

Clinical Decision Making by Beginning Nurses
A Naturalistic Study

by

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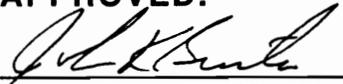
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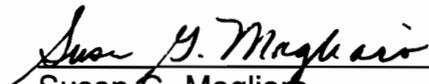
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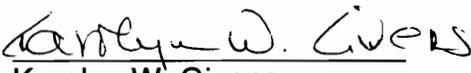
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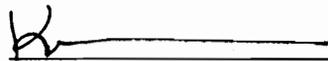
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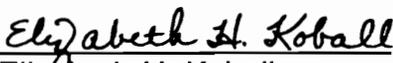
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CLINICAL DECISION MAKING BY BEGINNING NURSES
A NATURALISTIC INQUIRY

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(ABSTRACT)

The ability to make accurate clinical decisions and implement appropriate nursing interventions is an essential component of nursing practice. Clinical decision making is the process nurses use to gather information about patients, evaluate it and make judgments that result in the provision of nursing care. However, competency in this area requires integration of knowledge and experience which occurs over time. Beginning nurses are expected to function in the clinical environment, making accurate clinical decisions. While they have had theoretical information in their educational process, they have had limited clinical experience. This presents the beginners with a difficult practice environment.

A naturalistic study was conducted to describe clinical decision making from the perspective of beginning nurses and to identify factors which were influential in this process. The study design was emergent, based upon the assumptions that the reality of the phenomenon is best understood through the lived experiences of the participants. A purposive sample of nine registered nurses with less than one year's experience in acute-care, medical-surgical nursing were interviewed. Four participants completed journals, recording additional experiences with decision making. These data were analyzed using Ethnograph 4, identifying common themes among the participants. A comprehensive

summary of the themes was returned to the participants for validation. The results are presented in a narrative format.

For beginning nurses, decision making is the foundation of their daily work. It is a difficult process for them, as they work to apply theory to clinical practice. Common themes emerged from the data: the role of experience; the importance of the interpersonal environment; the significance of interacting with physicians and the process of developing as a nurse.

Implications for education and practice were derived from these themes. In both these, it is essential to listen to the perspectives of the beginning nurses. It is important to foster interactions among practitioners from different levels of skill, encouraging beginners to reflect on their experiences. Beginning nurses need to be supported in transitions from the educational environment to the work environment, and throughout their careers, to maximize skill development in the process of clinical decision making.

DEDICATION

To my friend, colleague and husband, Warren
and
my children,
Sara, Julia, Lara, and Anna
who have supported and encouraged me during this educational process

ACKNOWLEDGMENTS

I would like to thank the nurses who participated in this study, for sharing their time and their insights into the clinical practice of beginning nurses.

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CHAPTER 1 INTRODUCTION

The ability to make accurate clinical decisions and implement appropriate nursing interventions is an essential component of professional nursing practice. Clinical decision making is defined as the processes which nurses use to gather information about patients, evaluate it, and make judgments that result in provision of patient care (White, Nativio, Kobert, & Engberg, 1992). This is a dynamic process, where changes in the health status of patients require nurses to modify decisions based on additional information.

The nursing care of patients in acute-care settings is becoming increasingly complex. Nurses are expected to demonstrate accountability and competency in clinical decision making. Changes in patients' conditions must be recognized quickly and managed effectively if positive outcomes are to be achieved (del Bueno, 1990, 1994; Thiele, Holloway, Murphy, Pendarvis, & Stucky, 1991). New nurses are often expected to assume the same responsibilities as experienced practitioners (del Bueno, 1994).

Competency in clinical decision-making requires integration of knowledge and experience which develops over time (Carnevali, Mitchell, Woods & Tanner, 1984; Kassirer & Gorry, 1978). Understanding this process from the perspective of beginning nurses will add to the body of knowledge of how nurses develop skill in decision making. It will also enhance nursing education which is designed to teach students clinical decision-making skills (Tanner, 1987). In order to achieve this purpose, it is important to understand the nurses' perspectives on the subject, from their viewpoints (Baxter Magolda, 1992).

Purpose of the Study

The purpose of this study is to describe clinical decision making from the perspective of beginning nurses and to identify factors which are influential in their decision-making processes.

Need and Significance

It is estimated that two thirds of registered nurses work in acute care settings. Most registered nurses begin their careers as staff nurses, working in general medical-surgical settings (Chitty, 1993). While not all of these practitioners will become experts, they have all been beginners.

Many studies have attempted to describe the actual thought processes used by nurses in deriving a diagnosis or determining appropriate interventions (Benner, 1984; Benner, Tanner & Chesla, 1992; Corcoran, 1986a, 1986b, 1986c; Huffstutler, 1993; Itano, 1989; Jacavone & Dostal, 1992; Pardue, 1987; Putzier, Padrick, Westfall, & Tanner, 1985; Sanford, Genrich, & Nowotny, 1992; Tanner, 1987). These studies suggest that there are differences in the decision-making processes used by novice and expert nurses. There is the expectation that the decision-making processes of expert nurses can provide a model for more effective education of the novice nurse (Guyton-Simmons & Ehrmin, 1994).

The experiences of beginning nurses are phenomena in their own right, qualitatively different from those of the experts. However, only one study identified the decision-making processes of beginning nurses as a primary research focus (Haffer, 1990). None of the studies reviewed considered the decision-making process from the perspectives of beginning nurses and the meaning of these experiences to them.

The work environment has high expectations of beginning nurses. They are expected to engage in sophisticated clinical decision-making processes with little support

and limited experience. Administrators and educators wonder "why can't new grads think like nurses?" (del Bueno, 1994). Yet, new graduates do think and reason like nurses, only they do it like beginning nurses. They experience a challenging transition from their roles as students to those of practicing nurses (Benner, 1972; Kramer, 1974). Understanding the experiences of the clinical-reasoning processes of beginning nurses, from their own perspectives, will create new possibilities for understanding decision making and improving educational practice. Effective educational practice requires gaining access to these nurses' ways of understanding the decision making process, rather than relying primarily on the educators' own frames of reference (Baxter Magolda, 1993).

Research Questions

This study is designed to answer the following research questions:

1. What are beginning nurses' perceived experiences of clinical decision-making?
2. What factors do beginning nurses identify as important influences in their clinical decision-making processes?

CHAPTER 2

REVIEW OF THE LITERATURE

The study of clinical decision-making in nursing has been guided primarily by two different perspectives. The majority of the studies in this field have utilized a model of information processing to describe the cognitive processes used by nurses to diagnosis health problems or determine appropriate interventions. However, there is a growing body of research which utilizes a phenomenological-descriptive approach (Tanner, 1987).

The purpose of this literature review is to provide a theoretical context for the study of decision-making by new nurses. It is not intended to confirm or argue existing findings, but to provide a perspective on current thought about decision-making (Streubert & Carpenter, 1995).

Information Processing

The information-processing theory of Newell and Simon (1972) provides one framework for exploring the problem-solving processes used by nurses. This theory describes problem solving as the interaction between an information processing system (the individual problem solver) and the task environment. The human problem solver views the task environment in a unique way which is determined by past knowledge and experiences and the characteristics of the task environment. This internal representation of the task environment is called the problem space. Problem solving can be effective only if significant information about the task environment is represented in the problem space, in a manner that can be used by the problem solver (Newell & Simon, 1972).

The problem solver is characterized as a having a limited capacity to process information. Limits are imposed by: 1) memory constraints of the problem solver and 2) the characteristics of the task environment and how it is perceived by the problem solver

(Newell & Simon, 1972). Effective problem solving depends on the individual's ability to adapt these limited capabilities to the demands inherent in the problem. An important implication of these limitations is that the problem always exists relative to the problem solver, based on how the information available in the task environment is represented in the problem space.

Three component systems comprise the memory system: sensory, short-term (STM) and long-term (LTM). The sensory memory is the component that acquires information about the external environment through sensory channels. While it has a large capacity to receive sensory stimuli, it retains it for only a brief period of time. These stimuli must be attended to and encoded as symbols which are transferred to short-term memory. The information is lost if this processing does not occur (Anderson, 1985).

Short-term memory is the working memory. At any time, the content of STM consists of a small set of symbols received from either the sensory memory or the long-term memory. It has a very limited capacity of seven symbols, plus or minus two (Miller, 1956). However, grouping several similar stimuli into single units will increase this capacity. This is a process called "chunking." Information in STM decays in a relatively short period of time unless subjected to active processing or rehearsal.

Long-term memory is the storage unit of the memory system and has the capacity to store unlimited amounts of information. LTM receives information from and transmits information to STM (Gilhooly, 1989). LTM is characterized by its associative structure (Newell & Simon, 1972). LTM stores information as sets of symbols connected by relations. Through learning, stimuli become recognizable "chunks." Organization of this information is critical. It must be put into a framework of existing knowledge to guide retrieval process. Information is more readily accessed if associated with other related information. Research indicates that experts have highly organized, domain specific

bodies of knowledge that can be readily accessed using techniques and strategies learned over time (Norman, 1988).

Problem solving is a cognitive process that is goal directed (Mayer, 1989). Gilhooly (1989) stated that all problems can be described as having a three-part structure; a starting state, a goal condition, and a set of actions or operations that can be applied to the starting state in order to meet the goal. Problems are "well defined" when all three components are completely specified. Completely well-defined problems are found in games and formal sciences such as chess and math, while problems in most other areas of life are more or less "ill-defined." In an ill-defined problem, any or all of the components are not specified and are open to a range of definitions depending on the knowledge and experience of the problem solver (Gilhooly, 1989).

Gilhooly (1989) identified three steps of problem solving. The first step is detecting that a problem exists; that is, determining a discrepancy between the current situation and the goal. In the second step, the problem is formulated more completely. At this time, the internal representation of the starting conditions and goals is defined and refined. Solution attempts are applied within this representation. Finally, given the representation and choices of approach, attempts at problem solving begin.

Challenges to the Information-Processing Model

Some researchers suggest that the problem-solving model provides a limited explanation of human problem-solving. Mayer (1989) discussed certain challenges in applying this straightforward, information-processing approach to human problem-solving where problems are often ill defined. The representation of most problems generally requires that the solver utilize domain-specific knowledge. Also, the operators, the actions required to solve the problem, may also be domain specific. Reimann and Chi (1989) stated that this complexity means that "the study of problem solving in knowledge

rich domains is not dominated by identifying the kinds of strategies that are guiding the search but rather it centers on the analysis of the kind of knowledge the problem solver brings to bear on the problem...as well as the kind of procedural knowledge that is available to the problem solver to use" (p. 163).

Mayer (1989) noted other variations are seen in human problem solving. In the process of solving problems, individuals often distort the problem to be consistent with pre-existing schematic knowledge. They focus on inappropriate, non-essential aspects of the problem that limit the process of problem solving. They may change the problem representation while attempting to solve the problem. Procedures that have previously been successful in other situations can be rigidly and inappropriately applied, especially when the context of the environment is not considered. Finally, the beliefs of the problem solver guide problem solving. These beliefs include which problems to solve, which procedures to use, whether the procedures are working and even which goals to attempt to achieve (Mayer, 1989).

The information-processing model provides a partial view of the problem-solving process. Research into the development of expertise has provided additional information about this process.

Expertise in Problem Solving

Dreyfus and Dreyfus (1986) studied the skill acquisition process of airplane pilots, chess players, and adult learners of a second language in unstructured problem areas. Solving unstructured problems seems to require a high degree of concrete experience with real situations. Consequently, an individual can be an expert in one area, while performing as a novice in an unrelated problem area.

Dreyfus and Dreyfus (1986) observed a common pattern as individuals acquire skill through instruction and experience. They do not appear to leap suddenly from rule-

guided "knowing that" to experience-based "know-how" (p. 19), but pass through five distinct stages. At each stage, they develop qualitatively different perceptions of the task and/or modes of decision making. These stages are novice, advanced beginner, competent, proficient, and expert.

Stage 1: Novice

Individuals learn to recognize objective facts and features that are relevant to a skill. Rules for determining actions, based on these facts and features in a "context free" environment, are acquired. Novices depend on rule-based behavior and judge performance by how well rules were followed. This requires considerable concentration, limiting ability to attend to the overall context of situations. The rules allow novices to accumulate experience, but can limit performance in Stage 2.

Stage 2: Advanced Beginner

In this stage, as a result of practical experience, beginners start to recognize recurrent situational aspects. While still operating under context-free rule guidelines, learners work with more sophisticated rules derived from experience.

Stage 3: Competence

After additional experience with similar subjects or situations, beginners start to identify overwhelming numbers of recognizable, context-based and situational elements. In order to cope with this, they learn hierarchical procedures of decision-making. Competent performers choose an organizing plan and examine only the small set of factors that are most important in light of the present problem. This allows them to simplify and improve performance. In general, competent performers have goals in mind and see the situation as sets of relevant facts.

Developing a plan is difficult because there is no objective procedure similar to the context-free guides of the novice. Competent performers feel responsible for, and

emotionally involved, in the plan. At the end of this stage, there is no evidence that behavior is characterized by deliberate, systematic goal and decision choices.

Dreyfus and Dreyfus (1986) noted that the thought processes of competent performers resemble those described by information-processing theory. They proposed that the two highest levels of skill are characterized by "rapid, fluid, involved kind of behavior that bears no apparent similarity to the slow, detached reasoning of the problem-solving process" (p. 27). At these stages, thought processes are characterized by automaticity and can be broken down into stages only with great difficulty and loss of the expert characteristics.

Stage 4: Proficiency

Proficient performers are deeply involved in the problems they are engaged in and experience them from specific perspectives because of recent experiences with similar events. Certain features of the experiences appear salient, while others recede into the background. Saliency changes as elements change; context is always a factor. Proficient performers intuitively understand and organize the tasks at hand, "effortlessly upon seeing similarities with previous experience" (p. 28). This understanding is followed by analytical decision making.

Stage 5: Expert

Experts have developed a large compendium of experiences connected with situations and related actions. When deeply involved with problems, the experts do not consciously evaluate and compare alternatives, they simply act. The acting is automatic, unconscious and intuitive.

In this model, problem solvers progress from detached, analytical behavior to involved skill behavior. The problem solvers no longer consciously decompose the environment into manageable elements, applying abstract, context-free rules, but utilize

case-based approaches, pairing new situations with previous experiences (Dreyfus & Dreyfus, 1986).

Reimann and Chi (1989) discussed human problem solving from the perspective of expertise. They noted that the central issue in complex problem solving is the knowledge that the individual brings to the task and how this is used to solve specific problems. They compared the problem-solving processes of novices and experts to determine the impact of pre-existing knowledge on this process. The problem-solving processes of novices and experts are similar in structure but vary considerably in content.

Chi, Feltovich, and Glaser (1981) analyzed the problem representation process of experts and novices in categorizing physics problems. They found that experts tend to classify problems according to broad categories related to physics, while novices classified them on the basis of concrete objects and specific entities mentioned in the problems. Lesgold, Rubinson, Feltovich, Glaser, Klopfer, and Wang (1988), in a study of the diagnostic behavior of physicians, found that novice diagnosticians identified information in a superficial, fragmented manner, while the experts were able to develop a coherent model, based upon on cues. Lesgold et al. (1988) concluded that the nature of the representations is determined by the knowledge the solvers have. This allows them to represent problems in forms that are optimal for solving problems efficiently.

Experts are more successful at problem solving because they are able to access domain specific knowledge that they are able to process and use. "The expert is an expert primarily because he has seen it all before" (Norman 1988, p. 280). Through repeated experiences, the semantic knowledge of the domain is expanded and refined. Through the interaction of learning and experience, individuals develop domain-specific reasoning strategies (Reimann & Chi, 1989).

