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**NEW GRADUATE NURSES' PERCEPTIONS OF SIMULATION TRAINING**

**BY**

**Karen S. Britt**

**BSN, Russell Sage College, 1997**

**THESIS**

**Submitted to the University of New Hampshire**

**in Partial Fulfillment of**

**the Requirements for the Degree of**

**Master of Science**

**in**

**Nursing**

**May 2009**

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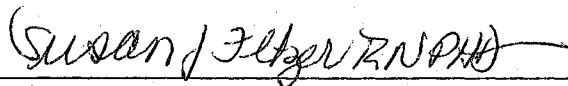
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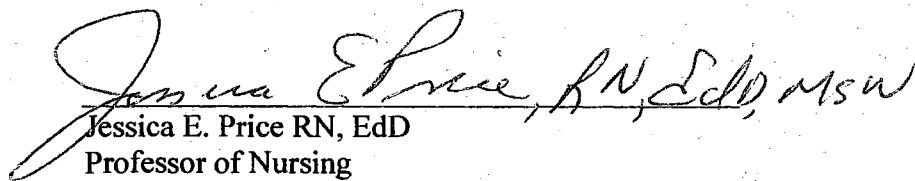
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Date

**DEDICATION**

**To Matt**

**I would not have been able to get through this without all of your love and  
encouragement.**

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## TABLE OF CONTENTS

|  |      |
|--|------|
| DEDICATION.....                                  | III  |
| ACKNOWLEDGEMENTS.....                            | IV   |
| LIST OF TABLES.....                              | VII  |
| LIST OF FIGURES.....                             | VIII |
| ABSTRACT.....                                    | IX   |
|  |      |
| CHAPTER.....                                     | PAGE |
|  |      |
| INTRODUCTION.....                                | 1    |
| I. LITERATURE REVIEW.....                        | 6    |
| NURSING EDUCATION.....                           | 6    |
| CRITICAL THINKING.....                           | 8    |
| SIMULATION IN MEDICAL TRAINING.....              | 10   |
| SIMULATION IN NURSING.....                       | 13   |
| USER SATISFACTION WITH SIMULATION.....           | 15   |
| ECONOMICS OF SIMULATION.....                     | 19   |
| NEW GRADUATE NURSE ORIENTATION.....              | 20   |
| CARDIAC ARREST IN HOSPITALIZED PATIENTS.....     | 22   |
| MOCK CODE TRAINING.....                          | 23   |
| PURPOSE.....                                     | 27   |
| RESEARCH QUESTION.....                           | 28   |
| II. METHODOLOGY.....                             | 29   |
| SETTING AND PARTICIPANTS.....                    | 29   |
| INFORMED CONSENT.....                            | 30   |
| DATA COLLECTION.....                             | 31   |
| PHASE I.....                                     | 31   |
| PHASE II.....                                    | 32   |
| DATA MANAGEMENT.....                             | 34   |
| DATA ANALYSIS.....                               | 35   |
| III. EMERGING FINDINGS.....                      | 37   |
| PARTICIPANTS.....                                | 37   |
| ETHICAL CONSIDERATIONS.....                      | 37   |
| EMERGING THEMES.....                             | 39   |
| EMERGING THEME 1: DEVELOPING CONFIDENCE.....     | 39   |
| SELF-DOUBT.....                                  | 40   |
| POST-LICENSURE SELF-CONFIDENCE.....              | 41   |
| CONFIDENCE THROUGH TEAMWORK.....                 | 42   |
| EMERGING THEME 2: DEVELOPING KNOWLEDGE BASE..... | 43   |

|  |          |
|--|----------|
|  | vi       |
| PRE-LICENSURE EDUCATIONAL PREPARATION FOR CODES.....                       | 43       |
| POST-LICENSURE CODE KNOWLEDGE.....   | 44       |
| EMERGING THEME 3: DEVELOPING CRITICAL THINKING.....                        | 48       |
| NURTURING ENVIRONMENT.....   | 48       |
| SEEING THE BIG PICTURE.....  | 50       |
| EMERGING THEME 4: DEVELOPING A SENSE OF REALISM.....                       | 50       |
| SUSPENDING DISBELIEF.....  | 51       |
| PRESENCE.....  | 52       |
| <br>IV. DISCUSSION.....  | <br>54   |
| EMERGING THEME 1: DEVELOPING CONFIDENCE.....                               | 54       |
| SELF-DOUBT.....  | 54       |
| POST-LICENSURE SELF-CONFIDENCE.....  | 56       |
| CONFIDENCE THROUGH TEAMWORK.....   | 58       |
| EMERGING THEME 2: DEVELOPING KNOWLEDGE BASE.....                           | 59       |
| PRE-LICENSURE EDUCATIONAL PREPARATION FOR CODES.....                       | 59       |
| POST-LICENSURE CODE KNOWLEDGE.....   | 60       |
| EMERGING THEME 3: DEVELOPING CRITICAL THINKING.....                        | 62       |
| NURTURING ENVIRONMENT.....   | 63       |
| SEEING THE BIG PICTURE.....  | 64       |
| EMERGING THEME 4: DEVELOPING A SENSE OF REALISM.....                       | 64       |
| SUSPENDING DISBELIEF.....  | 65       |
| PRESENCE.....  | 66       |
| <br>V. CONCLUSION.....   | <br>70   |
| RECOMMENDATIONS.....   | 71       |
| PARTICIPANT RECOMMENDATIONS.....   | 73       |
| LIMITATIONS.....   | 73       |
| <br>APPENDICES.....  | <br>PAGE |
| <br>APPENDIX A CONSENT LETTER.....   | <br>75   |
| APPENDIX B PROMPT QUESTIONS.....   | 77       |
| APPENDIX C DEMOGRAPHIC SURVEY.....   | 79       |
| APPENDIX D PRELIMINARY THEME ANALYSIS-13 THEMES.....                       | 81       |
| APPENDIX E ANALYSIS FOR EMERGING THEME: DEVELOPING A SENSE OF REALISM..... | 87       |
| APPENDIX F FIGURE I COLLAPSING THEMES.....                                 | 91       |
| APPENDIX G UNH IRB FORM.....   | 93       |
| APPENDIX H SNHMC IRB FORM.....   | 95       |
| LIST OF REFERENCES.....  | 97       |



