and presents the conclusions of this research.

CHAPTER 11: SUMMARY AND CONCLUSION

This study has reviewed nursing literature on the process of clinical decision-making and developed a new insight into the tacit knowledge of nursing. Reflection on researcher understanding of nursing practice has enabled relevant literature to be selected and examined for discussions, descriptions, and inferences of the discipline's understanding of nursing prioritisation of the patient need for care. A summary of the work is followed by the conclusions drawn from this study.

Summary:

Researcher interest in the topic of nursing prioritisation of the patient need for care is introduced in Chapter 1. Nurses' navigation of the imminent chaos implicit in practice situations in the hospital setting is outlined and the tacit nature of this practice is identified. Initial review of the nursing literature suggests also that nursing prioritisation of the patient need for care is an embedded understanding within the discussions. The question for research is determined to be: what is the process of nursing prioritisation of the patient need for care as inferred, described and/or discussed in the nursing literature? Critical realism is proposed as a way to address the difficulties in discovering such tacit knowledge and the structure of the thesis is outlined.

Development of the proposed method is outlined in Chapter 2. The retroductive research strategy of critical realism has not previously been used to discern tacit knowledge from literature, but in working from a realist ontology and a relativist epistemology, provides a useful framework with which to structure the study. The relationship is outlined between the four components to this study: the researcher, the literature, the embedded understandings and tacit knowledge, and the 'fit' of nursing prioritisation of the patient need for care within the topic of clinical decision-making in nursing. The method is refined to enable the research question to be answered, and the process to access tacit knowledge outlined. Assumptions of the study are examined and considerations of the method are discussed.

In Chapter 3, the relationship between the terminology of the nursing literature and an overview of nursing research is explored, giving a sense of the field in relation to the need to discover tacit knowledge. Relevance of the CINAHL terminology (WebSPIRS 5, 2000) on the process of clinical decision-making is determined in conjunction with the discipline's understanding of research on this topic as summarised in the *Encyclopaedia of Nursing Research* (Fitzpatrick, 1998).

The search strategy is finalised in Chapter 4 and selection of relevant literature described. Mapping of the terminology and research topics suggests a relationship for the tacit knowledge of nursing prioritisation within the literature on clinical decision-making in nursing. Considerations of the strategy, selection, inclusion, exclusion and preliminary findings are discussed. The method proposed to identify discussion, description, and inference of nursing prioritisation of the patient need for care within the literature is also outlined.

Initial learning in nursing to understand the basis of tacit knowledge on nursing prioritisation of the patient need for care is considered in Chapter 5. Embedded understanding of setting priorities for the goal of patient care is a tenet of initial nursing education, but nursing prioritisation of the patient need for care is not presented as a formal concept in nursing education texts. Teaching and learning about nursing prioritisation are two different aspects of such education and nursing prioritisation becomes a key learning issue at the point of student transition to practice situations, distinct from but inter-related with time management skills, and is identified in this way in discussion of student/preceptor relationships.

It is evident in the literature reviewed in Chapter 6 that learning the skill of nursing prioritisation of the patient need for care takes place in practice. Novice nurses are shown to have difficulty in discriminating relevance from among the overwhelming amount of information available in practice situations. However, as

familiarity with what is required increases, the literature shows that they eventually gain confidence in making appropriate choices for action, developing competence and moving beyond the need to work with explicit rules to proficient nursing practice. With the development of this skill to an advanced level comes expertise, and the innate intuitive ability to directly grasp or anticipate a patient situation and develop an effective response. This is nursing prioritisation of the patient need for care in action.

Literature discussing nursing practice in different practice settings and in relation to the effect of contextual influences is reviewed in Chapter 7. Differences in the relative values of clinical criteria according practice settings are apparent, and these create a specific frame of reference for nursing prioritisation of the patient need for care within each setting. Further contextual influences include resource constraints, time as a resource and nursing interaction with the multi-disciplinary team. Different styles of nursing assessment describe the embodied knowledge of nursing prioritisation of the patient need for care.

Discussions on elements of nurse decision-making relevant to nursing prioritisation of the patient need for care are drawn through from the literature in Chapter 8. Things that nurses regard as important: the concerns of nursing, are apparent in the studies, and can be discerned through the choice of topic, the emphasis within the topic and the language used to highlight aspects of the topic. Complexity of clinical decisions refers not only to the amount of clinical detail involved, but also that not all relevant information may be available, and that one or more outcomes are possible. Guidelines and protocols are seen as being useful to navigate such complexity, but expert opinion is seen to be more effective if available. Trading off is a considered option when discussing nurses' responses to patient need. The process of nursing prioritisation of the patient need for care, involves discretionary judgment and ongoing assessment (and reprioritisation as required) of the unfolding patient situation(s).

Chapter 9 highlights the language used by nurses in the selected literature to describe nursing prioritisation of the patient need for care. This knowledge is tacit to the degree that it is most readily identifiable in everyday language rather than in the formal language of decision-making processes. A range of language and terms are used, but definitions may be study-specific and do not necessarily relate to a specific theoretical approach as nurses endeavour to fully describe and understand the complexity that is clinical decision-making in nursing. Within the nursing research on decision-making, the tacit knowledge of nursing prioritisation of the patient need for care is most readily discerned in studies in the interpretive paradigm.