Clinical Decision Making in Medicine

Much of the research in clinical judgment and diagnostic reasoning is based on the work done by Elstein, Shulman, and Sprafka (1978) in the area of medical problem-solving. In an attempt to understand diagnostic reasoning skills of physicians, Elstein et al. (1978) conducted an in-depth descriptive analysis of the reasoning process of a group of expert physicians. This study was based on the information-processing theory of Newell and Simon (1972). Protocol analysis was done on physicians' verbal reports of their problem-solving processes. Four major processes in medical inquiry were identified: cue acquisition; hypothesis generation; cue interpretation; and hypothesis evaluation or judgment

Elstein et al. (1978) found that physicians generate hypotheses early in clinical encounters, often in the first five minutes, based on limited cues. This early activation of hypotheses narrows the search field, and provides structure to the problem of diagnosis, reducing cognitive strain. The number of hypotheses considered at one time was limited and rarely exceeded five. In the process of cue interpretation, data were evaluated in terms of their fit to the anticipated findings. Hypothesis evaluation involved refining and revising possible diagnoses, based upon how well the cues fit with the hypotheses.

These findings were similar to those of Kassirer and Gorry (1978). Their study of the clinical problem-solving processes of expert physicians combined protocol analysis and introspection. They found that both general and specific hypotheses are generated at a time when little information is available and that the hypotheses are progressively refined. Diagnostic hypotheses were corroborated or discredited using "casebuilding strategies." Strategies included a focused approach, a systemic exploration and a chronological technique. They noted that the performance of these experts required a large amount of highly organized, domain-specific knowledge. "Without such knowledge, a person is

forced by the limits of his cognitive abilities to pursue a rather plodding and often inefficient search for a solution to the problem before him" (p. 254).

Neufeld, Norman, Feightner, and Barrows (1981) studied the evolution of clinical reasoning in medical students. The students were observed during an examination of a simulated patient. Their thought processes were analyzed from a "stimulated recall" of the videotaped encounter. They found that the majority of the process variables associated with clinical reasoning were unrelated to educational level and remained relatively constant from medical school entry to practice. Both medical students and doctors advanced diagnostic hypotheses early in the encounters. The number of hypotheses, their time of generation, the number of questions related to each hypotheses were similar for both groups. The difference between these groups was in the content and accuracy of the diagnostic hypotheses that changed significantly with increasing education. Neufeld et al. (1981) concluded that problem solving was not a single, general skill, but an integration of several competencies including the application of knowledge and clinical experience retrievable from memory, the analysis of data against hypotheses, and the interpersonal skill required to obtain information from the patient.

Stevens (1991) investigated problem-solving behaviors of novice and expert physicians. He concluded that problem-solving approaches can be categorized as being search-dominated, pattern-recognition-driven, or involving a highly algorithmic approach. "Although experts may eventually employ and rely on pattern recognition and illness scripts as their skills mature, initially all students must go through a process of inquiry and search and development of judgmental skill under conditions of uncertainty (p. 74).

McGuire (1985), in her critique of medical problem-solving research, suggested that much of what is called "problem solving" in these studies is primarily "concept identification." She noted that these studies have typically included limited numbers of

participants and concluded that findings have been overgeneralized based on both small sample sizes and simplistic clinical tasks.

Clinical Decision Making in Nursing

Expertise in clinical decision making is an essential component of safe, effective nursing care. This process involves examining client data and cues, identifying client problems and choosing appropriate interventions to resolve these problems. Clinical decision making requires that nurses deal with ill-structured, highly probabilistic problems, where solutions are poorly defined (Carnevali & Thomas, 1993). Information-processing models and descriptive, phenomenological approaches have provided frameworks for the study of clinical decision making.

Information Processing Models of Clinical Decision Making

In an early series of studies designed to identify the processes used by nurses to plan care, Hammond, Kelly, Schneider, and Vancini (1966, 1967) and Westfall, Tanner, Putzier, and Padrick (1986) focused on "clinical inference." Clinical inference is defined as "tentative conclusions based on or extending beyond the cues presented in the situation," (Westfall et al., 1986).

Hammond et al. (1966, 1967) examined the cognitive tasks of nursing which required that nurses "infer" or diagnose the state of the patient and studied how these tasks were represented as information units. They concluded that the inferential task is complex but were unable to identify information units that were common to the nurses they studied. This research emphasized the need for further investigation into the cognitive tasks upon which nurses plan care.

Certain aspects of the medical model of diagnostic reasoning are similar to the diagnostic reasoning processes of registered nurses. Regardless of the level of education, knowledge, or experience, nurses were found to activate hypotheses early in their

encounters with patients (Huffstutler, 1993; Putzier et al., 1985; Tanner, Padrick, Westfall, & Putzier, 1987; Westfall et al., 1986). Other studies reported that there was no difference in the number of hypotheses identified relative to patient care situations, but experienced nurses activated hypotheses which were more complex and accurate than those generated by novices (Corcoran, 1986a, 1986b; Holden & Klingner, 1988; Putzier et al., 1985; Tanner et al., 1987).

Benner and others (Benner, 1984; Guyton-Simmons & Ehrmin, 1994; Itano, 1989; Tanner, 1983, 1987; Theile et al., 1991; Tschikota, 1993) found that nurses collect large amounts of data when working with patients. Data acquisition was more systematic and cues were clustered more efficiently to rule-in or rule-out hypotheses as the skill levels of the nurses increased. Experienced clinicians used heuristics to organize information, while novice nurses had difficulty discriminating pertinent from irrelevant information. Novice nurses tended to use inductive-hypothesis testing strategies that were time consuming, while experienced nurses used more efficient deductive strategies.

Corcoran (1986a, 1986b) found the process of clinical decision making to be context dependent. The nature of the task, the patient situation, the setting, and the interpersonal environment influenced the cognitive processes. The total number of alternative actions generated was a function of task complexity. In complex cases, experts generated more alternative actions and were more specific in evaluating these actions than were less accomplished practitioners.

Fonteyn (1991) and Grobe, Drew, & Fonteyn (1991) found that expert nurses conceptualized information about patients from both context-specific perspectives and from domain-specific knowledge. They formed relationships among concepts and were selective about what data they considered. They based the resulting plans of care on broad treatment goals that provided a structure to the poorly defined health problems of

the patients. These structures made the problem-solving task easier. Plans of action tended to be complex, with hierarchical levels of goals and interrelationships between goals. Pattern matching based on feature recognition was a common strategy. Forward-reasoning and predictive-reasoning were heuristics used most commonly by experienced nurses. Also, they considered problems and interventions consecutively, rather than in distinctive, linear steps. These strategies allowed experienced nurses to handle large amounts of data in ways to reduce cognitive strain. These heuristics are not generally available to novice nurses due to lack of previous clinical experience.

Haffer (1990) in her study of novice nurses found that they used a combination of the decision-making processes described by Elstein et al. (1978) and Dreyfus and Dreyfus (1984). These novices exhibited extensive uncertainty and used reasoning processes that tended to be short, simple, and nonpersistent. They consulted with coworkers with great frequency to confirm hypotheses and plans of action.

Naturalistic Studies of Clinical Decision Making

Benner (1984) studied clinical nursing practice from a phenomenological perspective, using the Dreyfus model of skill acquisition to describe differences in nursing behaviors between novices and experts. Throughout her study, she used exemplars to illustrate changes in performance that became apparent as nurses develop expertise. She identified specific changes: (a) movement from reliance on abstract principles to the use of past concrete experience as paradigms, (b) a change in perception of the situation from one of equally relevant pieces to a complete whole, and (c) passage from detached observer to involved performer.

Novice nurses had little understanding of the contextual meaning of newly learned terms and procedures and lacked the experience to identify relevant tasks in actual situations. Nursing students are novices, but since domain-specific experience is a key to

skillful performance, nurses in clinical situations where they have limited experience, may be function at the novice level of performance.

Benner (1984) described newly graduated nurses as advanced beginners. These nurses began to identify recurrent meaningful patterns in clinical practice, set priorities based on these, and took action. However, the context of the situation could be overwhelming as advanced beginners still sifted through all the environmental cues to extract the relevant ones. Benner, Tanner, and Chesla (1996) added additional dimensions to their description of advanced beginners. When these nurses had no previous experience with a particular situation, they used conscious, rational calculations to determine appropriate actions. They had difficulty seeing the “big picture” and were frustrated by this inability. They looked forward to when they could practice like more expert nurses. They had difficulty translating theoretical learning into practical implications for particular patients, but trusted that clinical situations had some rational order that might be understood if only they could recall sufficient information

In situations where they lacked experience, these advanced beginners experienced “stark terror” in the face of critical situations which were encountered unexpectedly or for the first time and lost capacity to plan or act. The beginners’ awareness of their limited abilities in new situations protected the safety of the patients. They relied heavily on more experienced practitioners for directives.

Competent nurses were described as those with two to three years of clinical experience. The behaviors of these nurses were characterized by conscious, deliberative planning, which helped achieve efficiency and organization. At this stage, they differed from the advanced beginner by demonstrating enhanced technical skills, increased clinical abilities, organizational skill, and increased ability to anticipate typical progressions in patient situations. The change from advanced beginners to competent nurses was

incremental rather than discontinuous, as practitioners developed experiences on which to base clinical decisions.

Proficient nurses perceived situations as wholes, not in terms of specific components. Because of experience, these nurses recognized when situations deviated from the expected, and anticipated to how to modify plans in response. This level of skill was found after three to five years of experience. Proficient performers regressed to analytic, competent levels when novelty or the demand for an analytic, procedural description was required (Benner, 1984). Expert performers had a wide background of relevant experiences and focused on salient aspects of situations, without "wasteful consideration of a large range of unfruitful, alternative diagnoses and solutions" (Benner, 1984, p. 32).

Benner, Tanner, and Chelsa (1992) extended research on clinical nursing practice using the Dreyfus Model of skill acquisition. From a phenomenological study of 130 nurses, they concluded that "practitioners at different levels of skill literally live in different clinical worlds, noticing and responding to different directives for action" (p. 14).

Concrete rules and practical structures for completing the tasks for the day guided the actions of the new graduates. They focused on specific tasks to be completed. They were overwhelmed by the multiple and competing tasks that had to be accomplished. They lacked the flexibility and know-how to adapt to changing situations. On the other hand, expert practitioners had a more holistic perception of the patients' health status. They were guided by "direct apprehension of the action required by the situation at hand" (p. 14).

Benner et al. (1992) noted a developing sense of "agency." For new graduates, agency was defined by doing the work and getting the tasks done according to structured guidelines, norms and others' expectations. For the experts, agency and responsibility for

patients' well-being was based upon a sophisticated understanding of the actual clinical needs that changed and evolved over time.

In a later work, Benner et al. (1996) discussed the “social embeddedness of knowledge.” She found that, with experience, practitioners developed sets of patterns, which guided practice. However, it was the relationships and interactions among practitioners, from novices to experts, which allowed these nurses to develop competence and expertise. Beginning nurses relied on interactions with other practitioners to call their attention to important aspects of patient care that they did not recognize and to help them interpret their findings. This social interaction determined, to a large extent, what the beginner learned. Benner et al. (1996) stressed the importance of this interaction among the nurses.

Nurses learn technical and interpersonal skills by watching others who demonstrate the embodied skillfulness. The style and habits of a social group shape what knowledge is valued and determine what perceptual skills are developed and taught. The style and habits of a social group also determine the extent of teaching and learning from one another. Collaborative and cooperative teamwork allows the pooling of expertise and creates a climate of support and possibility that can combat the threat of helplessness (p. 194).

Jenks (1993), in her naturalistic study of experienced nurses, found that clinical decision making was a holistic phenomenon that was not broken down into sequential steps. In addition, nurses reported that their interpersonal relationships with patients, fellow staff, and physicians, facilitated the decision-making process. These relationships provided the nurses with an intuitive base on which to form hypotheses and collect relevant data.

Baxter Magolda (1993) studied clinical reasoning among college students. While she did not focus on clinical decision making, her findings are applicable to the study of clinical decision making by nurses. She found that patterns of knowing and reasoning in college students developed sequentially during college and after graduation. The use of reasoning patterns was fluid, changing as the students encountered different experiences. Students initially used an absolute pattern of knowing, assuming that knowledge is certain, absolute and that the teacher or authority figure always has the correct answer. Later, they utilized a transitional pattern of knowing. At this stage, they began to question authority and valued active learning as opposed to passively acquiring knowledge from the authority figures. They began to accept that knowledge was uncertain in some areas, but still believed that absolute knowledge was possible in others; that there was a right answer that fit in all cases. In the next stage, independent knowing, students assumed that most knowledge is uncertain and they began to consider their own opinions valid. They demonstrated the emerging ability to create their own perspectives. Few students achieved the final stage, contextual knowing, during their college years. Some demonstrated it one year after completing college. At this stage, the participants thought through problems and integrated and applied knowledge in context. The students decided what would work within the context of the problem, based on review of the evidence.

Throughout her study, Baxter Magolda (1992) identified the importance of interpersonal relationships in fostering the development of knowing and reasoning skills. Movement from each step to the next involved risk taking by the student. She noted:

Promoting complex thinking entails promoting the development of voice.

Complex forms of thinking, such as independent or contextual knowing, require that students develop their own voices and ideas based on evidence within a context. Students' naming their experience generates possibilities for learning and

knowing...The student voice, fragile in the beginning, needs confirmation for its emergence and development. It often needs contradiction in order for the student to consider other ideas. If contradictions overwhelm confirmations, the voice will be silenced (p. 273-274).

While the students needed to be challenged to think and critically analyze their perspectives, it was important for this to be done in a manner that supported the students and encouraged additional discussion.

Discussion of Methodology

Simulated Situations

Much of the research on clinical reasoning has used simulated patient situations, presented in case studies, video presentations or computer-assisted scenarios. Simulated situations allow researchers to control the environment and provide the participants with the same content. The situation is kept constant so that diagnoses made and processes used can be compared across participants. Although efforts are made to capture "real life" situations, this format lacks the contextual variables and the high risk, rapidly changing nature of the clinical environment (Tanner, 1987). In a retrospective analysis of their work on medical problem-solving, Elstein, Shulman, and Sprafka (1990) noted that the complexity of clinical situations supported the use of more realistic situations to study what both experts and novices do.

Tanner (1987) described clinical reasoning as an interactive process that involved numerous rapidly changing variables in the clinical environment. Nurses made decisions and took actions based on the logic of immediate and reciprocal responses. Simulated situations cannot mimic this dynamic, interactive process and critical variables that influence it are often eliminated. Additionally, these situations control the test environment, so that the decision maker is not subjected to the reality of multiple

competing stimuli that necessarily detract from the task at hand. How well the clinical-reasoning model developed from these studies represents the experience of nurses in clinical situations is questionable (Diekelmann, 1992).

Naturalistic Research Methods

Naturalistic research methods focus on description of individuals' experiences with a phenomenon of interest. They attempt "to describe particular phenomena, or the appearance of things, as lived experience" rather than to generate theories or develop general explanations (Streubert & Carpenter, 1995). The task of naturalistic studies is to "uncover the meanings in everyday practice in such a way that they are not destroyed, distorted, decontextualized, trivialized or sentimentalized" (Benner, 1984, p. 6). Words are the data of this type study, and they are collected through open-ended interviews that encourage participants to describe the experiences under study (Mostyn, 1985). These data are then analyzed to identify themes that are common among the participants.

Data in this type analysis are often presented in a narrative format that seeks to capture the complexity of the situations from the perspectives of the participants (Baxter Magolda, 1992; Benner, Tanner, and Chesla, 1996). The stories, meanings, intents and concerns are better understood through narrative thinking "in contrast with paradigmatic thinking that conforms to logic" (Benner et al., 1996, p. 11).