LIST OF TABLES

| TABLE                                  | PAGE |
|--|------|
| I. EMERGING THEMES AND SUB-THEMES..... | 39   |

LIST OF FIGURES

| FIGURES                   | PAGE |
|---------------------------|------|
| I. COLLAPSING THEMES..... | 92   |

## ABSTRACT

## NEW GRADUATE NURSES' PERCEPTIONS OF SIMULATION TRAINING

by

Karen S. Britt

University of New Hampshire, May, 2009

New graduate nurses enter practice with basic critical thinking skills and have minimal experience applying learned concepts into clinical practice. Hiring institutions aim orientation programs at developing new graduate nurses' skills so that they are better prepared to meet patient needs. Human Patient Simulation is one tool employers have recently begun using. A qualitative study was conducted to gain insight into seven new graduate nurses' perceptions of utilizing simulated mock code training during the orientation process. Analysis of the focus group discussion identified four emerging themes: Developing Confidence, Developing Knowledge Base, Developing Critical Thinking, and Developing a Sense of Realism. Each of the four emerging themes contained sub-themes. This research showed that simulation can be a beneficial tool to assist with the new graduate nurse transition into the workforce with the right facilitator and proper safeguards to ensure a sense of realism in the HPS and simulation environment.

## INTRODUCTION

New graduate nurses enter practice with basic critical thinking skills and have minimal experience applying learned concepts into clinical practice. Del Bueno (2005) stated that “only 35% of new RN graduates, regardless of educational preparation and credentials, meet entry expectations for clinical judgment... [and] the majority are unable, or have considerable difficulty translating knowledge and theory into practice” (p. 278). Nurses are required to make sound clinical judgments about patient care, deliver high-quality patient care, and be accountable for positive patient outcomes (Rhodes & Curran, 2005). Improved clinical decision making is required if new graduates are to achieve competence and ensure high quality patient outcomes (Martin, 2002). Due to time and budget restraints new graduate nurses have little time to practice critical thinking and decision making skills (Medley & Horne, 2005). For this reason many institutions have incorporated the use of simulation into their training programs.

Jeffries (2005) defined simulation as “activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision making, and critical thinking through techniques such as role playing and the use of devices such as interactive videos or mannequins” (p. 97). “Simulations provide students the opportunity to learn and practice nursing concepts with immediate feedback about how their performance, knowledge, and decision making guide them toward desired learning outcomes” (p. 99). Practice and feedback guides learning and leads to improved clinical

judgment and competent clinical practice (Jeffries, 2005). Human patient simulation (HPS) provides the novice nurse valuable learning opportunities in a controlled, predictable, and safe environment without fear of harming patients (Beyea & Kobokovich, 2004).

There is research on the use of HPS during a student nurse's prelicensure education, but only limited research on the student's transition into the workforce as a new graduate. If educators continue utilizing the resources necessary to purchase, train staff to run and program the equipment, and maintain the mannequins then research is needed to see if this is an effective tool for new graduate nurse orientation.

With the emerging use of simulation there is a clear need to document the outcomes of training with technology, the user friendliness of the simulators, and the efficacy of simulation as a method of refining critical thinking. Diefenbeck, Plowfield, and Herrman (2006) focused on using simulation training as part of a baccalaureate nursing program to ease the transition into practice once the students graduate and enter the workforce as registered nurses (RN). The study documented how the implementation of a simulation resource laboratory provided the environment and tools needed to allow students to pursue independent and cognitive learning that could then be applied to patient care. Parr and Sweeny (2006) tested decision-making and critical thinking skills of student nurses when simulation training was incorporated in the teaching methods in an undergraduate critical care program. One finding of this study is that simulation can not replace the real patient or the fast paced hospital environment, but it can give students rich, realistic opportunities to prepare for actual patient care.

Despite increasing use of HPS, as well as the general presumption of its benefit, little is known about what strategies are most effective in improving patient outcomes. Of the studies that have related laboratory simulation to patient care, few have provided a clear link between utilization of simulator training and patient outcomes (Jha, Duncan, & Bates, 2001).