Discussion in Chapter 10 considers both this study's developed understanding of nursing prioritisation of the patient need for care and a wider view of the field. The focus on the process of nurse clinical decision-making has enabled tacit knowledge of nursing prioritisation of the patient need for care to be made explicit, but has also bypassed other aspects of such decision-making such as the patient's preferences and abilities, the nurse-patient interaction and 'knowing the patient': the patient's individual response to the situation. These would be integral to nurse negotiation with the patient as identified within the generic principles for setting priorities and prioritisation of nursing care in general. Within these limitations, nursing prioritisation of the patient need for care has been clearly identified both as a process and as an advanced skill of nursing practice. The concept has been clearly differentiated from setting priorities and time management, which are both acknowledged in the literature in general terms. There is no formal acknowledgment or study of nursing prioritisation of the patient need for care within the literature, and the explicit rationale for such decision-making remains within the tacit knowledge of nursing. Nursing knowledge on clinical decision-making has developed over time and nursing prioritisation of the patient need for care is discernible internationally in a diversity of approaches. An inclusive collaborative approach to further development of knowledge and understanding in this area is recommended.

Significance:

The significance of the work is to be found in several areas. As an integral component of daily nursing practice, effective nursing prioritisation of the patient need for care is the basis of 'getting it right' in complex practice situations, and is therefore of interest to all nurses. The tacit knowledge that has been discerned creates implications for nursing education, nursing research and further research on this topic.

The understanding of the tacit knowledge of clinical decision-making in nursing that has been developed in this research is unprecedented in the literature. The retroductive research strategy of critical realism has not previously been used as a research method to review literature, but has provided a sound framework through which to develop this new understanding. The method used to explore the selected nursing literature has shown the complexity and intricacy of nurse decision-making that is known in the embedded understanding within nursing, but has not previously been made explicit in this way.

This study has also emphasised the tacit understanding of nursing around experiential learning of nursing prioritisation of the patient need for care. The discipline's expectations around decision-making are outlined in formal language deriving from nursing process in the majority of nursing texts, and provide building blocks on which to base development of nursing in practice. Setting priorities is taught to nursing students as a very small part (less than 0.1%) of these comprehensive nursing texts. However, at the point of transition from the classroom into practice there is an increased emphasis on development of the skill of nursing prioritisation, sometimes in conjunction with the skill of time management, and in particular in relation to preceptorship or mentoring of those new to an area of practice. Increasing confidence with this skill is the hallmark of developing expertise, and it is best learnt from experience and understanding of practice situations. Effective nursing prioritisation, as an advanced skill of nursing practice reliant on discretionary judgment and ongoing assessment to manage

complex and uncertain situations, is the basis of getting it right in these situations. It is only recently that the profession has explicitly developed experiential learning programs to specifically address such central issues that have typically been excluded from standard approaches. Further development in this area would seem to be warranted.

The wider view of the study of clinical decision-making in nursing drawn together in this research has also not been presented in this way before. Within the selected literature it is apparent that nurses problem solve, process extensive ranges of information, work with probability and heuristic representations of previous experience, and also practise with possibilities as situated interpreters of meaning. Other approaches to this study are also now being developed. No one approach is able to fully present the complexity that is nurse decision-making, though this is most readily understood through the interpretive paradigm in the plain language of everyday nursing. The body of work within the discipline is such that a unifying framework would support the development of further knowledge in and international understanding of the field.

This research has further highlighted that there is a lack of formal acknowledgment and study of the concept of nursing prioritisation of the patient need for care. The concept has been so much part of the tacit knowledge of nursing that study has not been seen to be needed. Yet determining what to do first and 'getting it right' is the key skill in complex practice situations. This research has identified the process of the nursing prioritisation of the patient need for care as dynamic and non-sequential throughout the unfolding patient situation. The study has also identified that the process is influenced by the changing relative values of imperatives in varied frames of reference in different practice settings. However, within the literature reviewed for this study, the rationale for this decision-making remains in the tacit knowledge of nursing, and there is no formal discussion of the concept. Yet nurses do manage to prioritise the patient need for care effectively in daily practice. Further research is needed to better understand this decision-making, but it may be that the complexity and

uncertainty of nursing practice situations is such that a rationale will never be made fully explicit, though general principles of nursing prioritisation of the patient need for care may be able to be developed.

Conclusion:

The tacit knowledge discerned within the literature indicates that nurses use discretionary judgment and ongoing assessment to determine the relative importance of the many aspects of individual patient situations as they unfold. Such nursing prioritisation takes place concurrently between the competing or even conflicting needs of the several individual patient presentations within the nurse's caseload. Varied frames of reference within different practice settings create specific imperatives on this dynamic and non-sequential process.

Nursing prioritisation is effectively defined by Benner as "the advanced skill of judging the relative importance of different aspects of the situation" (Benner, 1984/2000, p24). However, the principles of and the rationale for such decision-making are not apparent in the literature and remain within the tacit knowledge of nursing.

Nursing prioritisation of the patient need for care determines what nurses need to do first in complex and uncertain situations. Getting it right constitutes the basis of effective nurse decision-making. Further study is warranted to better understand this integral aspect of nurse clinical decision-making.

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