Naturalistic methodology provides for rich description of the participants' experiences with the phenomenon under study. It reflects the context of the experience, and is necessarily bound to the context, beyond which interpretations cannot be generalized. It is incumbent upon the reader to determine to what degree the stories and interpretations can be transferred to other contexts (Baxter Magolda, 1992).

Summary

Studies of clinical decision-making in nursing have utilized both the information-processing model and a descriptive model. Both have provided findings that are useful in understanding the clinical decision-making processes of nurses. While participants in some of the studies using the information-processing model are presented with a limited number of scenarios, nurses in the clinical setting, on a medical-surgical floor of an acute-care hospital, are assigned to care for many patients. These patients require nurses use "effective clinical judgment, work in interdisciplinary teams, resolve conflicts, and communicate well (del Bueno, 1994). The complexity of the clinical environment is better captured in the descriptive methodology, as the researchers describe the experiences of the participants from the perspective of the participants and derive common themes that are reflective of the group. The narrative is a valuable tool in the presentation of these experiences.

CHAPTER 3

METHODOLOGY

This study investigates the experience of clinical decision making by beginning nurses, utilizing the principles of naturalistic inquiry identified by Lincoln and Guba (1985). Clinical decision making is investigated by eliciting descriptions of experiences from the participants and by observing the environment in which it occurs. In this manner, the phenomena remain part of the contexts that surround them (Lincoln & Guba, 1985).

An emergent study design was used to facilitate obtaining narrative descriptions of the participants' experiences. These narratives present the nurses' interpretations of their experiences, reflecting the assumption that reality is constructed by the individual participants. This is in contrast to the empirical perspective that there is an absolute truth that is objective, testable, and independent of the context and the temporality of the observations (Lincoln & Guba, 1984).

Naturalistic inquiry is inductive in nature, with description and theory emerging from the analysis of data. Theory does not define the study because no **a priori** theory can encompass the multiple realities that are the basis for the experience. This approach places no prior expectations on the outcomes of the research. It accepts the complexity of the changing nature of the research situation.

The focus of this study is the experience of clinical decision making and the factors that influence it from the perspectives of beginning nurses. There is no attempt to provide a theory or model of clinical decision making which would apply to all beginning nurses, for despite common themes, these experiences are difficult to describe collectively due to their context-dependent nature (Baxter Magolda, 1992).

Assumptions

The following assumptions are basic to the study:

1. The reality of the phenomenon is constructed by the participants.
2. A phenomenon is represented by multiple realities.
3. The reality of a phenomenon is best understood when studied holistically.

Breaking down a phenomenon into its component parts distorts its reality.

4. The reality of the phenomenon is best understood through the lived experiences and descriptions of the participants.
5. There is an interaction among the researcher and the participants which influences the research process.
6. This inquiry is value bound, reflecting the values of the researcher and the participants in the choices of the experiences discussed (Lincoln & Guba, 1984).

Method

The general steps of this naturalistic inquiry emerged during the study, rather than being rigidly defined at the outset. This emergent design was essential because it was only as the study progressed that the multiple, context-dependent components became apparent. Phase 1 was initiated after identifying the focus of the study, its natural setting and the units of study (Lincoln & Guba, 1985).

Phase 1 provided the orientation and overview to the study (Lincoln & Guba, 1985). During this period, participants were interviewed individually. They were asked to focus on two decisions they had made recently; one they felt confident about and one where they were not confident of their decision-making process. They were also asked to consider what factors influenced their decision making. This focus on contrasting situations was designed to elicit identification of factors that facilitated decision making and those which were impediments.

An open-ended interview format was used. Most of the questions flowed from the immediate context of the interview. Interview questions evolved over the course of the interviews; with each new interview building on those already done; providing “elucidations and elaborations from various participants” (Patton, 1990). After I completed four interviews, it became apparent that there was considerable agreement among subjects. Two additional nurses were interviewed to assure that saturation had been reached. This phase allowed me to consider the clinical world as seen by the participants, emphasizing the areas they deemed significant. At this time, I asked these participants to complete journals about their experiences with decision making.

Phase 2 involved more "focused exploration." Information obtained from open-ended interviews and transcript review provided the basis for more structured interviews of three additional participants to obtain in-depth information about the elements deemed important in Phase 1. These interviews were read and coded. During Phase 2, I accompanied a participant during her shift on the clinical unit. The purpose of the observation was to collect data for description of the clinical environment in which these nurses make decisions. It was not intended to evaluate clinical competence or to provide another perspective of the decision-making process as perceived by the observer. This phase also included a discussion with a hospital employee in the Staff Development Department who had responsibility for orientation of new employees.

Phase 3 was the "member check" phase. The purpose of this phase was to obtain confirmation that the interpretation of the data captured the experiences as constructed by the informants, or to correct, amend, or extend it (Lincoln & Guba, 1985). In Phase 3 of this study, I shared the analysis of data from the interviews and the journals with the participants. This gave them the opportunity to confirm findings derived from the data.

However, Phase 3 was on-going in that each of the interviews provided data that I used to guide the subsequent interviews.

The phases of the inquiry were not conducted in discrete stages. There was a movement back and forth between phases, returning to previous data for new insights. This process is called a **hermeneutic dialectic**. This dialectic emphasizes that phenomena are in a constant state of change. This process allowed me to identify and investigate the similarities and contradictions that appeared in the data (Streubert & Carpenter, 1995). Figure 1 depicts the relationships among the phases.

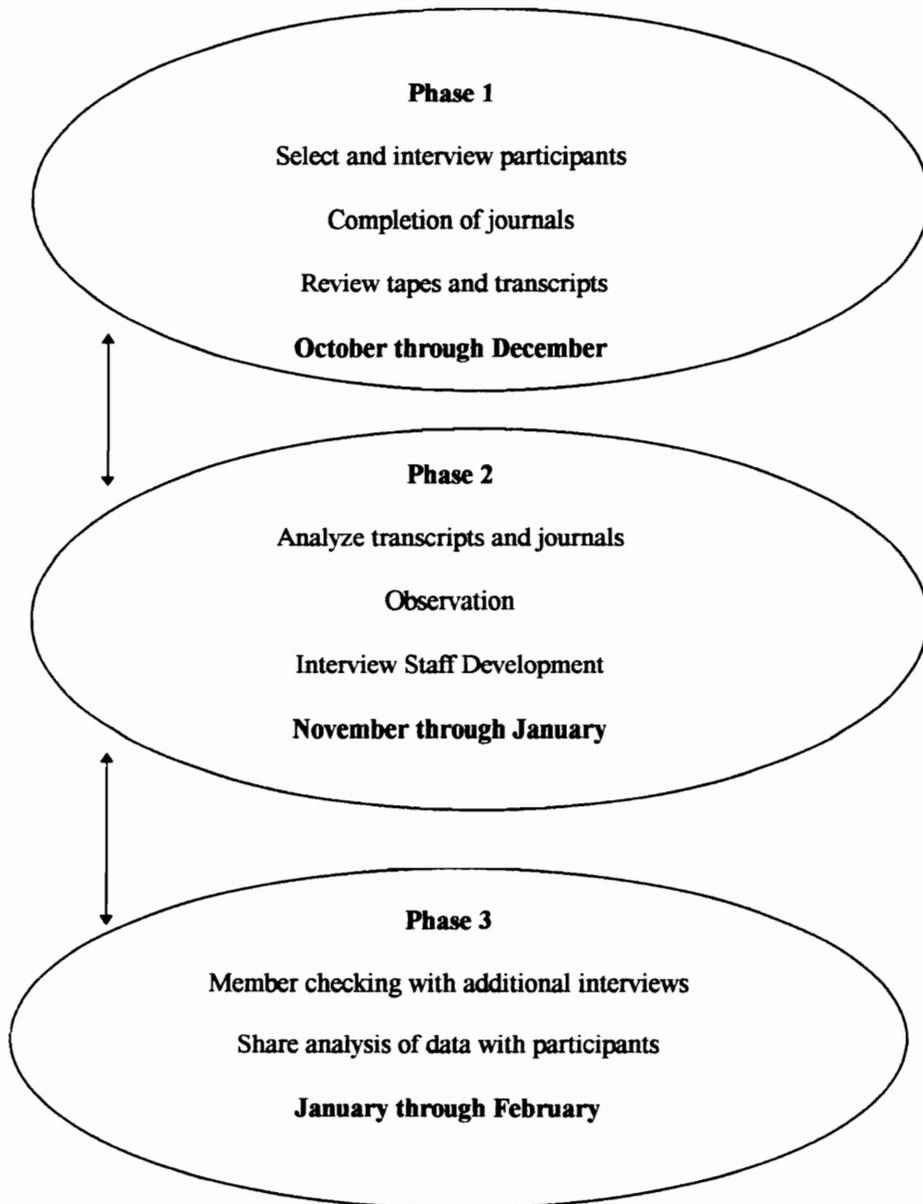


Figure 1. Phases of the study of clinical decision making by beginning nurses.

Instrument

The researcher is the primary data-gathering instrument. This is the only instrument that has "sufficient adaptability to encompass and adjust to the variety of realities that will be encountered...and because all instruments are value based and interact with local values but only the human is in a position to identify and take into account those resulting biases" (Lincoln & Guba, 1985, p. 41).

Within this context, it is important to identify personal perceptions and biases about clinical decision making in nursing, in order to acknowledge their influences on data collection and analysis. I have had 20 years experience in nursing practice, most currently teaching and supervising students in medical-surgical, acute-care settings. In this role, I have observed students providing care for 2 to 3 patients, in a closely supervised role. I have also observed beginning nurses as they provide care for 6 to 8 patients. I have respect for their abilities to make this transition, and wonder how they do it. How do they prioritize and make decisions about patient care needs? How do they handle the stress of the situation?

I had worked briefly with four of the study participants during their basic nursing education. I was careful to inform them and the other participants that I was not making any attempt to evaluate their practice, that my goal was to understand their experiences. This relationship with the participants required that I suspend what has often been my role, that of evaluating the competency of nursing practice.

Prior to beginning this study, I believed and taught that nurses followed primarily a linear decision-making process: assessing the patient, organizing cues, making a diagnosis about needs and implementing a plan of action. By delineating the model of expert decision making, I expected to be able to enhance the education of nursing students and

therefore, enhance the practice of beginning nurses. However, the studies reviewed for this literature review have demonstrated that this has been tried with only limited success.

I now believe that clinical decision making is a complex, holistic process. It does not follow a linear pattern, making it a difficult process to teach. It is central to the practice of nursing and is difficult for beginning nurses who lack experience in the clinical setting. Confidence and expertise with clinical decision making are intertwined with the cognitive development of the individual and require integration of theory and experience. The nature of the interactions between beginning nurses and the more experienced staff has a profound effect on the development of skill in the decision making process (Benner et al., 1996).

Protection of Participants

Protection of human subjects was assured through the process of informed consent that met the guidelines established by the Virginia Polytechnic Institute and State University. The purpose of the study was discussed with participants prior to participation. They were informed that the interviews would be tape recorded and transcribed by a professional typist with the identities of the participants coded. Tapes and transcripts were secured in a locked cabinet and erased following completion of the study. Only the researcher had access to the tapes other than during the transcription period.

Participants were told that they would not receive any remuneration and that they could withdraw from the study at any time without penalty. Each participant signed a written consent. Anonymity of participants was maintained and fictitious names are used in the report.

Participant Selection

Criteria for inclusion in the study included: registered nurses with less than one year experience in practice; currently working in a medical-surgical environment; and no

previous experience as a licensed practical nurse. All participants had completed their orientation to the general hospital and their units of practice. Confining the time frame of experience and excluding licensed practical nurses assured that the participants would have had limited opportunity to develop beyond the advanced beginner stage described by Benner (1984). However, since they had completed orientation, these nurses had some familiarity with the clinical environment and would not be overwhelmed by the newness of the situation. The medical-surgical site was defined to include critical care areas as well as general units, in the belief that clinical decisions in these patient care areas are similar in nature.

Participants were drawn from the beginning registered nurses in an acute-care, medical-surgical hospital. The staff development department was asked to identify beginning nurses who met the study criteria. Of the 12 nurses who met the criteria for inclusion in the study, four responded to an initial letter; two others agreed to participate after receiving a follow-up letter. Of the 12 who were originally invited to participate, one notified me that she was quitting nursing and would be unable to participate; another was on medical leave of absence; and a third was unable to make several appointments due to family problems and schedule changes. Another nurse from this first group who was unable to participate in this phase of the study due to personal illness was included in Phase 3.

In Phase 3 of the study, participants were selected from another local acute-care hospital. Staff development would not provide names of nurses but forwarded letters about the study to new nurses. Two responded and were interviewed individually. With these nurses and the nurse from the first hospital, I discussed my findings from the initial interviews and sought their reactions to these themes.

Of the participants in the study, three nurses worked in critical-care areas, six worked in general medical-surgical areas. There were eight women and one man. They had diverse educational backgrounds and worked in several different clinical areas. They had attended four different schools of nursing in southwest Virginia. Table 1 depicts the profiles of the participants. In Phase 1, I interviewed the first 6 participants; I interviewed the other 3 during Phase 3. The names of the participants have been changed to protect their anonymity.

Table 1

Demographic and Work Profiles of Study Participants

Participant	Gender	Age	Degree	Other Degrees	Shift & Unit
Anna	Female	20-30	AD	None	Nights Critical Care
Joe	Male	20-30	AD	BS/Business	Day/Nights Medical Surgical
April	Female	20-30	AD	AD/General Studies	Nights Medical Surgical
Carol	Female	20-30	BS	BBA/Marketing	Nights Medical Surgical
Jackie	Female	30-40	AD	AS/Office Systems	Day/Nights Critical Care
Barb	Female	20-30	AD	None	Nights Critical Care
Lucy	Female	30-40	AD	None	Evenings Medical Surgical
Laura	Female	20-30	AD	BA/Math	Evenings Medical Surgical
Gloria	Female	20-30	AD	None	Day/Nights Critical Care

Data Collection

Individual interviews were the primary method for data collection. In the planning stages of this study, I had intended to use focus groups to enhance participants' discussion of their experiences. However, this proved to be impossible due to the varied work schedules of the participants. These nurses worked a variety of shifts, primarily nights, and I was unable to establish a time that was convenient for even two of them to meet. At one point, a meeting with two participants was arranged, only to be canceled as one had a change in work schedule the morning prior to the scheduled meeting.

I conducted eight of the interviews at a local private college in a comfortable conference room. One was completed in my home. Tape recorders were in view of the participants. In a brief discussion with the nurses prior to the taping, I discussed the purpose of the study and talked with them about their general experiences with nursing to set them at ease. The interviews lasted from 45 minutes to one hour.

Each of the original six participants was asked to complete a journal for a month, making two entries per week. These entries were to focus on experiences with clinical decision making. Four journals were returned for review. Two journals included six entries, two included four. One of the participants quit working in nursing following our interview and did not complete the journal. Another participant notified me she did not have the time to complete the journal entries.

Following analysis of transcripts and journals, I summarized the themes expressed by the beginning nurses. These were sent to the participants for review. Two nurses returned the summaries with comments that were included as components of the dialectic data analysis. The other 6 participants shared their responses in phone interviews.

I observed the clinical practice of one of the participants, during one evening shift for approximately 5 hours. This and descriptions of the clinical units by the participants

provided data for the description of the environment. The observation was not intended to evaluate the decision-making skills of the participant. Observation in the clinical setting provided additional data about the context of the nurses' experiences with decision making. An interview with the staff development specialist provided a perspective on the orientation process for beginning nurses. This added depth to the description of the practice environment of the beginning nurses, providing the reader with the background needed to determine the applicability of the findings to other contexts.

Data Analysis

I completed data analysis on transcripts of taped interviews and journals, using Ethnograph 4 for coding and search procedures. In the initial stage of data analysis, beginning with Phase 1 interviews, I reviewed the transcripts while listening to the tapes, to identify initial themes on a "feels right" basis (Lincoln & Guba, 1985, p. 340). Using the Ethnograph 4 software, a working list of themes was identified.