Ackermann, Kenny, and Walker (2007) reported that stress, lack of confidence, and unmet expectations have been found to influence patient safety and outcomes. Ackermann et al. (2007) stated that orientation is the most stressful time in an RN's career and that the introduction of simulation training is becoming more prevalent as a retention strategy in many institutions. The average new nurse turnover rate is 21% (Faron & Poeltler, 2007), but may be as high as 35-60% in some areas (Poynton, Madden, Bowers, Keefe, & Perry, 2007). High rates of turnover are a major contributor to the renewed focus on retaining new graduate nurses. As novice nurses become more comfortable with their role they are more likely to stay in nursing.

The majority of research involving the transition from student to graduate nurse has been conducted outside the United States. Mooney (2007) and O'Shea and Kelly (2007) reported on new graduate nurses' experiences of transition from student to licensed nurse in Ireland. Both studies identified developing confidence and improving technical skills as areas needing improvement in new graduates. Charleston, Haymond-White, Ryan, and Happell (2007) conducted an Australian study on understanding the importance of an effective orientation in a psychiatric graduate nurse program. The research concentrated on the importance of enhancing skills and knowledge, facilitating the integration of theory and practice, and easing the new graduates' transition into

professional practice. Newton and McKenna (2007) also conducted an Australian study concentrating on the first year as a new graduate nurse. The study conveyed that despite preparation, undergraduate programs were unable to reduce reality shock and ease the transition from student into a working role. A major theme of the research indicated most new nurses felt unprepared for their roles as practicing nurses. Newton and McKenna (2007) argued that “educators have a responsibility to provide opportunities that encourage active engagement of students... [within a simulated clinical laboratory in order to]...promote a sense of independence and preparedness for the reality of the workforce” (p.1236).

Educators know that the transition from school to practice is stressful for new graduate nurses and are trying to bridge that gap through the use of simulation. While it is documented that simulation is helpful to some, there is a clear need for further research on using simulation during the new graduate nurse orientation process.

New graduate nurses have limited critical thinking skills when they enter the workforce which can make the transition from student to professional difficult for some nurses. Hospitals provide new graduate nurse orientation programs in hopes of better preparing new nurses for the transition from academia to hands-on patient care. Simulation is one tool that hiring institutions are utilizing during the orientation process that allows new nurses the opportunity to practice skills and gain confidence in their professional practice. Educators are constantly looking for new and better ways to provide orientation. One of the newest tools available for training nurses is simulation using human patient simulators, otherwise known as HPS. The utilization of simulation training during new graduate nurse orientation is a fairly new concept; therefore research

is needed to determine if simulation is beneficial as an orientation tool. This study will examine the experiences of seven nurses who utilized simulation training during their new graduate nurse orientation.



## CHAPTER 1

### LITERATURE REVIEW

Simulation does not replace the experience that nurses can gain with actual patients. Simulation provides opportunities for nurses to develop a process of decision making through critical thinking, abstract knowledge, and technical skills, while building self confidence within a safe and controlled environment (Ackermann et al., 2007). Healthcare organizations can employ effective educational strategies, including simulation, to help nurses make the transition from a new graduate nurse to a safe and competent nurse (West, 2007). Research has shown that simulation is beneficial as a training technique in medical and other fields, as well as when used with student nurses. It is well documented that using simulation is costly and time consuming. Hospitals continue to spend time and money on simulation, yet there is no research available on whether new nurses find it beneficial for enhancing their practice or if simulation is an effective orientation tool for new graduate nurses. When weighing the risks and benefits of utilizing simulation as an orientation tool for new graduate nurses it is important to consider its cost and effectiveness. It is also useful to determine what educational strategies nurses have been exposed to in their pre-licensure education.

#### Nursing Education

Historically, didactic education has been the cornerstone for healthcare provider education. Lamb (2006) stated that the didactic format has a tendency to encourage passivity amongst students with the emphasis on memorizing facts. Many nurses report

they learn best when they “do something” on an actual patient, which indicates that most prefer experiential learning (Medley & Horne, 2005). Lamb contends that nursing instructors feel that practice and reflective learning are also critical elements in clinical learning.

There are several factors that prohibit initial learning, practice, and reflection in today’s academic and health care settings. Medley and Horne (2005) found that “reduced faculty resources and greater numbers of students limit the actual time that students are exposed to patients” (p.31) while in school. Furthermore, initial on the job learning for graduate nurses is hindered by limited hospital resources, including shorter length of patient stay, higher patient acuity, nursing staff shortages, and a greater emphasis on medical errors (Medley & Horne, 2005). Lack of resources makes it difficult to ensure that students have consistent patient assignments and exposure to similar kinds of patients.

Simulation is one strategy that allows every student to provide care for the exact same patient. Providing the opportunity to care for a standardized patient ensures that each student will be exposed to the same patient problems. Simulation also allows facilitators to document student ability to provide safe and effective nursing care consistent with current nursing standards. While Medley and Horne (2005) addressed how student needs might be met with the use of simulation, research is still needed to address new graduate nurses’ experiences with simulation. If simulation provides the new graduate nurses the “hands-on” opportunity they need to learn, then it has the potential to benefit the orientation program. Educators and employers are both showing interest in utilizing simulation for developing and refining critical thinking skills.