In the second phase of data analysis, themes were combined and refined. There was a cycle between data analysis and data generation. Each interview provided themes that I sought in the other transcripts and journals, in both a forward and backward analysis pattern. I shared a summary of the themes generated by the transcript reviews with participants. Their input provided insight into determining the "fit" between the interpretations and their experiences. This provided additional data for analysis, a part of the dialectic.

The final report of data analysis relies heavily on the narratives told by beginning nurses of their experiences with clinical decision making. This reflects the multiple realities that are context based. This narrative approach accepts the stories as genuine; they are not evaluated or judged for correctness of thoughts or actions. Despite many common themes, the interviews revealed that these nurses' experiences cannot be easily

described collectively (Baxter Magolda, 1994). They reflect different stages of development, and do not provide a single picture of the experiences of “the beginning nurse.”

Trustworthiness

Rigor in qualitative research is demonstrated through trustworthiness of the data and data analysis (Lincoln & Guba, 1985). Lincoln and Guba (1985) have suggested that specific operational techniques contribute to trustworthiness: credibility, dependability, confirmability and transferability.

Credibility in data collection and analysis is established through prolonged engagement with the subject matter. This was accomplished through my experience in acute-care, medical-surgical settings, as both a practitioner and an educator. I have worked with both student nurses and practicing nurses. While I have experience in each of the clinical settings where the participants work, my perceptions of patient care situations are different from those of beginning nurses. During the interviews and the observation period, I attempted to detach myself and view the environment through the eyes of the participant.

I used two methods of data collection to enhance the credibility of the findings. These were the individual interviews and the journal entries. Additionally, the findings from these methods were checked with participants to assure that they "fit" the intended meanings. Also, interviews with a second set of nurses provided the opportunity to validate findings identified earlier with other beginning nurses.

Two nursing colleagues completed a peer review of the research process, the transcripts and the transcript analysis. One reviewer was a Nurse Manager in one of the hospitals of study, with 20 years of experience in nursing education at the Baccalaureate and Graduate Levels. The other reviewer is a nurse educator and clinician, with 7 years

experience in clinical nursing and education. They each reviewed the summary of themes, in conjunction with two coded transcripts and journals. They reviewed data from different participants to assure that themes were identified across data sources and participants. The purpose of this review was to assure the dependability of the inquiry. In this process, the reviewer "attests to the dependability of the inquiry...and examines the product-the data, findings, interpretations, and recommendations-and attests that it is supported by data and is internally coherent so that the 'bottom line' may be accepted" (Lincoln & Guba, 1985, p. 318). This process also assures the confirmability of the inquiry.

Transferability refers to the degree to which the findings of the study will have meaning to others in similar situations. The description of the setting and the context of the inquiry enables the reader who is interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility (Lincoln & Guba, 1985).

Throughout the process of conducting the study, I kept a "reflexive journal" (Lincoln & Guba, 1985). I made entries on a regular basis, incorporating information about the logistics of the study; reflections about personal thoughts and values relative to the data collected; and methodological decisions and rationale. This journal provided a technique that allowed me to identify biases and perspectives that could influence the analysis of the data and the outcomes of the study.

Summary

This is naturalistic study of clinical decision making by beginning nurses and the factors they perceive which affect this process. Individual interviews provided the data for Phase 1. Information from this phase provided structure for the design of Phase 2. Observation and interviews with staff development provided data for description of the context. In Phase 3, analysis of data was shared with participants and peer reviewers to assure the accuracy of interpretations.

CHAPTER 4

THE CONTEXT OF CLINICAL DECISION MAKING

The Hospital

The setting for the primary portion of this study was a full service, not-for-profit, acute-care hospital in a metropolitan city in Southwest Virginia. This 400-bed hospital is part of a larger network of hospitals in the region and enjoys a reputation as an excellent facility. In 1995, there were 15,085 admissions, with an average length of stay of 5.0 days per patient. The average daily census was 212 patients. The hospital is accredited by the Joint Commission on Accreditation of Healthcare Organizations.

Two of the participants worked at another acute-care, medical-surgical hospital in the same metropolitan area. This proprietary hospital has 250 beds and is accredited by the Joint Commission on Accreditation of Healthcare Organizations. There are many similarities between the two facilities and the description of the settings reflects a composite of the two hospital environments, based upon observations of the clinical units and discussion by the participants.

In the past few years the healthcare industry has experienced dramatic changes. There has been widespread concern about the costs of health care, leading to reduced hospital admissions and reduced length of stays. There has been extensive restructuring of patient care services over the past three years to assure improved efficiency while maintaining the quality of patient care services. This has led to changes in nursing management and the design of the delivery of nursing care.

There is a vice-president for nursing services who reports directly to the Chief Executive Officer of the Hospital. This individual is responsible for major executive decisions and is the liaison between nursing services, administration and other departments in the hospital. She has been at this hospital for five years and during that time has made

many changes. She was instrumental in reorganizing nursing services. Her emphasis has been to move decision making closer to the units of practice. This major change has removed some of the layers of management from the system.

Prior to this change, there were nursing supervisors who managed a variety of administrative tasks and, in general, supported the nursing staff in times of crises. There were supervisors on all shifts. In the reorganization, these positions were eliminated. "Resource Nurses" are now available on each shift. They provide some administrative support, but their role is primarily to assist with specific nursing tasks if the staff becomes overwhelmed.

Nurse managers are the next level of administration. They are generally responsible for 3 to 4 patient-care units. These nurses have considerable expertise as clinicians and managers. They are responsible for a variety of administrative functions, but, in general, do not have clinical responsibilities on the units. On occasion, they will provide the nursing staff with some direct assistance.

Each unit has a Clinical Leader who assumes major responsibilities for staffing of the units and the general day-to-day operations of the unit. This individual usually has several years of clinical experience and is recognized as an expert nurse. On each shift, one of the nurses is designated as "charge nurse." It is this individual's responsibility to manage the unit for the shift, taking orders from the physicians and trouble-shooting for problems.

On day shift, each unit has one to two unit secretaries. They answer phones, transcribe orders, make calls, and generally handle much of the traffic in the units. On evening and night shifts, the clinical units may share a secretary.

The registered nurses work with Licensed Practical Nurses (LPN) and Nurses Aides (NA) to provide patient care on the unit. The ratio of registered nurses to LPNs and NAs varies considerably from unit to unit.

The general organizational structure of the nursing department is represented in Figure 2.

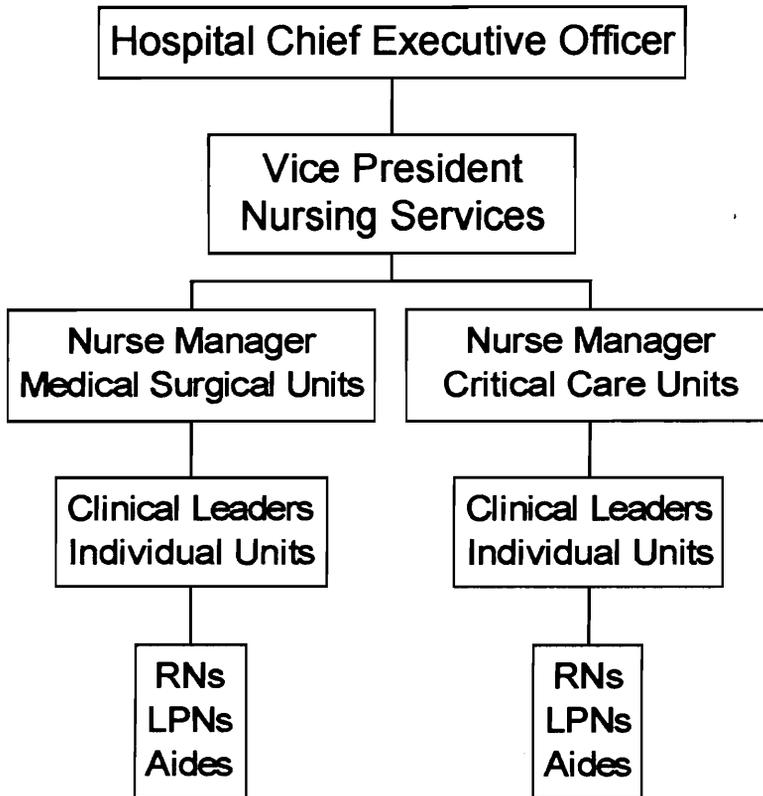


Figure 2. The organizational structure of the nursing department

The Orientation Process

Each new employee completed a one day orientation to the hospital that included information about general policies and procedures within the hospital. Following this, new nurses received additional orientation which focused on patient care issues relevant to the specific clinical units where they will be working.

For nurses working in the general medical-surgical areas, this orientation was a three to five day classroom experience during which common concepts of patient care in a hospital setting were reviewed. For example, expert nurses from the hospital discussed topics such as death and dying, pain management, diabetes, and physical assessment. For nurses in critical-care areas, this was an eleven day educational experience where they learned new information regarding critical-care nursing. Content included advanced concepts of cardiac care, medication therapy, and monitoring equipment. Many of the new nurses had had only limited exposure to this information in their basic nursing education.

The orientation procedure has changed over the past two years. Prior to this time, it included several days of closely supervised clinical work, coupled with the classroom theory. However, the nurse managers of the units requested that orientation be condensed to speed up the process, getting the new employees to the units as soon as possible. Staff development responded to this request by removing most of the clinical component from the orientation process. The beginning nurses, while not aware of this change in the process, reacted to the strictly lecture nature of the orientation.

Anna discussed her concerns with the lack of application of the content in the clinical setting:

Well, they (blood values, electrocardiograms) were touched on in the critical-care course, but the course was so overwhelming that a lot of the stuff that I've learned didn't really start to take effect at all until I had to use it and relearn it by using it in a sense.

Following completion of the didactic component of the orientation, beginners were assigned to work with preceptors in the clinical settings. The preceptors were more experienced nurses who had received additional training by the hospital. Their role was to facilitate the transition of new nurses to employment, assisting them learn clinical procedures and patient-care management. They also helped evaluate the clinical competence of the new nurses. When possible, new nurses were scheduled to work at the same time as their preceptors and often worked as a team, with the preceptor providing guidance and support as needed.

The formal relationship with the preceptor was completed at the end of the orientation period. Orientation was generally completed at the end of six weeks for the general medical-surgical areas and eight weeks in the critical-care areas. In certain instances, if the orientee was extremely insecure or had not demonstrated sufficient competence in the clinical area, orientation could be extended on a week-by-week basis. The end of orientation signaled that the new nurses were ready to assume all the roles and responsibilities of registered nurses. This included assuming care for the same number of patients typically cared for by the experienced staff on the unit. This is often an extremely difficult time for new nurses. The participants reported that this marked the beginning of a new phase and the expectations of the staff changed drastically. "The day that you come off of orientation you are looked at completely differently" (Jackie).

It's hard when you come off orientation and reality hits. It changes a lot because you don't come to work and say "okay, my preceptor is going to be with me every minute of the day. It's not that way anymore (Gloria).

For Barb, the adjustment was particularly abrupt:

My first day out of orientation was a 12 hour shift, 7:00 AM to 7:00 PM. I was on my own literally. The Clinical Leader never stopped and asked me if I was OK, if I needed help. I never got a lunch break, never was asked how my patients were...I felt like it was sort of a test. Are you ready, Fred? Cause this is the way it's going to be. That was my first day out of orientation and I've always heard of reality shock, but I think that was a bit much.

The Clinical Units

The critical-care units typically hold eight to ten patients. The patient-care rooms are arranged so that they are all partially visible from the nurses' station. The patient rooms are all open but can be enclosed with sliding glass doors and curtains to provide patients with some privacy.

The nurses' station is large and well lit. Desks line the area. There are computers and charts on several of the desks, but it is not a cluttered area. Cardiac monitors are mounted on the walls in several areas to allow the nurses to see them from a variety of locations. The cardiac rhythms of monitored patients continuously traverse the monitors, but receive only passing attention from the nurses. There is a medication room to the rear of the nurses' station. It is a large room, stocked with all the equipment the staff needs to prepare medications. However, it is difficult to see the cardiac monitors or the patient rooms from this location. There is a small break room at the far end of the unit. This houses a small table, a refrigerator, and numerous bulletin boards decorated with

holiday messages and educational notices. It is not possible to see the patients or monitors from this location.

The patient rooms are large and each has a window. Technical equipment, including monitors and computers line the walls. There is a sink and a small desk with the patient charts. Most of the equipment the nurse needs to provide care is in the room, and the rooms are restocked on a regular basis by technicians.

The general medical-surgical unit has a patient census of 20 to 30 patients. The nurses' station is central to the unit, with patient rooms on either side of a long hall. In many units, only 4 patient rooms are visible from the station. There are several computers in the station, but no cardiac monitors. The medication room is adjacent to this area and is not as large as that in the critical-care unit. It is stocked with all the necessary supplies. Most of the medications the patients need are kept in a cart in the hallway. This allows the nurses to be closer to patients while completing work.

The nurses are assigned patients based upon a variety of factors such as: who cared for the patient the previous night; who has a particular interest or skill with a particular clinical condition; who is from another floor in the hospital. On a typical shift, a nurse is responsible for one to two patients in intensive care or four to five in the progressive care unit, depending on the severity of the patients' conditions. On the medical-surgical units, each nurse has responsibility for six to eight patients, although on nights, this may increase to ten. There is often considerable discussion between the nurses on the unit and the nurse managers to assure that there is adequate nursing coverage for the number of patients on the unit.

Change of Shift Report

At the beginning of each shift, the nurses who provided care for the patients on the previous shift give a report on each patient's status to the on-coming nurses. This

“change of shift report” is usually held in the nurses’ station and focuses on the status of the patients; the medications they are to receive; and the tasks that need to be completed. Usually, all the staff listen to report and the noise level in the station can be fairly loud. The tone for the oncoming shift can be influenced by both the content of the report and the smoothness of the process. This can be a hectic time as Lucy described:

When I get to work, they’re (the nurses on the previous shift) usually scurrying around trying to finish giving their meds (medications), getting nurses’ notes finished, getting ready to give report. After we get report, I try to get my day organized. I go make quick rounds (check on her assigned patients) and give the medications that I need to give. If report runs on time and lasts a half an hour, things go great. If it’s running behind, that really sets me off schedule. It depends on what goes on there and on what happened on a previous shift.

The change of shift report is a time when nurses share important information about the patients; this may be the only time the oncoming nurses learn anything about the patients other than what the patient or family may mention or what the nurse observes. It is also a time when the nurses informally share information about the adequacy of prior patient care which has been provided by both the nursing and medical staff. Report is generally interrupted by phone calls, patient requests, family questions and attempts to secure additional staff.

Working Shifts

While two of the beginning nurses worked the evening shift from 3 PM to 11 PM, the others worked primarily nights or rotated from day to night shift, or evening to night shift. This was not their preference, but they thought the stresses and pressures of the shift were much less intense than those experienced on the day shift. The nurses worked a

combination of eight and twelve-hour shifts. Gloria spoke of her difficulties in working the night shift.

I would rather work straight days or straight evenings. I'm not a night shift person. It makes me sick. Usually I'm miserable on nights. I'm more alert and I catch things going on with my patients much faster on days.

Another beginning nurse, Joe, noted in his journal that he had difficulty staying alert on nights, especially if he was rotating shifts from nights to days, which he did every two weeks.

However, despite the physiologic adjustment to working nights, the nurses felt there was less pressure on this shift. This allowed them to become familiar with the clinical environment, although it did not necessarily make it easier for them to work during the days because routines and expectations were quite different between the two shifts.

Jackie discussed her thoughts about working nights in a critical-care unit.

When I first went on nights, I thought, please make a day position open up. I don't want to go to days because that's when they put in all the central lines and things on patients. They (the doctors) come on the unit and they do blood gases and they do pacemakers and that's when they do all this stuff right there in the room...When these doctors come in they want it done this quick. Bring me everything, get me everything I need, come on, we got to get this in and they expect you to know what you are doing...then I can't remember anything. So nights are a lot slower. They're better for orientation as far as giving you experience without all the pressure.

They reported that they frequently worked overtime, on their days off, to assure adequate staffing of the unit. Anna expressed her feelings regarding the overtime, "The

nurse managers and other hospital administrators seem to expect us to work unlimited hours when extra help is needed.”

Summary

Nurses make clinical decision within the context of the hospital environment. This environment includes the physical settings, the administrative structures, the orientation process and the interpersonal relationships. All of these factors have an impact on both the kinds of decisions the nurses make and the support available to help them learn the process in a clinical environment. The change of shift report and working nights also affect the nurses' working environment. This description of the environment allows the reader to determine to what extent the findings of the study may be generalizable to another setting.

CHAPTER 5

DATA ANALYSIS

The transition from the semi-sheltered environment of nursing school to the real world of the acute care hospital setting is a difficult time for beginning nurses. They must learn to apply theory to practical settings. They have had only limited experience in the work environment and now must provide safe, effective care for their patients, with only limited supervision. This is a process that requires skill in decision making, a skill that only comes after considerable experience and learning in the clinical environment. It takes the application of knowledge in clinical settings to provide the beginning nurses with the practical knowledge they need to deal with the wide range of patient care problems they will encounter.

These beginning nurses defined clinical decision making, not as a unique, outstanding event, but as the foundation of their daily work. For Anna, clinical decision making involved identifying relevant data about a patient and making decisions about courses of action to follow.

That's (clinical decisions) just everything that I do basically. You look at them (patients), you listen to them, you touch them. You assess them. Everything besides that is decisions as far as I'm concerned. If something is a variance from what you're hoping to see, then you have to decide what to do about it.

Joe defined it more broadly and included management functions as well as direct patient-care issues.

Clinical decision making for me is anything that affects how patient care is given. It's staffing, because it determines how many people you have working with patients. It's whether or not to give a med (medication) based on patient stability,

level of consciousness, that's a clinical decision. You can almost tie anything that goes on in your day to clinical decision. It all involves patient care.

These beginners discussed a wide range of decisions they had made, including those concerning medication administration, physical assessment data, calling physicians and, finally, deciding whether or not to trust their own decisions. Their narratives revealed a group of individuals who were concerned about their skills, their abilities to make appropriate decisions, and the safety of their patients. They were acutely aware of their inexperience and often commented on their concerns about the appropriateness of their decisions. They repeatedly emphasized the role of experience in the development of their decision-making skills. They felt that their formal education was not as helpful as experience in developing expertise in actual nursing practice. When asked about the role of her education, Jackie replied:

The actual book part of it, you can learn something in a book but it's totally different when you have to apply it. Like with the adult respiratory distress syndrome, I had remembered reading some articles and covering that but you kind of have to really struggle to pull it out and look back over some stuff again because you actually see a patient with it. It really makes sense and you remember it...I think it's just experience...It was just going to take time and they say it takes at least two years up there before you and everyone else starts to think maybe you do have an idea of what you're doing.

Several common themes emerged from the data and were validated both in the journals and follow-up interviews with the nurses and through the summaries sent to the participants. These themes were: the role of experience; the importance of the interpersonal environment; the significance of interacting with physicians and the process of becoming a nurse.

The Role of Experience

The development of confidence and skill in clinical decision making is a long-term process. It requires the integration of theory and practical application. During this early stage of clinical practice, beginning nurses develop templates or patterns on which to base future decisions (Benner et al., 1996). This was confirmed by the data of the study, with the role of experience emerging as a dominant theme. Participants discussed their development of skill in decision making and their concerns about their proficiency and their judgment. They focused on the role of experience in two major areas: assessing the patient and developing a plan of action.

Assessing the Patient

Assessment of the patient is an important component of clinical decisions. Nurses determine if the patients' physiological parameters are within expected ranges and then plan interventions based on their analysis of the data. Some assessment techniques, such as listening to heart and lung sounds, require a degree of skill, both to hear and to interpret. Others, such as blood pressure measurements and urinary outputs, do not require sophisticated skills to obtain, but do require analysis to determine if they are "normal" or if they vary significantly from expected norms. Beginners were often unsure of the accuracy of their assessments of the patients' status. However, by the time of this study, these nurses in this study had been working in the clinical setting for four to six months. While they discussed their concerns, they demonstrated increasing confidence in their proficiency and willingness to trust their own findings.

As Anna noted, she was confident of her assessments some of the time, but not always. She related her internal dialogue about the accuracy of her assessment.

One of the things, this is very simple, but somebody's breath sounds had changed in the middle of the night, I guess it was around 3:00 AM. This guy was sounding

really junky, you were hearing a lot of stuff going on. His urine output had gone down...I thought about it and I was, like, do I trust my own assessment skills here? The urine output was obvious, but the breath sounds, to me I was, like do I get another nurse to check this, and I thought about that for a few minutes, and I said, no, I'll just call the doctor.

However, in her journal entry, Anna discussed a situation where she did not feel she could trust her own judgment, even though this occurred several weeks following the previous situation.

I heard an odd, low-pitched grating breath sound on a patient and I thought it might be a pleural friction rub (when there is inflammation between the chest wall and the surface of the lung). Having never heard one and feeling uncertain, I asked another nurse to listen and she told me it was just fluid (the patient was in congestive heart failure). When the Doctor came on in the morning he mentioned to me that the patient had developed a pleural friction rub. I wished I had felt more confident in my own assessment skills.

Interpretation of assessment findings is a clinical decision in itself. At this stage of practice, advanced beginners strive to recognize clinical entities that they have studied only theoretically. The concrete reality of various conditions becomes apparent, but it requires considerable effort to recognize the relationships between the data and their implications (Benner et al., 1996). Laura described her decision to "wait and see" after assessing a change in a patient's blood pressure.

A gentleman had a blood pressure of 178/104 after he had been ambulated in the hall. I couldn't decide whether or not to call the doctor about that blood pressure...I don't know if that was the right decision to make or not but he wasn't harmed...I didn't know at what pressure I should call the doctor.

Competence in collecting and analyzing data developed with experience.

Developing a sense of confidence in one's own judgment reflected growing independence in decision making. However, this confidence developed slowly, with practice and not equally in all areas. Jackie identified areas where she felt skillful and others in which she was unsure.

I think when I go in, I'm very good at listening to lung sounds, I'm getting better on heart sounds. It still has to be a pretty loud murmur for me to hear it. I still have a very hard time.

Carol discussed her growing sense of confidence as she began to trust her assessment skills. She noted that she was taking responsibility for her own decisions.

...Like with breath sounds. They all (the unit staff) know I'm starting out and sometimes people hear things that others don't. I made a decision that the breath sounds go one way and somebody else said "no, they're this way." I listened again and I still didn't hear them. Before, I would have decided to say "okay, fine, that's the way it is." Now I've decided to say no, I'm the one that's charting it.

These nurses identified concerns about the adequacy of their assessment skills. They were uncertain if they were able to recognize essential data about patients and then make an appropriate analysis of the data. They noted that, with experience, they were developing skill and confidence in both collecting and analyzing the data.

Developing a Plan of Action

For the beginner, a plan of action is often based upon actions which other staff members have taken. When I asked Carol how she came to a decision about giving medications before the scheduled time, she shared some of her thoughts.

To be honest with you, I had seen other nurses do it. By observing what they do in patient care and a similar situation where they had given the schedule dose (of

medication) early in order to prevent giving a PRN (pro re nata: additional medication which can be given based upon the nurse's assessment of the situation) since they were so close together. That's how I learn a lot, by watching what others do. It's hard because you don't have time to observe a lot but that helps.

New situations can be very challenging for beginning practitioners. They have few patterns on which to rely. While theoretical information provides a background for clinical decision making, there is limited clinical experience to give it life. As Benner et al., 1996, noted this creates a dilemma for new nurses who are expecting an absolute environment where there is 100% certainty if the correct knowledge is applied.

Jackie shared her experience with a situation where, despite the best intentions and guidance, she initiated a plan of action that the physician considered inappropriate. She had given a medication to the patient, based upon advice from a more experienced nurse. The physician felt this action could have seriously harmed the patient. Jackie discussed the situation and what she had learned.

Right as I came off of orientation...I guess it was like the second week off, and like I said, I had only had one (patient with an myocardial infarction) when I had been on orientation...and he was young. 52 for a heart attack patient is very young...He was having reperfusion arrhythmias (cardiac rhythm changes) which you want him to have but they are also very dangerous..

After consultation with another nurse, Jackie gave the patient a medication that was ordered by protocol. In the protocol, the physician's orders indicated that certain medications could be given if the patient's parameters met certain guidelines. The nurses made the decision to administer the medications, based on their interpretations of the situation. In this case, the physician disagreed with Jackie's decision and explained why. Jackie talked of her reactions.

The patient turned out to be fine, but I learned my lesson, you know. The next MI (Myocardial Infarction) patient I had, when they were doing this (having this particular cardiac dysrhythmia) I didn't get upset. I just kept an eye on it. I knew beyond a doubt that's what he was supposed to be doing and that's what it was supposed to look like.

She perceived this original situation as a perfect template for later encounters with other MI patients, looking to apply this in a "context-free" model. It was not apparent to her that patients with different clinical parameters may require different interventions. For the immediate time, she appeared certain that this was an absolute rule which she could apply in all instances. Beginning nurses tend to trust that clinical situations have an order to them that might be understood if only they had sufficient knowledge or experience. While this is a common stance for beginning nurses, it provides a false sense of security in clinical environments that can change rapidly (Benner et al., 1996).

Carol discussed her growing sense of confidence in two similar situations. In the first instance she talks of her anxiety when she encountered an emergency situation.

Just recently...a man who was going into respiratory distress...he was my patient and was an asthmatic and he began to cough. He coughed for several minutes, 5 to 10 minutes. I went in to check on him and he was very flushed, very short of breath. I didn't know what my next step would be. The Respiratory Therapist came in. She sort of guided me along...I've never been in that situation and I didn't know what to do and what I should have done and I know that now I would at least have called for help. Thank goodness, the Respiratory Therapist came in.

In a journal entry, Carol described a situation much like her previous patient encounter and commented on her personal growth and the impact of experience.

I see from writing this journal that I am learning everyday. Today I had to draw from my past experiences of respiratory distress to aid a patient. The patient called to say he was having SOB (shortness of breath). I went in to see the patient and noticed audible wheezes and the patient was very diaphoretic and gasping for air. I immediately listened for breath sounds and when I heard none, I called for Respiratory Therapy...I instructed the patient in pursed lip breathing and tried to reduce his anxiety. Once Respiratory Therapy arrived, they began a Proventil treatment (medication to relax the respiratory system) and slowly the patient's breath sounds began to return. I felt very good with the decisions I made in this situation and will use these skills in the future.

Here, Carol discussed how she used the previous situation as a model for the latter. However, within this narrative, she noted that "the patient had no breath sounds." This assessment is not correct and yet she did not perceive the impact of this statement. If, indeed, the patient had no breath sounds, he would be in respiratory arrest and die in short order. She did not recognize the incongruity of her statement. She implemented several actions that were appropriate, teaching the patient pursed-lip breathing, reducing anxiety and calling the Respiratory Therapist, indicating that she had developed some ability to assess the situation and plan appropriately.

These nurses noted that it was important for them to have adequate time to process data, arrive at conclusions and plan appropriate actions. The severity of the patients' conditions and the stress of acute situations had negative effects on their abilities to make decisions. Carol spoke of this in conjunction with her initial encounter with the patient in respiratory difficulty.

...I was stuck and I didn't know what to do. I think it was the stress level and it was sort of like almost panic and I knew if I didn't do something that this man

could potentially die. (In another situation) I knew that I had a little more time and there wasn't a panic level. I had time to work it out and really think about it, whereas the situation with the gentleman in respiratory distress, it's almost like you have to know. It's like it has to be an instinct and you have to be able to jump on it....It was very stressful and I felt like his life was in my hands at that moment...I'm glad it happened because I think I definitely learned something from this and I know now what to do...I need to have a little bit of time to be able to think and collect my thoughts. That was a situation where you had to know.

The luxury of time to collect thoughts and process information is not always available to the beginner. As April noted:

On a really rush day, it's harder to kind of sit down and gather your thoughts and really think about what to do. If someone called in sick, on days, you may have the whole side with the 9 patients and you've got 2 going to surgery and 3 going to arteriograms, this going on and that going on. You kind of have to make decisions real quick. Well "do I get this person ready for surgery or do I go back and give that pain shot?"

The problem of limited experience, coupled with the need for a quick action plan was discussed by Gloria, as she talked about the first time she cared for a patient with a mastectomy. The patient had experienced some post-operative difficulties.

I had an amputee that had to go back to surgery...it was my first patient with an amputation and I was real unsure about it. I had my clinical leader come in and look at it...I called the physician to explain what I was seeing...but even with that I was thinking, what am I going to do next? What am I going to do next? I had to go get my clinical leader because I had no clue because it was my first patient with an amputation.

She continued working with the physician and the clinical leader and felt that the experience had had a positive outcome. The patient received the needed care and Gloria gained some valuable experience. As with Carol and Jackie, she expressed confidence that this experience would provide a perfect template for future use.

With my amputee patient, I was very unsure of myself and I was very uncomfortable dealing with it but I'm glad I did that because next time I'll know all the steps to go through before I call the doctor.

These nurses were developing a repertoire of experiences that provided them with increasing confidence, but they remained acutely aware of the gaps in their knowledge and their abilities. As Jackie noted "I'm flying by the seat of my pants. I never know what I'm going to run into." The narratives and the journals of the participants revealed that they had great concern for the adequacy of their care and the safety of their patients. Because of this, they relied heavily on co-workers for guidance and support.

The Interpersonal Environment

The second theme which emerge from the data was the importance of interpersonal support for beginning nurses. These nurses realized the limits of their knowledge and sought assistance in making decisions. This strategy provided a means for delivering safe patient care when the situations exceeded their capacities. This depended upon their abilities to recognize their needs for help and the availability of resource people (Benner et al., 1996). The study participants sought interpersonal support in a variety of ways: for assistance in getting tasks completed; for assistance in developing plans of action; and for validating the plans they generated. They spoke of the quality of the assistance they received as well as the receptivity of the resource people who were available to them. They were very aware of the climate on their units--whether or not it supported the new graduates as they sought guidance.

Anna described her reliance on the experienced staff on the unit. She also noted that she worked in a collegial environment, where even the seasoned staff asked each others' opinions.

I guess that I haven't really had all that much trouble with making decisions because I get so much help with them. I found that the other RN's on the unit, even the ones that have been working there a long time, most of them feel really comfortable asking each other for their opinions... I feel really fortunate that in my work setting because I know that not all the nurses feel supported by the people they work with...I've heard stories from some other nurses that they don't have the same kind of support. I would just be horrified, especially with the acuity of patients that I work with.

Assistance with Tasks

Beginners faced a wide array of tasks that they had to complete during their shift. Their capabilities were often stressed. They needed the help of experienced staff to complete their work. They also depended on the staff to provide them with support when they performed unfamiliar skills. Joe discussed a situation where he felt overwhelmed when he arrived at work and realized what his patient care assignment would involve.

I had 11 patients...and I said there's no way I can do this. I don't feel comfortable with it. I feel like these patients, all of them, will be in danger because I can't do it. (A staff member from another unit) came down and helped do assessments and to be able to get a patient started getting blood.

Laura identified that sometimes there were difficulties getting assistance. She felt that she should be able to complete the tasks of the job without help. However, help was not always available, even when requested.