## Critical Thinking

When using simulation, the user has the opportunity to utilize critical thinking and practice hands-on skills. According to Jefferies (2005), educators are finding that “new graduates lack critical thinking skills needed to work in increasingly complex clinical environments” (p.97). Daly (2001) and Bareford (2001) reported that critical thinking is an integral part of clinical decision making and therefore a routine part of nurses’ work.

The usefulness of simulation to teach skills to students in a variety of professions and trades has been well documented. Simulation has been utilized outside the healthcare field for decades. “The aviation, transportation, and nuclear power industries and the social and behavioral sciences have all used simulation to teach concepts; to allow risk-free practice; and to teach, practice, and/or evaluate critical thinking skills” (Rauen, 2004, pp. 46-47). The near miss detection capabilities of flight simulation allow users to anticipate potential errors before they occur and prevent resulting complications (Fried et al., 2007). According to Ellis and Hughes (1999) “repeatedly being exposed to accurate simulation of real situations and emergencies... enables the pilot to respond appropriately when the real situation arises” (p. 395). The same can be said of human simulation.

Literature on current uses of simulation technology report that it offers an excellent approach for developing interactive critical thinking skills (Beyea & Kobokovich, 2004; Curtin & Dupuis, 2008; Jefferies, 2005; Medley & Horne, 2005; Rauen, 2004; Rhodes & Curran, 2005; Simpson, 2002; Zekonis & Gantt, 2007). There are few qualitative studies and no quantitative studies that link the use of simulation to the development of critical thinking in nursing.

The use of simulation to develop critical thinking skills in nursing students has not been well documented. Only one study was located that linked simulation use to the development of critical thinking in nursing students. Rush, Dyches, Waldrop, and Davis (2008) utilized a post simulation focus group discussion to identify the experiences of first semester baccalaureate nursing students (n=33) who had participated in simulation training. The discussion was “analyzed using the conceptualization of critical thinking developed by Schafer and Rubenfeld” (p. 504). The findings supported the use of simulation for fostering use of all seven critical thinking habits and ten skills of the mind as outlined by Schafer and Rubenfeld. The habits of the mind include confidence, contextual perspective, creativity, flexibility, open-mindedness, inquisitiveness, perseverance, intuition, intellectual integrity, and reflection. The critical thinking habits include analyzing, applying standards, discriminating, information seeking, logical reasoning, predicting, and transforming knowledge. Brannan, White, and Bezanson (2008) studied simulator effects on cognitive skills and confidence levels in nursing students but did not make a clear link to critical thinking. Lasater (2007) studied the use of simulation with nursing students in the development of clinical judgment but did not link it to critical thinking either.

There is limited research on the use of simulation in regards to developing critical thinking with new graduate nurses. Only one study was located that linked simulation training to the development of critical thinking in new graduate nurses. Beyea, von Reyn, and Kobokovich (2007) studied the use of simulation with new graduate nurses (n=42) in the orientation process. During the data collection of this research the new graduates identified simulation as a useful tool for helping them develop critical thinking, but the

research does not expand on this finding. While further research is needed to determine if new graduate nurses find simulation an effective tool for further refining their critical thinking skills, there is research available on simulation in medical training.

### Simulation in Medical Training

The majority of research on HPS has been conducted in medical schools and high risk areas such as operating rooms, trauma centers, and intensive care units. The use of simulation has been well documented in medical and surgical physician training. Fried et al. (2007) validated simulation as a training tool to teach medical students and surgical residents basic skills and surgical tasks for endoscopic sinus surgery. One phase of the study utilized simulation scenarios to compare surgical performance of medical students (n=38), surgical residents (n=19), and attending physicians (n=17). Results confirmed that attending physicians were the most skilled at surgery, followed by residents, then students. The second phase of the study focused on the transfer of skills obtained during simulation to actual surgical settings. The residents were videotaped during the first 5 minutes of surgery then their actions were scores by a group of trained raters. Results suggested surgical residents (n=9) had a positive transfer of training from the simulation environment to initial operating room (OR) procedures. Surgical residents who used simulation for training had improved surgical instrument manipulation and increased confidence in their abilities in actual surgical settings.

Register, Graham-Garcia, and Haas (2003) identified the value of simulation technology in nurse anesthesia education by studying how students managed crisis scenarios during the perioperative phase of anesthesia care. Simulation provided students an innovative approach to applying theory to practice without harming patients. The

study recorded nurse anesthesia students' interaction with the HPS during the perioperative period. The HPS mannequin was programmed to display varying degrees of ventricular contraction that the nurses would need to assess and then intervene accordingly. The computer readouts were analyzed to find the relationship between oxygen saturation and ventricular contractility and illustrated that changes in the oxygen saturation were not prompt in relation to the change in ventricular contractility. The nurses could not rely solely on monitoring the oxygen saturation of the HPS and instead must be knowledgeable of the physiologic concepts of intrapulmonary shunt. Patey, Flin, Fletcher, Maran, and Glavin (2007) also studied anesthesia training using simulation and reported that simulation was beneficial because it provided a framework for discussion, where feedback might previously be missed, and was a useful tool for self reflection.

Hammond, Bermann, Chen, and Kushins (2002) documented initial experiences with HPS in evaluating cognitive performance among junior surgery residents. The findings showed that no resident successfully completed the first simulation scenario but subsequent performances improved. Hammond et al. (2002) also found that HPS was valuable for identifying weaknesses in student performance and program content as well as providing opportunities for remediation.

Simulation has also been used to measure quality indicators in the medical management of patient care. Wright et al. (2005) documented how a clinical protocol for cardiac monitoring during anesthesia was designed, evaluated and modified using a HPS prior to being tested on human subjects. The researchers refined clinical protocols and procedures using simulation to train individuals in the trial procedure. Findings showed that simulation may substantially decrease potential patient safety concerns and ensure

the quality of the data collected (Wright et al., 2005). The ability to record data as the simulation was completed allowed results to be verified, thereby reducing the chance of errors in research collection.

Ti, Tan, MY Khoo, and Chen (2006) studied the use of simulation for training medical students (n=36) in endotracheal intubation. Medical students were divided into two groups. One group trained in endotracheal intubation using HPS while the other group watched. Students were called back to the training center three months later and asked to perform their intubation skills on the HPS. The study compared the intubation skills of the hands-on HPS group with the performance of the group who had observed the HPS. Seventy eight percent of the students in the simulation training group successfully intubated the HPS compared to only 41% of those in the observation group. Results showed that simulation training resulted in better learning and retention of the skills of intubation.

Schwartz, Fernandez, Kouyoumijian, Jones, and Compton (2007) compared case-based learning (n=52) (CBL) to HPS (n=50) in medical student education. Medical students from the HPS group and CBL group were given the same objective based examination after their training sessions. Research found that HPS did not offer any advantage to case-based learning. The findings did show that simulation could be utilized to practice and refine medical techniques which may impact patient care and quality outcomes. One area requiring more research is tracking patient outcomes when utilizing simulation to train new graduate nurses. Training strategies to improve patient outcomes are areas of interest with the current pay-for-performance programs.

### Simulation in Nursing

Only recently have educators begun to recognize the potential benefits of simulation in improving nursing care and patient safety. Radhakrishnan, Roche, and Cunningham (2007) studied senior BSN nursing students' (n=12) clinical performance using HPS. One group (n=6) participated in simulation practice with a complex two-patient assignment in addition to clinical requirements. The other group (n=6) completed clinical requirements but did not have any simulated practice. At the end of the semester both groups participated in a two-patient clinical HPS scenario and were evaluated on safety, basic assessment, interventions, delegation, and communication. Students in the HPS group scored higher for safety (45 points) and basic assessment (43 points) than students in the control group (34 and 33 points respectively). The other areas evaluated showed no significant difference in performance. Results showed that participating in clinical simulation exercises improves nursing students' performance in assessing and monitoring basic vital signs. Accurate vital sign assessment is critical for nurses in an evolving emergency situation where recognition of changes by the nurse will allow for immediate intervention and prevention of complications.

Gobbi et al. (2004) focused on competency in health care students. Senior nursing students (n=18) utilized simulated patients for five days in lieu of actual clinical time. Data for the study included student interactions with the simulated patients being recorded and analyzed as well as students completing a twelve question, five point self survey on their performance and confidence. Student competencies were divided into five domains and twenty-nine sub-categories. The self reports showed improvement in fifteen of the twenty-nine subgroups of competence and 87.5% of the students reported that they



were satisfied with simulation as a learning tool. Findings from the self assessments were calculated and showed that simulation had the potential to improve the attitudinal, cognitive and psychomotor components of professional competence. While Gobbi et al. showed the value of using simulation with nursing students, the sample did not include new graduate nurses. If HPS is to be used during the orientation process it would be important to determine if new graduate nurses identify simulation as a valuable tool for building competence after they have left the academic setting.

National nursing organizations have begun to realize the potential of utilizing simulation as a means of measuring nursing competency and demonstrating nursing skills. The National League for Nursing (NLN) is a major contributor to the research on the use of simulation in the education of nursing professionals. Adams, Valiga, Murdock, McGinnis, and Wolfertz (2000) compared nursing education programs in 1994 and 1999. Based on the findings Adams et al. also predicted future trends for 2004. The results from the 2000 study were used as a basis for a NLN national study. In 2004, Jeffries and Rizzolo developed and tested simulation training guides used by nursing faculty to promote student learning. The findings of the 2004 study were further developed and tested and resulted in the 2007 publication of a book titled "*Simulation in nursing education: From conceptualization to evaluation*". The book was intended as a guide and resource for nurse educators who are preparing to use simulation in the teaching-learning process and who are seeking ways to assess competency of new RNs or recertify employees in certain skills (Jeffries, 2007). The publication of this book shows how important the NLN feels that simulation will be to the future of nursing education.