I'm not good at asking for help...I feel like I should be capable of doing it.

I'm reluctant because sometimes when I ask for it, there's nobody there and then it's a frustration...It depends on who you work with. It amazed me that even on some evenings when I can see other people don't have time they are still willing to help, but others are not willing, no matter what.

Barb reported that the staff in her unit was not particularly supportive of her requests for assistance.

I asked this nurse to go in and suction a patient with me when I suctioned because it was the first time that I had ever suctioned anybody. I might have done it once during nursing school...But I asked her and she said, "you can do it. I know you can do it." Go on in there, you can do it.

In a later comment, she noted that this same staff member had complained to the Clinical Leader about her requests for assistance. Barb felt that she got very little support in her work environment. Jackie also commented that she felt there was limited support available to her.

They (the staff) don't listen to you. It's like if you say, now I'm telling you that I wouldn't be comfortable doing this, they're like, "oh yeah, you would, you'd be fine."

Both Barb and Jackie appeared to perceive the staff comments as lack of support. It was not possible to determine if this was the intent of the staff or if the staff thought these individuals could handle the situations adequately. Regardless of the intent of the staff, both these participants felt that they did not get the interpersonal support they needed to do their jobs safely and effectively. Jackie was actively looking for another job and Barb was in the process of quitting her job in the critical care unit and was not sure what else she would do. When asked if she thought the staff was confident of her

competence in the clinical area, she replied:

Nobody ever asked me if I was all right, what was going on, nothing at all...Nobody ever says, good job or gee, you handled that real well. I have not heard that, not once, since I've been there.

The beginning nurses often needed the help of the more experienced staff to supervise their skills or to assist them complete their tasks for the shift. They also required assistance in planning care for patients in complex situations.

Assistance in Developing and Validating a Plan of Action

At this stage of development, these nurses frequently relied on the staff to coach them as they developed plans. They either asked "what should I do next?" or "checked out" their plans as they developed them. To a certain extent, this strategy allowed them to confirm that an intervention was appropriate. It also allowed them to share the responsibility for actions, in situations where they are unsure. This is what Benner et al. (1996) referred to as "delegating up."

Anna shared an account of her experience in the critical care unit where she worked with a more experienced staff member to develop an action plan. A patient had been transferred to the unit from the emergency department. Considering the information she received from the nurse in the emergency department, Anna thought the patient might be having a heart attack. If that was the case, Anna thought the patient should be in the coronary care unit (CCU).

I get this patient and before he's even off the stretcher, he's having chest pain again. I called the doctor and I said can I give him some nitroglycerin. He said, "Go ahead and give him 3 nitroglycerins (medication to relieve the chest pain)." So, I did that and the chest pain was unrelieved. I had another nurse who was helping me with the admission and she said, "Well, call the doctor back and tell

him the pain was unrelieved.” I did and the doctor said, “Give him some Nubain (a pain medication).” I did that. The chest pain was not relieved. The nurse gave me a lot of help and I asked her, “What should I do?” She said, “If I were you, I’d call back the doctor and say, look, I’m unable to get rid of this man’s chest pain...So do you think we could send him to CCU?”

The physician agreed and transferred the patient to CCU. However, Anna noted that she would have been “more nervous about suggesting things, like, do you think we should send him to CCU?” without the assistance of the other nurse.

In her journal, Anna discussed another situation where she was not sure what to do. She relied on the staff for assistance in interpreting a response to a medication.

I was supposed to read a PPD (tuberculin skin test) and couldn’t remember how. So I asked a nurse. She said to call the pharmacy. The pharmacist gave me an answer but didn’t seem too sure so I looked it up in the procedure manual. Then when I went to read it, I wanted a second opinion so I called another nurse to look and she agreed that it was okay.

Here, Anna utilized resources to develop a plan of action and to validate her findings. She was concerned about the reliability of her resources. She was unsure of the information she received from the pharmacist and looked for confirmation. This was an important consideration throughout the narratives of the participants. They evaluated the quality of information they received from their resources and sought additional help if they did not agree with the original. Laura talked about the importance of assessing resources.

When there’s anything I’m not sure of, I go to the nurse in charge or even someone else that’s working that I feel would be confident to tell me the answer. If I feel unsure about the answer I receive, because sometimes the others don’t know the right answer either, I’ll go to the Clinical Specialist (a nurse with a

Master's Degree and clinical expertise) and get it from her and I know it can be depended on.

The quality of the interpersonal support had a great impact on the self-confidence of the beginners. Beginning nurses move toward competency partially as a result of being taught by other health care workers in actual clinical situations (Benner et al., 1996). In the interviews, these nurses frequently spoke of the nature of the interactions they had with others and how these facilitated or hindered their decision making. In these interviews, the nurses focused primarily on the character of the interactions, rather than on the content.

Lucy discussed a situation when she had suggested that a patient request medication in the morning. It was for a problem that was not urgent and she thought it would be appropriate for the patient to discuss the problem with the physician at that time. However, another nurse challenged her decision, not directly to her, but to the patient.

That evening I thought I was sure and then the next day I became unsure. I had made the recommendation that maybe in the morning something could be ordered for him...The next day the patient mentioned to the nurse that I had said that and that nurse said something to the effect of that I was crazy that I had said that to them. That worked on my confidence because I was assigned to the patient that evening and I thought, now they don't think I know anything because of what was said...when I heard that, since she's been a nurse much longer than I have, I started to doubt my decision. Whether it was correct or not.

This could have been an opportunity for the more experienced nurse to work with Lucy to develop a plan of care that she considered more appropriate. This is in contrast to a clinical scenario discussed by Jackie. In a situation that was discussed earlier, Jackie had given some medication to a patient. Even though Jackie had physician orders to give the

medication and a more experienced nurse had concurred with her decision, the physician felt this was not the correct action to be taken.

In 10 minutes he was there. He was very nice to me and he said, "Let me explain to you why you should not have done this..." You know, he explained it and it was like he was teaching me. He wasn't critical or anything...I learned a very valuable lesson.

The physician talked with Jackie about the expected patient response and the medication. She was able to incorporate this information into her practice. This social interaction and support allowed Jackie to learn from her actions in a positive mode. However, Lucy experienced the criticism as negative and reacted defensively. She did not perceive this as a learning opportunity. Instead, it challenged her self-confidence.

Working with Physicians

For the nurses in this study, working with physicians was a major component of their responsibilities. As they reached the extent of their ability to assess the patients and intervene, they had to work with the physicians for additional directions or orders. This was not done without considerable concern. As Carol wrote in her journal:

I see that the hardest thing for me concerning decision making is whether or not to call the doctor, and what information is pertinent to have for the call.

For the nurses working the night shift, this was even more of a dilemma. They had few other nurses working with them to provide them with information when they were unsure and so they had to call the physician.

Gloria and April worked nights on the same unit. They used each other for support, to discuss patient problems and possible solutions. However, if they could not arrive at a satisfactory conclusion, Gloria noted that: "You can always call the doctor, but

I use that as a last resort.” She discussed her deliberations and actions that preceded a call to the doctor.

It’s a major decision to call a physician. There are two or three that I don’t mind calling at all, but then there are some that you just don’t call unless you have tried everything...I try everything I can think of first before I call a doctor. Go through in your mind, OK, what are they going to tell me to do. You go ahead and do all of those things...whatever, you do all of those things first before you call during the night. If you haven’t, you’ll get in trouble...Sometimes, what makes your job worse than being unsure of yourself is that they chew you out for it...If I’m unsure about what to do, I’m just going to take a beating because it’s not worth the risk...but there are nurses on my unit that will not call because they know they’re going to get fussed at.

Anna, in her journal, concurred with Gloria’s statements.

On working nights, like, should I call the doctor in the middle of the night for this or should I wait until morning? That’s one of our big questions. You have something come up and you think, well, is this important enough to wake up this doctor at 3:00 AM or will this doctor rather find out at 6:00 AM.

The final decision is made based upon the nurse’s decision about the condition of the patient. As Joe stated, “If I’m in doubt (about the severity of the problem), I’ll err on the side of the patient and call the doctor.” Anna made a similar comment.

I have to think, well, they’re getting paid really well for this job. They have to take this call, I’m going to wake them in the middle of the night if somebody is going bad. There wasn’t another nurse around at that point (with whom to confer about a patient). I didn’t see anybody, so I just relied on myself (to make the call to the physician).

In the narratives, the nurses repeatedly discussed their concerns about calling physicians. They were hesitant to call because they were unsure of their assessments of the patients and unsure that they had completed all the possible actions to resolve identified problems. Finally, they were concerned about being “fussed at.” However, interactions with physicians were critical in resolving patient care problems. The beginners often relied on the more experienced staff to coach them through their interactions with the physicians and to provide them with guidance about when to call.

Not only did these nurses have to decide when to call the physician, they had to decide what to say, how to present their cases regarding patient care. This was very important, because on several occasions, the nurses described situations where their plans of care differed from those ordered by the physicians.

The orders written by physicians place certain parameters and limits on the care provided to the patient. The nurses had to obtain additional orders if, in their clinical judgment, the patient was not responding as anticipated. There was no problem in those situations where the physicians' orders were what the nurses considered appropriate. However, if there were discrepancies, the nurses varied considerably in their responses. Barb shared a situation where she expected the physician to order a specific medication for a patient, but he did not. The patient was experiencing some difficulty breathing and Barb had called the resident (a physician who has completed medical school, but is still in training).

I called the resident to come in after we got the report back from his (the patient's) chest x-ray. It showed some preliminary congestion and no changes in the left lung and I said, “Have you seen this and what do you want me to do?” “Yes, just stop his fluids for now (his intravenous fluids). I said, “OK, nothing else?” I thought maybe he would say some Lasix (a medication to help remove the fluid)

because there was all this congestion. He said, no, he didn't want anything else, just stop the fluids. So I did that, well then, another resident came in and wrote a different order for an antibiotic. I mean it just went on like that. Finally, the fourth resident came in, ordered the Lasix, and I was, like, thank you. So I gave that to him and it was time for me to leave.

I asked Barb if she had suggested that the physician order Lasix. She replied:

No, I didn't and I probably should have with the first one. When I said is there anything else, I guess I was waiting for him to say, "Do it" because I'm not comfortable enough with my level of telling a doctor, "Don't you think we ought to do this?" Maybe one of the other nurses might have said so...and it might not have been received that well, I don't know.

In this situation, Barb missed an opportunity to discuss the management of the patient care problem by not voicing her suggestions to the physicians. Perhaps the medication was not appropriate at the time, or perhaps the physician had overlooked ordering it. In either case, she noted that due to her inexperience, she was reluctant to make a suggestion, even if she thought it was an appropriate intervention.

In her journal, Carol wrote of two situations when she thought it was important to share her clinical judgment with the patient's physician. In the first case she made some specific recommendations regarding patient care.

Today was an especially good day for me. I had a patient who was experiencing chest pain and had to call the doctor for orders. Because I have dealt with this situation before, I called the doctor for instructions. He ordered some medications and said to call him back. I then asked if he wanted a 12 lead EKG (an electrocardiogram, a test of the electrical activity of the heart) and he said "yes."

Also, he thanked me for reminding him of the EKG. I felt good that I was able to speak up and request the EKG since I had seen others do the same thing.

In her next entry, Carol discusses a situation when her clinical decision differed from the physicians. She addressed the physician directly.

Today was another day when I had to confront a doctor concerning a patient. This patient was an elderly lady who was a No Code Blue (this means the patient did not want to be resuscitated if she experienced cardiac or respiratory arrest)... As part of her DNR (do not resuscitate orders) she requested no transfusions.

However, the doctor wanted to infuse two units of blood into the patient. I felt that as the patient's advocate, it was up to me to bring this information to the doctor's attention. I was also prepared to refuse to give the blood if need be. But, when I called the doc, he discontinued the order.

In both cases, Carol took responsibility for her clinical judgment and decided to work directly with the physicians, rather than relying on other staff members for guidance or support. The physicians responded positively to her suggestions, providing her with a pattern for future interactions. This is in contrast to Barb who did not voice her suggestions regarding patient care, despite her analysis of the situation. Carol's journal entries occurred three months after the interview with Barb, perhaps reflecting the impact of experience.

Throughout the interviews and the journals, these nurses talked of their interactions with physicians. These interactions were important in their decision-making processes but ones for which they did not feel prepared. It appeared that it was important for these beginners to develop working relationships with physicians in order to provide patient care in a safe and efficient manner.

Becoming A Nurse

Upon graduation from nursing school and completion of orientation, beginning nurses were expected to function as “real nurses.” They were expected to complete a wide array of tasks in a defined period of time, make accurate assessments of patients’ conditions, and implement appropriate clinical interventions. The beginning nurses in this study expressed concern about their abilities to meet these expectations. They stated that they were frequently overwhelmed and unsure about what to do. They often expressed anxiety about their responsibilities for the well-being of their patients. However, they all acknowledged that they had experienced changes in their abilities to meet the challenges since beginning work. As they sought to develop their identities as nurses, their sense of “becoming a nurse” revolved around completing tasks (Benner et al., 1996).

Completing the Tasks

Benner et al. (1996) reported that beginning nurses were primarily concerned about organizing, prioritizing and completing the multitude of tasks that faced them in the clinical environment. Laura spoke about her organization of her work when she was assigned 6 or 7 patients.

It seems like alot. I guess for the past week or so, I haven’t been real comfortable with that number of patients. I’m beginning to learn how to organize my time and do all of the things that I need to do to care for all of those people...First, I look at the meds (medications) that need to be given, you have a lot of IV (intravenous medications) that need to be hung. If everybody seems to be stable, after I make my rounds, then I start to organize my med administration and go from there.

Later, she noted that “I feel like there is always something that can be done. Most nights I don’t stop to eat supper or take breaks. It’s all I can do in an eight hour shift to get my work done.” Laura focused primarily on the tasks she had to accomplish. This

was an important measure of her success as a nurse. She did not discuss the patients as individuals in this analysis of her work. Gloria developed this perspective in more detail.

You're pretty able to manage that workload...sometimes I can handle it. If I have somebody who starts to hemorrhage or something, then I'm out on a limb because I don't have time for that. That's not allowed in my time schedule for 9 patients. Nobody can go bad because we don't have time for that...If nobody hemorrhages and those kinds of things, then I'm okay with it.

However, with experience, the nurses reported changes in their practice and increasing confidence in their abilities to complete the tasks. Lucy discussed the progress she had made.

I still have a hard time prioritizing needs. I'm still trying to figure out what do I need to do next. Is getting the med's (medications) out on time the most important thing? I've got somebody that needs to be turned every 2 hours and it's been 4 hours since they've been turned and that's going to take 15-20 minutes to do. The paperwork, when do you have time to sit down and chart? It's not what they taught you in school. But it gets better. I think it does. As I get more experience and feel more confident, I think it gets easier.

Even with experience, Laura expressed frustration that the tasks often took precedence over interactions with the patients.

The things that I feel best about are the emotional support that I can give to people. I went into nursing because I feel like I'm a compassionate and caring person and that's a gift I can give...I feel frustrated that I don't always have time to talk to people, to find out what their emotional needs are. There's only a little time for conversation that you have going in to do assessments and giving

medications...As I learn to use my time more efficiently, perhaps I'll have some extra time to spend with patients, but I don't feel like I'll ever have enough.

Getting the tasks done is an important aspect of being a "real nurse." The time pressure is great and the beginning nurses noted they were often unable to take breaks during their 8 or 12 hour shifts and still complete the tasks in a timely manner. When I asked Anna if she took breaks for meals, she replied:

There's no time. You're sitting down...and you're hearing the call bell and you don't have somebody to answer it. Or there's nobody at the nurses' station to watch the monitors or you're just busy as hell and there's nothing you can do about it. You're just helpless. Is that patient going to die or am I going to eat a sandwich?...It's a matter of "am I going to get this stuff done or am I going to eat for 5 minutes and get back up and continue what I'm doing or am I going to sit for a half an hour and be a half an hour behind?"

These nurses discussed their concerns about completing the tasks, not only in a timely manner, but in a manner that met the needs of the patients. Gloria said:

I find myself going home worrying about a lot of my patients. I find myself waking up in the middle of the night, did I give that medicine, did I hold it (not give it) because...they were pre-op (pre-operative), did I chart it, did I make a note...It's not as easy as it looks at first.

It takes time to develop the necessary skills to manage the tasks efficiently. In their narratives, the nurses discussed that they needed time to develop their skills, and that clinical experience was essential in this process. However, the interviews also revealed that they were developing a sense of responsibility for patient care that extended beyond completion of the tasks at hand.

Developing Agency

As they discussed the development of technical skills in nursing, these beginning nurses also discussed their clinical foci. In the initial interviews, they often focused on “getting the job done,” noting that they felt overwhelmed, just trying to complete the tasks. There was little discussion of the patients as individuals. In the follow-up interviews and the journals, they focused on their interactions with the patients in more detail than in the original interviews. While tasks remained important, the patient became more central in some of their narratives. These nurses displayed a growing sense of responsibility and accountability for their own actions.

In a follow-up phone interview, Joe spoke of how he had changed since he became a nurse. He stated that he rarely left the unit during working hours because of his concerns for the patients. He said that he had worked as a nurses’ aide for some time and would leave the floor for dinner and breaks without a thought. He noted that he had not thought about this before, but it seemed as if he was taking more responsibility for patients.

These new nurses continued to ask for help about patient care situations but were willing to assert themselves more independently as patient advocates. A contrast can be seen between Barb’s actions in a clinical situation and one discussed by Gloria. Barb shared an experience where several resident physicians had written orders for a patient. This is not unusual, but it can present some management difficulties for the nurse who must decide which orders to implement, particularly if there are conflicting orders. I asked her how she decided to implement the orders. Barb said she followed the orders of:

Whoever writes it in the chart next. Supposedly all of the residents are working together, you would hope that it would be that way. I am thankful that I have insurance and I will never be in that situation where my care is left up to residents.

It's just not a real comfortable thing, some of the things that I have seen so far and I know they (the residents) have to learn.

In this excerpt, Barb seemed to indicate she would implement the most current order, regardless of the content of the order. She did not discuss her responsibility to evaluate the orders for appropriateness and to recommend those she considered more appropriate. She suggested that the patient's care is "left up to the residents," and she did not acknowledge a decision-making role for herself as the patient's nurse. This is in contrast to Gloria's account when she thought the physician's orders were inappropriate and she took action. Her patient was dying of cancer and she felt his death was imminent. Based upon the orders, this patient was NPO (to have nothing by mouth).

Cancer was eating him up. I thought this is a horrible life for this guy. A physician came in one morning and caught me giving him (the patient) ice cream and he asked, "Why are you giving him ice cream?... I said, "Can we talk about it at the nurses' station" and I went down to the nurses' station and said, "Just because I give him ice cream, it's not going to make him any worse. He (the physician) said, "I guess I've been too busy, I haven't thought about it that way." He changed the order and said, "He ought to have something." There are times when you do make a good decision and you do get a pat on the back from it but it's not real often.

In this instance, Gloria made a clinical decision that the ice cream would not harm the patient, and it might improve the quality of his remaining life. She took control of the situation when challenged by the physician. She removed the discussion from the patient's room and shared her assessment of the situation with the physician. He accepted her analysis and changed the order as she wanted. While in some measure, this may seem like

a small issue, Gloria thought it was quite important to this patient and was willing to intervene in order to accomplish it.

In her journal, Jackie wrote of a situation where the patient had died somewhat unexpectedly. This entry reflected a sense of responsibility for the patient and his family that extended beyond the physical tasks which Jackie had to complete.

He was having chest pain...we got him stabilized as possible for this type of patient (he had had 3 previous myocardial infarctions). At that point, I wondered if anyone had called his wife and I was unsure of protocol and whether I should call or not...The patient was doing as well or better than he had done any other time when I had him as a patient. I decided that calling her in the middle of the night would alarm her for no reason, so I did not call...(the patient did die that night) but the thing that haunts me still is that his wife did not make it there. If I had only called her earlier, she would have been with him when he died which is what she was so upset about.

Jackie also discussed a situation when she made several clinical decisions about patient care that reflected increasing autonomy, confidence and application of knowledge. The patient had several medical problems and was on a ventilator to maintain her breathing. She was extremely agitated and her blood pressure was high. Jackie had orders for medications that she could administer based upon her analysis of the patient's condition.

Anyway, I made the decision to give the patient 4 mg. of Ativan (a sedative) and 5 mg. of Nubain (a pain medication) IV (intravenously) every 4 hours. I reasoned that she would continue to breathe because she was on the ventilator, her heartrate and blood pressure needed to decrease so I felt that this double whammy would be OK. This worked very well to decrease her agitation as well as stabilize her vitals.

It is unlikely that Jackie would have had the expertise to implement these interventions at the time of the interview. Her experiences over the two months had a considerable impact on her ability to make decisions in clinical situations.

The process of becoming a “real nurse and not a student” (Laura), takes time and experience. Carol noted that “every day gets a little easier.” Gloria concurred and said

I keep saying eventually this is all going to be easy and it’s much easier than it was a couple of months out. I learn something new every day, that’s the part I love. I live for every day that I get to work.”

In the initial interviews, the nurses discussed clinical decision making primarily in terms of accomplishing tasks and implementing physicians’ orders. In the later interviews and journals there was a subtle shift in focus. The patients and their concerns were more central to the decision-making process and the nurses demonstrated greater responsibility and accountability for their decisions and actions.

In follow-up discussions with the participants, I asked them how the analysis of their interviews reflected their thoughts about clinical decision making. Carol stated that it seemed as if it were a summary of her interview; that it “captured the essence of working on the floor.” She also noted that she had grown tremendously since the interview and felt much more confident of her decision-making abilities. She commented that both the interview and the journal had helped her reflect on the decisions she made and what was important.

Summary

In this naturalistic inquiry, I interviewed nine nurses and analyzed four journals to provide a picture of the decision-making processes from the perspective of beginning nurses. Certain themes emerged as important in this decision-making process. These were: the role of experience, the importance of the interpersonal environment; the

significance of interacting with physicians, and the process of becoming a nurse. These components were integral to the development of decision-making skills and the self-confidence of these beginners.

CHAPTER 6

CONCLUSIONS AND IMPLICATIONS

The purpose of this study is to describe clinical decision making from the perspective of beginning nurses and to identify the factors that these nurses consider influential in their decision-making processes. As a naturalistic study, both process and purpose emerged throughout the project. As the study evolved, I found that my main goal was to listen to these beginning nurses describe their experiences and share their stories of clinical practice. Through sharing these narratives with readers, I hope I have created new possibilities for understanding the beginners' ways of decision making and improving educational practices. In the process of completing the study, I have learned that it is through listening to these stories that I am better able to understand their perspectives, and thus, the challenges they face.

The analysis of the interviews and journals revealed that clinical decision making for beginning nurses is a complex phenomenon that is context-dependent and cannot be described in isolation from the context. It is an individual process that reflects the nurse's past experiences, education, and immediate environmental concerns. However, there are commonalities that can be described and "used to make sense of each person's experience but stop short of characterizing it in static and generalizable ways" (Baxter Magolda, 1992, p. 17). These interpretations provide a framework for understanding clinical decision making but emphasize the importance of attending to the perspective of the individual. The findings of the study can only be generalized to the extent the reader judges that the stories and interpretations can be transferred to other contexts (Baxter Magolda, 1992).

The conclusions of the research are applicable to both educational and practice settings. These findings can be used to develop educational curricula and experiences

that will better prepare new graduates for the clinical experiences they will encounter. These findings can also be used in acute-care practice settings to enhance support and guidance for beginners to develop skill and confidence in clinical decision making.

Discussion of Findings

The Role of Experience

The beginning nurses encountered abrupt transitions from roles as students to those as working nurses. These beginners had had little previous clinical experiences and yet found they were expected to function in complex situations. They found varying degrees of support in their work environments.

As the beginning nurses discussed their decision making in clinical situations, they recalled the data they had collected. This was often a recitation of isolated clinical signs. However, they avoided making either medical or nursing diagnoses that would require a concrete analysis of their findings. Instead, they frequently summarized their findings in broad, general terms of “something going wrong,” “the patient was going down hill.” This was characteristic of the advanced beginners in the studies of Benner (1984) and Benner et al. (1996) who found that new nurses typically engaged in identifying the concrete manifestations of clinical signs and had limited attention available for understanding the implications of these. They were able to collect data but in the end had a collection of facts rather than a specific hypothesis or plan for action. These findings were similar to those of other researchers (Corcoran, 1986a, 1986b; Holden & Klinger, 1988; Putzier et al., 1985; Tanner et al., 1987. As Laura wrote in her response to the interpretations of the study; “I am pretty confident with my assessment (data collection skills). Sometimes I question what action to take.”

Benner (1984) and Benner et al. (1996) found that when new graduates were lacking in experience they used rational, conscious calculations to determine what actions

to take. When they encountered new situations, particularly critical ones, they were often disabled by anxiety and unable to determine a plan of action. They had little previous clinical experience on which to pattern their behavior and did not know what to do. In fact, they avoided working day shift because they felt this would expose them to even more situations they felt unprepared to handle. As found by Fonteyn (1991) and Grobe, Drew, & Fonteyn (1991), these beginning nurses did not have the strategies available to determine complex action plans because of the lack of prior experience.

The participants of this study frequently relied on specific principles and rules to guide their practice. In addition, they were beginning to use their experiences as patterns and templates for actions. They tended to use these templates as rigid rules for practice, not acknowledging that the patients' clinical conditions should be the primary guides for action. This reflects the acquisition of skill in the decision-making process as discussed by Benner (1984); Benner et al., (1996); and Dreyfus and Dreyfus (1986).

The participants in this study showed evidence of entering the "competent" stage of decision making, although Benner (1984) found that this occurred in about 2 years. At the competent stage, nurses were able to complete the tasks and skills but were still unable to perceive changing relevance in clinical situations. Indeed, as in the present study, nurses noted that the patient care emergencies intruded in their practices, diverting them from completing their tasks and plans.

In journals and Phase 3 interviews, the nurses of this study discussed their growing sense of competence in situations where they had had previous experiences. In situations where they had limited or no experience, they relied heavily on theoretical knowledge and the support of others. Particularly in Phase 3 interviews, the nurses discussed their increased skill in completing tasks, as well as in achieving goals.

However, they still had difficulty seeing the “big picture” and perceiving the clinical significance of patient care data.

In the present study, the nurses were acutely aware of their limitations and relied heavily on the guidance from the more experienced staff in their units. This helped to protect the safety of the patients. However, the quality of the interpersonal support was an important component in their learning from experience.

The Interpersonal Environment

The nurses in this study demonstrated reasoning skills along a continuum of sophistication, similar to that found by Baxter Magolda (1992) in her study of college students. The nurses, like the college students, engaged in a pattern of absolute knowing. In this manner, they assumed that the knowledge was there. They just had to find the correct information to deal with the problem at hand. As Joe stated, “I think the knowledge is there and the knowledge can be obtained if it needs to be. I want to be 100% sure when I go to do something with somebody.”

Baxter Magolda (1992) and Benner et al. (1996) found that beginners relied heavily on authority figures for answers. These answers were rarely rejected or seriously questioned. The beginners carefully monitored the availability of resource people in the present and future shifts (Benner et al., 1996). In the present study, the nurses evaluated their resources critically. While they still anticipated that someday they would know, with certainty, how to act in most situations, they were quite vocal about their assessments of the quality of the resources available. They were careful to seek out the practitioners they considered expert, and, in many cases, were willing to challenge information they considered suspect or incorrect. This is more reflective of “transitional knowing” (Baxter Magolda, 1992) and the stage of competent practitioner (Benner et al., 1996).

Within this study, the nurses noted that they recognized conditions but did not immediately know how to manage them. They needed coaching about what interventions were appropriate. Their perceptions of clinical situations, and, indeed, their own actions depended to a certain degree on the perceptions of those around them. Several of the nurses discussed how they had changed their perceptions of their actions based upon feedback from other practitioners. Benner et al. (1996) referred to this as the “social embeddedness of knowledge.” The nurses’ perceptions of the world depended partially on their own world view and experiences, partially on the view of others and partially on the context of the environment.

The quality of the interactions between the beginners and more experienced staff members was influential in the development of decision-making skills. This is similar to the findings of Haffer (1990) and Jenks (1993). When the nurses perceived the feedback from other staff as adversarial and critical, they expressed resistance to change. They did not understand why others were critical of their behaviors. In contrast, these nurses discussed how interactions with supportive staff had led them to change their approaches and see different avenues for clinical action. Baxter Magolda (1992) discussed similar findings where failure to validate students and their perspectives reinforced absolute and transitional ways of reasoning, rather than fostering growth.

The nurses of this study frequently referred to the climate of their units. They were aware of how the staff accepted them as new nurses or, conversely, did not. Fortunately, most of the nurses interviewed thought they were supported in their learning and development. This was important because as Benner et al. (1996) found, knowledge in clinical situations was dependent upon shared understandings among clinicians. This required relationships and sharing among clinicians, provided learning opportunities that

were unavailable without interactions among practitioners. These interactions facilitated change in practice.

Interactions with Physicians

In this study, the nurses expressed their concerns about calling and interacting with physicians. They did not have the clinical expertise to express themselves with authority and were apprehensive about physicians' responses to their calls. Benner et al. (1996) and Jenks (1993) found this to be a common concern of new nurses. They frequently relied on other staff members to coach them through interactions. Beginners learned to make a case for their clinical judgments, rather than to present physicians with a collection of isolated facts without a proposed action plan. Both experience and interpersonal support provided the new nurses with patterns and templates to follow as they built their own styles of interaction.

Becoming a Nurse

Over the three month period of data collection, the nurses made rapid changes in their decision-making abilities. It was apparent that this was a dynamic process and reflected many changes on their part. Even as the participants discussed their decisions, they reflected on the changes they had made as a result of experience. As Benner et al. (1996) stated, "change, not passage of time, is the defining characteristic of experience" (p. 99). The nurses in this study demonstrated change, both in their narratives and in their journals. In each of these, they discussed the role of experience, the impact of interpersonal support and their changing interactions with physicians and other nurses. They reflected on their own growth and their ever-increasing abilities to handle the demands of their jobs. In the Phase 3 interviews and journals, they discussed their growing sense of responsibility for their decisions and actions, characteristic of the competent stage of skill development and independent patterns of reasoning. As Benner

et al. (1996) found, these nurses focused more on patients and less on the tasks of the job than they did as new nurses, reflecting a changing sense of agency.

Impact of Methodology

In her review of the interpretation of the data, Carol commented that the interviews and journal had provided her with an opportunity to reflect on her decision making. She had looked more critically at decisions and how she made them. This contributed to what she considered to be tremendous growth in her skills and abilities as a nurse. This supports the findings of both Baxter Magolda (1992) and Benner et al. (1996) regarding the role of narratives in the development of skill in decision making and patterns of reasoning. The narratives and journals in this study revealed continuous self-awareness and monitoring by the nurses. They allowed the participants to reflect on their actions and decisions away from the urgency of the situations.

The nurses in this study presented their own perceptions of their experiences and the factors that influenced their decision making through journals and narratives. Educators often use their own frames of reference to interpret behaviors without understanding how the nurses' perspectives shape behavior. Effective educational practice requires gaining access to these perspectives to plan educational interventions that are relevant to the needs of these individuals. This can be accomplished through use of open-ended interviews and narrative formats.