Jeffries (2007) outlined how new graduate nurses can benefit from simulation. The simulation guide in this reference will be further discussed in the methods section.

### User Satisfaction with Simulation

Since simulation equipment is so costly to acquire and time consuming to use, it is important to ascertain user satisfaction. The efficacy and satisfaction of participants involved in simulation training has been well documented. Wilson, Shepard, Kelly, and Pitzner (2005) assessed the user friendliness of a human patient simulator (HPS) for the acquisition of various nursing skills and found that nurses (n=59) and student nurses (n=11) find the HPS superior to other methods of training available, such as task trainers, multimedia technology, and didactic instruction. The findings of the research showed that only 1.4%-10% of the participants rated the HPS superior to text book learning, 4.3%-20% rated HPS superior to instructional programs, and 44.2%-71.4% rated HPS superior to existing training products. Over 40% of the study participants suggested that the mannequin was similar to an actual patient. A 52 item, five point scale questionnaire was developed to assess nurses' perceptions about the realism and suitability of the HPS for nursing education. Eighty percent of the nurses responded positively to the realism of the HPS. Results showed that simulators can facilitate experiential learning with behavior modifications and improve nurses' competence in health assessment. Wilson et al. (2005) stated that further research is needed to investigate the effectiveness of HPS on nurses' health assessment knowledge and skills.

Childs and Sepples (2006) and Seybert and Barton (2007) measured nursing student satisfaction with the implementation of simulation as a teaching method. Childs and Sepples (2006) utilized a 16 item, five point scale to measure whether active

learning, collaboration, diverse ways of learning, and high expectations were present in each simulation exercise and the importance of each of these to the learner. Results showed that students felt feedback and objectives were the most important features of the simulation followed by level of complexity and fidelity. Data supporting these findings were not included in the article. Students (n=17) were also asked to complete a 13 item scale ranking their level of confidence gained through the simulation, usefulness of the simulation experience, and feelings about the learning method. Students felt they learned the most from the code scenario using the HPS and that the simulation “experience taught them more than any other learning opportunity in their nursing program” (p. 157). Again, the research article did not include details to support the findings.

Seybert and Barton (2007) studied pharmacy students’ (n=102) satisfaction with simulation as a teaching method using a four question, five point instrument. Students stated that simulation “improved confidence and provided a safe learning environment where they were not frustrating the patients on whom they were learning” (p. 3).

Research supports that students are indeed satisfied with simulation as a tool to help them increase confidence, practice skills, and interaction with patients. Results showed that the average score from the grading rubric increased with each simulation session. The highest score possible was eight. The average score for the first session was 4.2, the second session was 5.8 and the final session was 7.8. Improvement with accuracy of blood pressure readings was also evident in the research. Students obtained accurate readings 21.5% during the first session, 65.6% during the second session, and 97.6% in the final session. Further research is needed to determine if these same viewpoints are

true of new graduate nurses. Educators need this information to make informed decisions when including simulation as part of the orientation training process.

Lasater (2007) utilized a focus group to gain insight into junior nursing student perceptions of simulation as a strategy for developing clinical judgment. Students (n=48) identified simulation as an effective tool since it brought together some key elements of learning including the theoretical basis from class and readings, skills from labs, and lessons learned during clinical practice. Combining these elements required students to critically think about their actions as they reacted to situations on the HPS. One weakness of the HPS identified by Lasater's study was the lack of nonverbal communication by the mannequin, such as grimacing or smiling. The other weakness of the simulation mannequin identified was that specific assessments could not be performed since there are no neurological responses, color changes, or swelling. Alternatively, Holtschneider (2007) found that because simulators are lifelike, they can be used for clinical skills and other care aspects such as communication and teamwork. It is important to remember that a resourceful educator can use moulage to make the mannequin appear different colors.

Educators need to weigh mannequin limitations into the decision to utilize simulation mannequins for training purposes. It would be beneficial to determine user ability to suspend disbelief and treat the mannequin as a real patient. More research is needed in regards to new graduate nurses experience with simulation in order for educators to have the information they need to evaluate effectiveness of simulation as a training method.

Improving communication with patients is an area nurse educators are investigating. Kluge, Glick, Engleman, and Hooper (2007) studied baccalaureate nursing students' perceptions of the efficacy of computer based simulation to practice interactions with patients. A 20 item, five point scale instrument was used to ask students (n=60) perceived improvement in communication skills, the value of the teaching methods, students' confidence in skills, and intention to use communication techniques in future practice. One finding was that after using the computer based simulation of clinical encounters nursing students reported more confidence in managing strong emotions and difficult situations. Students also reported improvement in relating to elders, children, and colleagues after participating in simulation training.

Nehring and Lashley (2004) conducted an international study among 34 schools of nursing and six simulation centers to examine how simulation was being used in nursing education. Of the nursing schools that responded, 18 were universities and 16 were community colleges that offered a mix of practical, associate, baccalaureate, graduate, and nursing anesthesia degrees. A 37 item instrument with closed and open ended questions was used to address simulation courses and percentage of HPS use, training of faculty and staff in the use of HPS, how the HPS was used for evaluating competencies, other uses for HPS technology, and student opinions on the use of HPS. Key points emerged from the study. Considerable time, effort, and money are required for "the efficient and effective use of HPS technology in nursing education" (p. 248). Results showed that nursing educators are using HPS technology for "critical thinking, clinical reasoning skills, synthesis of knowledge, and comfort and confidence in practice in real-life situations" (p. 248).

### Economics of Simulation

An underlying economic theme appears in simulation research. Nehring and Lashley (2004) is an important study since it did determine that simulation is costly and time consuming as an educational tool. The research also substantiates the need for further study of new graduate nurses experiences with simulation as an orientation tool so that educators can weigh the risks and benefits of simulation as a training technique.

Harlow and Sportsman (2007) performed an economic analysis of patient simulators for clinical training in nurse education. Findings confirmed the faculty cost savings were significant with the use of HPS but the investment costs for equipment and training outweighed the savings. Harlow and Sportsman (2007) and Brady, Molzen, Graham, and O'Neill (2006) discussed the substantial amount of time and money needed to purchase and set up a simulation lab, as well as resources needed to train staff how to run and maintain the HPS.

Another area of consideration identified by Harlow and Sportsman (2007) and Brady et al. (2006) is the space to house and store the simulation equipment. Most schools and institutions have limited space available and may not have adequate facilities to set up a simulation lab. It is important to have adequate space to store and utilize simulation equipment safely. Simulation equipment is costly and frequently moving it may lead to damage and breakdown of equipment. Simulation equipment is also difficult to move due to the physical weight of the mannequins and the amount of equipment that needs to be connected in order to function to the full capabilities. Having a dedicated simulation lab also ensures that the environment can be controlled to reproduce a realistic patient care environment.

Harlow and Sportsman (2007) also discussed how the addition of HPS in clinical training necessitates further research to study the impact of the technology on obtaining competency, efficiency of HPS use, and costs of training clinicians to run the simulators. It is important to remember that programming and maintaining the simulation equipment can be time consuming and wages to pay staff must be considered. Debriefing is often the most time consuming aspect of the actual simulation scenario. Clinicians will need to be reimbursed for the time it takes to program, run, and debrief the simulation. Patey et al. (2007) reported the importance of allowing adequate time for debriefing the simulation experience and listed the lack of time spent on debriefing as a main barrier to utilization of simulation. Again, research findings conclude that simulation is costly and that educators need more information from participants about simulation training in order to evaluate if the effectiveness outweighs the cost.

#### New Graduate Nurse Orientation

Few American studies asking new graduate nurse experiences with orientation were located. Kelly and Courts (2006) conducted a study on new graduate nurses' professional self concept and found that most of the "new nurses felt that their clinical experiences were the most important aspect of their education" (p 336). The new graduates suggested that the amount of clinical time, the ability to see a variety of clinical areas, and the ability to incorporate theoretical concepts into clinical had a positive influence on their professional self concept. Kelly and Courts (2006) took into account new nurses' experiences making the study a valuable resource for planning orientation programs.

Competency is an important area to consider when planning new graduate orientation programs. Zekonis and Gantt (2007) reported that less time and fewer resources to ensure competency of new nurses during orientation led to the incorporation of simulation in the training of new hires working in the emergency room. Zekonis and Gantt (2007) identified simulation as a safe, realistic, and effective way to evaluate a learner's ability to "follow directions, delegate tasks, problem solve, and intervene effectively" (p. 285).

Kollman et al. (2007) reported the use of simulation in training new graduate nurses to practice in a cardiovascular surgical intensive care unit. During the orientation period the new graduate nurses' preceptors conducted 4-, 8-, and 12-week progress reviews utilizing a critical care self assessment and competency tool. The results of these assessments were analyzed to identify areas needing further development. The new graduate and preceptor then collaboratively developed a performance improvement plan. Kollman et al. found the orientation program to be successful for new nurses to acquire the skills and competencies needed to function in the ICU setting since the new graduate nurses were able to transition to the role of critical care nurse within the same timelines as experienced nurses.

Limited hospital resources must be considered when dealing with orientation of new graduate nurses. Staffing shortages and budget restrictions limit the number of preceptors available to orient new graduate nurses. Day (2007) found the burden of orienting new graduate nurses on units would be lessened with the use of HPS. Through the use of HPS it is expected that "new graduate nurses will be able to spend more hours in a laboratory setting honing their patient care skills without impacting workflow on the



unit and without risking harm to real patients” (p. 504). Research asking new graduates about their experiences with training on mannequins instead of actual patients, their perceptions of simulation, and measurements of their learning and critical thinking would provide information educators need for planning an orientation program.

Beyea, von Reyn, and Slattery (2007) conducted a study utilizing simulation in a 12 week new graduate nurse residency program. The focus of the program was to provide scenario-based simulations for the new graduate nurses to learn clinical and critical thinking skills. Each week nurse residents were asked to rate their level of confidence, competence, and readiness to provide independent nursing care to patients they studied that week using HPS. Over 95% of the nurse residents (n=42) enjoyed the simulated experiences and stated that they believed the HPS experiences were helpful in developing their confidence and competence. Although there was no objective data to support the findings, this work identifies that new nurses support the use of simulation in the new graduate nurse orientation process.