Conclusions

Nursing research has investigated the information processing model of clinical decision making in an attempt to develop a blueprint that could be used to teach new nurses the skills necessary to solve problems in an expert manner. Additional research has explored the acquisition of skill in the process of decision making and emphasizes the developmental aspect of this process. The findings of this dissertation indicated that

beginners develop skill in decision-making process as a result of experience. The interpersonal environment plays a significant role in the learning process. From the perspectives of the participants, experience and interpersonal support were more significant factors in decision making than theoretical knowledge or analytical processes.

Beginning nurses perceived decision making as a complex task. It encompassed all aspects of their jobs, from routine tasks to complex clinical situations. They encountered an abrupt change as they moved from students to “real nurses.” They depended on the support and guidance of more skilled staff to interpret and deal with the requirements of their jobs.

Implications of the Study

Educational Implications

Nursing education focuses on teaching students an analytical, problem-solving approach to decision making in clinical situations (Benner et al., 1996). This approach offers students the view that clinical situations are well-defined problems that can be solved. It presents the perspective that there is a correct answer, if only the students were more knowledgeable or more experienced. When beginning practitioners encounter the ill-structured, probabilistic situations of the real world, they are poorly prepared to deal with them. Nursing education frequently reinforces the absolute pattern of reasoning by requiring memorization of facts, rather than encouraging students to apply theory in light of the contextual nature of clinical problems. This study indicates that this emphasis on isolated facts should be re-evaluated and the application of facts in clinical settings be enhanced.

During their education, student nurses participate in learning experiences in clinical environments where they integrate theory with actual patient problems. Discussion of these experiences and journal writing may provide students with opportunities to reflect

on the relationships between theory and practice and develop additional skill in decision making. Also, this study indicates that these beginning nurses were often not comfortable interacting with physicians. This is an area where role playing would provide the beginners with an opportunity to develop skill in this area.

The beginner nurses stated that their concerns about their personal clinical worlds were unique. They expressed surprise that others felt as they had, but were relieved they were not alone in their feelings and concerns. It would be helpful for the students to know that there is a process of role transition, with definable stages of development. Peer support groups would offer the possibility of structured interactions to foster reflection on clinical practice.

Applications in Practice

The beginning nurses in this study viewed their education as a basis for practice, but of limited value compared with actual experience. In contrast, they perceived interpersonal support as extremely important in the development of their skills in decision making. When they completed orientation and had no more formal contact with their preceptors, they often felt overwhelmed and isolated.

In the current health care environment, staffing reflects concerns about cost containment. There is little extra staff available for the on-going support of new nurses. Most of the nurses in this study worked nights when staffing is generally even more limited. However, interactions among beginning practitioners and more experienced staff can enhance the development of decision-making skills. New nurses benefit by exploring their clinical experiences with other clinicians. In this forum, they learn to identify which clinical cues are relevant and how to interpret these cues. It is imperative that new nurses work in environments where they feel safe asking questions and that their inexperience not be judged as incompetence (Benner et al., 1996). It is important for experienced staff

members to understand the stages of development and their characteristics. They could act as mentors for beginners, attending to their specific development needs.

In both education and practice, there is the need to listen to the experiences of the beginners and the experts and share these narratives. Through these stories, the new nurses begin to learn to about the clinical world of the expert nurses. The experts learn to appreciate the clinical world from the perspective of the new graduates. It is in this dialogue that they grow in their abilities to make skillful clinical decisions.

In conclusion, new nurses remain students, as do all nurses throughout their careers. They develop expertise in decision making over time, as a result of experience, practice and mentoring. From this perspective, all nurses remain students as “you have to keep learning every day, and everything that you hear, you have to retain it and listen to and keep in mind, because one day you’ll use it again, whether you think you will or not” (Carol). Dialogue among practitioners at all stages of skill development enhances this process.

Appendix A

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants
of Investigative Projects

Title of Project: Clinical Decision-Making by Beginning Nurses
Investigator: Rebecca Clark, MSN, RN

I. The Purpose of this Research Project

The purpose of this study is to increase nurse educators' understanding of the process of clinical decision-making of beginning nurses and the factors that they think facilitate this process. You are being asked to participate in this study because you: 1) have less than one year's experience as a Registered Nurse; 2) have not worked as an LPN and 3) work in an acute care medical surgical setting. Eight to twelve beginning registered nurses will be involved in this project.

II. Procedures

Participants will meet with other beginning nurses and me for approximately 1-2 hours. During this time, you will be asked to discuss experiences you have had in deciding about a patient problem or need and keep a journal for 4 weeks in which you record selected experiences, similar to those discussed in the focus group. You may also be asked to be interviewed individually for approximately one hour and possibly to be observed while providing patient care. You will be asked to review an analysis of the groups, journals, interviews or observations in which you participated and to provide the investigator with your perceptions about the accuracy of these.

All focus groups and interviews will be audiotaped and transcribed by a professional typist, but not shared with others.

III. Risks

There are no health risks or discomforts associated with this study. No promises or guarantee of benefits have been made to encourage participation. If interested, the participants may contact me at a later time for a summary of the research report.

IV. Benefits

There are no tangible benefits associated with this study. Overall benefits may be to improve nursing education. There is no monetary compensation for participation in this study.

V. Extent of Anonymity and Confidentiality

Audio tapes will be kept in a locked filing cabinet to which only the investigator has access. Participants will be identified by numbers. Tapes erased at the completion of the project. The final report will contain anonymous quotations but no names will be associated with these.

VI. Freedom to Withdraw

Participation in this study is voluntary. You may withdraw from the study at any time without penalty. You may ask questions at any time.

VII. Approval of Research

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University, by the Department of Curriculum and Instruction.

IX. Subject's Responsibilities

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

If I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

Signature

Date

Should I have any questions about this research or its conduct, I may contact

Rebecca Clark
Investigator

(540) 389-3768/(540) 985-8208
Home Work

John K. Burton Ph.D
Faculty Advisor

(540) 231-5587
Phone

E.R. Stout, Chair - IRB
Research Division

(540) 231-9395
Phone

Appendix C

8 December 1995

Dear:

Thanks for your assistance in helping me contact potential participants for my doctoral dissertation. I would appreciate it if you could distribute the enclosed information to beginning nurses working in acute care, medical-surgical settings.

I would like to talk with these nurses about their decision-making processes. This usually involves a 45 minute interview and a journal which they then complete over the next month. While the interview is confidential, I do tape it to allow for transcription. I like to meet with them at their convenience and have enclosed a stamped self-addressed envelope to allow them to reply.

If at all possible, I would like to meet with them at the hospital if there is a room available. This would allow us to meet after they finish work which might be more convenient for them. I will talk with you later if this appears to be necessary.

Again, thank you for your help with this process. Please call me at 985-8208 if you have any questions.

Sincerely,

Rebecca Clark, MSN, RN, CS
Doctoral Candidate
Virginia Tech
Curriculum and Instruction
Assistant Professor
College of Health Sciences
Roanoke, VA

Appendix D

December 7, 1995

Dear RN:

I would like to ask you to participate in a research study of clinical decision making by beginning nurses. This study is being done in partial fulfillment for my doctoral degree at Virginia Tech.

This study will investigate your experiences with clinical decision making. Your participation will involve an interview with me and a discussion of some of the decisions you have made in the clinical area. This interview will focus on factors which help you during this process and will last about 30-45 minutes. You will also be asked to complete a journal, making 1 - 2 entries per week for one month. Finally, you will be asked to review my interpretations for accuracy. All information you share will be confidential and your name will not be used in the study. You may withdraw at any time.

You have been asked to participate in this study because, as a beginning nurse, with less than one year of experience, you have a unique perspective on the needs of patients. You also are developing skill in decision making and problem solving. Your participation in this study will help me understand these processes from your perspective, as well as those factors which either help or hinder you in decision making.

If you are willing to participate in this study, please complete the enclosed form and return it in the self addressed stamped envelope. After this, I will call you to arrange a time for an interview.

Thank you for your help. Please call me at 985-8208 or 389-3768 if you have any questions.

Sincerely,

Rebecca Clark, MSN, RN, CS
Doctoral Candidate
Virginia Tech
Department of Curriculum and Instruction
Associate Professor
College of Health Sciences
Roanoke, VA 24153

Appendix E

14 November 1995

Dear:

Thank you for agreeing to participate in my doctoral study on clinical decision-making by beginning nurses. I look forward to talking with you about your experiences with decision making on November 20 in Room 513 at the College of Health Sciences.

To help guide your thoughts and the discussion, please think about some of the recent clinical decisions you have made regarding patient care. Think about two clinical decisions you have made where you feel that your interventions made a difference in a patient outcome.

*One incident should be one which went well, where you felt confident of your decision and the expected outcome.

*One incident should be one in which you did not feel so confident, where you were unsure of the best actions to be taken and the outcomes. This does not have to be a negative situation, but one where you found particularly demanding or unsettling.

*Describe the context of the events and what happened.

*What were your concerns at the time?

*What did you find most demanding about these situations?

*What were some of the differences between them?

*What do you think were some of the factors which gave you confidence in one situation which were lacking or different in the other?

I look forward to talking with you on November 20. Thanks again for your help.

Sincerely,

Rebecca Clark, MSN, RN, CS
Doctoral Candidate
Virginia Tech
Department of Curriculum and Instruction

Appendix F

14 November 1995

Dear:

Thank you for agreeing to keep a journal about your experiences with clinical decision making as a beginning nurse. Please try to make **two entries per week for four weeks** and be as descriptive as possible. I would like be able to collect this by January 29, 1996.

To help guide your thoughts and writing, please describe two clinical decisions you have made where you feel that your interventions made a difference in a patient outcome.

*One incident should be one which went well, where you felt confident of your decision and the expected outcome.

*One incident should be one in which you did not feel so confident, where you were unsure of the best actions to be taken and the outcomes. This does not have to be a negative situation, but one where you found particularly demanding or unsettling.

*Describe the unit and what was happening on your shift. What was the unit like? How many patients did you have assigned? How many staff were on the unit? What shift were you working?

*What were your concerns at the time?

*What did you find most demanding about these situations and decisions?

*What were some of the differences between them?

*What do you think were some of the factors which gave you confidence in one situation which were lacking or different in the other?

I appreciate your help with my study. I will call you to arrange a time to discuss my findings. Thank you.

Sincerely,

Rebecca Clark, MSN, RN, CS
Doctoral Candidate
Virginia Tech
Department of Curriculum and Instruction

Appendix G

Clinical Decision Making by Beginning Nurses: Analysis of the Data

Decision making encompasses all that nurses do, even the basic tasks of prioritizing care and giving medications. It includes deciding what data to notice about the patients and deciding if this information is not what they expect it to be. Clinical decision making is “just everything I do basically. You look at them, you touch them. You assess them. Everything besides that is decisions as far as I’m concerned. If something is a variance from what you’re hoping to see, then you have to decide what to do about it.”

The nurses describe a systematic process of gathering data and developing working hypotheses. Often they rely on more experienced staff to validate their assessments. However, as they become more skillful, they increasingly trust their own judgments.

More experienced nurses provided guidance and support for the decision making process. This may be involve assistance with procedures, either ones they have never performed or those with which they have had limited experience. It may involve more complex processes, such as what to do in certain clinical situations, when to give medications and when to call physicians. The responses they received from the staff varied from warm and accepting to rejecting. Respondents noted that the staff in some clinical areas welcomed and encouraged questions. Beginning nurses reported that they felt valued in these situations. In other areas, the staff were not so accepting. In these areas, the beginning nurses reported that they felt isolated and unsure of themselves. They described situations where they felt they had “no one to turn to.”

Another decision some nurses had to make was when to call physicians, to apprise them of changes in status and to obtain additional orders for care. The decision to call physicians required some deliberation. Several of the nurses worked nights and they were concerned about the reactions of the physicians if the calls were not considered warranted. They mentioned that it was important to know the physicians, to determine how they would react. Some physicians were “snippy” or “rude” and the nurses wanted to avoid these types of reactions. They discussed the patients’ conditions with other nurses to decide if a call was the most suitable action. In some cases, the more experienced nurses coached the beginner with cues to help assure a positive outcome to the conversation.

The tone of the response by either physicians or other nursing staff was very important in the decision making process. It appeared to provide the beginner with confidence in the process, that even if the action was not what the other would have taken, it provided a positive learning opportunity. This was in contrast with those situations where the beginner was challenged in a negative manner. In these instances, the novice nurse expressed concern about decision-making ability in general. It was as if in one environment, the beginner was valued as a learner, while in the other, were expected to be an expert at the outset.

The quality of the information provided by the resources was an important consideration. These beginners discussed how they were careful to choose their consultants wisely, as some of the staff provided more accurate information. This was also a concern when dealing with physicians. In several situations, they discussed encounters with physicians where their clinical judgments were not the same. In some cases they were able to make their case for action. However, this frequently required considerable time and negotiation. Often, they appealed to more senior staff to achieve the clinical goals they deemed necessary for patient safety and health.

Experience is the most important factor in developing skill in the decision-making process. This was reported by all the respondents. While education was important, it did not make much of an impact during these interviews. The beginning nurses reported that endless lectures had no meaning until they worked with that knowledge in clinical situations. They did want certainty, wanted to be “100% sure” that their interventions were correct. They felt they had the knowledge available, but it was experience that would make it useful. They looked to other nurses to see how they handled patient care situations and used their own experiences to guide daily actions. They developed templates or patterns which they were able to use in their daily care.

Evaluation was an important component of the decision making process. The nurses evaluated the outcomes of their actions in terms of the patients’ physical responses. They also evaluated how they felt about their actions: “I felt it was a good decision;” “I’m not happy with the decision I made in that.” In addition, they considered how the staff and physicians evaluated their actions. This provided another source of data concerning the adequacy of their nursing care.

Time pressures created difficulties for the respondents. This was expressed in two ways:

1. Getting the job done in the allotted time. They reported difficulty in “just getting the tasks done.” Just trying to decide what to do next was often a challenging task, although they all noted that this was getting better with experience. Several talked about how they could only hope to complete the tasks. They wanted to spend more time working with the interpersonal concerns of their patients, but they did not have enough time. They expressed the hope that as they became more proficient with the tasks, they would have time to focus on this aspect of patient care.

2. Making decisions when the condition of the patient was deteriorating rapidly. They saw that the patient’s life “was in my hands.” and “the outcome could be death if I didn’t do something.” This presented difficulties in that the beginners did not have time to work through the decision-making process of collecting the data and deciding a course of action. In these situations, they felt they had to “know” the answers without reflection.

The environment was a very important component of the experience of decision making. While it was not expressly factored into each incident discussed, it came up as a major factor in affecting how the beginners presented their current experiences: isolated, overwhelmed versus supported and encouraged.

Almost all of the nurses interviewed mentioned that they rarely had time for meals or breaks. They felt this would put them too far behind in completing the job. Others

discussed that, especially on night shifts, they had no one to take their place if they left their patients. In these later scenarios, the nurses felt the patients could literally die if they left the work area.

Clinical decision making forms the basis of the work done by these nurses. In some situations they feel overwhelmed. In others, they discuss increasing confidence with their skill with this process. As one nurse said, (nursing is a situation where) “you have to keep learning every day and everything that you hear, you have to retain and listen to and keep it in mind, because one day you’ll use it again whether you think you will or not.” This is a large responsibility and expectation, creating a dilemma for beginners as they try to make appropriate decisions based on their level of knowledge and experience.

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VITA

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1989-1996	Associate Professor College of Health Sciences, Roanoke, VA
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- 1973-1975 Staff Nurse
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A handwritten signature in cursive script that reads "Rebecca Culver Clark". The signature is written in black ink and is positioned above a solid horizontal line.

Rebecca Culver Clark