### Cardiac Arrest in Hospitalized Patients

The ongoing trend of nursing staff shortages, high staff turnover, and hiring new graduate nurses to fill staffing vacancies creates the perfect set of circumstances for the mismanagement of the cardiopulmonary arrest victim (Funkhouser & Hayward, 1989). Del Bueno (2005) utilized 10 years worth of scores from a Performance Based Development System to track critical thinking ability of both experienced nurses (n=20,413) (those with more than one year of nursing experience) and inexperienced nurses (n=10,988) (those with less than one year of nursing experience) who participated in simulation scenarios. Del Bueno (2005) reported that 50% of inexperienced nurses

would miss an immediate life threatening condition leading to grave implications for patients.

Early recognition of problems and rapid intervention can produce positive patient outcomes (Orsolini-Hain & Malone, 2007). Reports on failure to rescue highlight the need for nurses to have skills to solve urgent and emergent situations that occur unexpectedly (Chestnutt & Everhart, 2007). Cardio/pulmonary arrest or Code management is one area that is included during most new graduate nurse orientation programs.

The research surrounding failure to rescue and Code management clearly shows that more practice is needed by nurses. Brown, Latimer-Heeter, Marinelli, Rex, and Reynolds (1995) reported how, "in the time it takes for the Code Team to arrive, the critical first three minutes will have passed" (p. 35). First responders are typically nurses who practice in medical-surgical areas which do not require competency in Advanced Cardiac Life Support (ACLS). The ability of non-ACLS trained nurses to initiate the Code significantly impacts patient outcomes (Brown et al., 1995). Ultimately the ability of nurses to initiate Basic Cardiac Life Support (BCLS) correctly and in a timely manner can affect patient outcomes and success of the Code.

### Mock Code Training

Practice is needed to maintain nursing skills in Code management. This can be accomplished through use of Mock Code training. Mock Code training provides practice sessions for cardiopulmonary resuscitation in a non-threatening, non-emergent environment. Mock Code training allows staff to review resuscitation equipment as well as roles and responsibilities of the code team. Mock Codes also provide opportunities for

team members to practice communication, teamwork, and resuscitation skills necessary to run an actual code. Brown et al. (1995) identified that even though all staff members were required to remain current with their Cardio Pulmonary Resuscitation (CPR) skills, the knowledge necessary to initiate a successful, smooth running Code was not highly refined among medical-surgical nurses. In order to prepare nursing staff to better function in Code situations, hospital officials mandate that nurses attend Code preparation classes and participate in unit-based Mock Codes. Providing an opportunity for medical-surgical nurses to become more skilled and comfortable with their roles during a cardiopulmonary arrest allows staff to better prepare for Code management.

The use of simulation is one way to offer nurses the opportunity to gain confidence in Code management skills. Recent trends in the literature favor utilizing simulation for Mock Code preparation. Holcomb et al. (2002) studied the use of simulation to evaluate military trauma team (n=15) performance during resuscitation. Five scored and eight timed tasks were used to evaluate trauma team performance via two simulated trauma scenarios. Findings demonstrated the ability to evaluate trauma team performance in a reproducible fashion and showed “significant improvement in team performance after a 28 day trauma refresher course” (p.1078).

Misko and Molle (2003) used a multidisciplinary approach to implement simulated Mock Codes. The Mock Code task force consisted of a nursing administrator, a nurse educator, and physician who implemented and evaluated Mock Code training in a hospital setting. Evaluations showed that the Mock Code training “promoted staff comfort, improved patient outcomes, and strengthened the interdisciplinary approach to hospital resuscitations” (Misko & Molle, 2003, p. 292). Research is needed to determine

if new graduate nurses feel their comfort level with Code management is improved after participating in simulated Mock Code training.

Code management is an interdisciplinary process, therefore it is important to have a cohesive and well functioning team atmosphere. Baker, Gustafson, Beaubien, Salas, and Barach (2007) reviewed the evidence on simulator based and classroom based teaching on medical team building. Two simulation programs and four classroom based programs were evaluated. Findings showed that simulation based programs have been rated highly by participants. Simulation participants believed simulation training contributed significantly to the safe practices of healthcare workers. However, no research was available on the effect of simulation training on teambuilding. Similarly, little research was found on the effect of classroom-based programs on teambuilding. Team building was identified as playing an important role in ensuring patient safety and preventing errors. The researchers recommended that development, implementation, and evaluation of team training programs through simulation as critical to the evolution and practice of medical team training. More research is needed to determine if Code Team training is as effective with new graduate nurses as it is in the medical team model.

Some barriers to the success of Mock Code implementation have been identified. Blakely (2007) identified unit staffing levels, unit based emergency situations, interdisciplinary working relationships, and time as barriers to successful implementation of Mock Codes. Blakely stated it was important to debrief the Mock Code to identify areas for improvement. Review and analysis of the Code can help determine if participants benefited from the Code experience. It is important to include debriefing in Code management training so that nurses can learn from their mistakes.

Cuda, Doerr, and Gonzalez (1999) studied the use of experienced nursing staff as facilitators during Mock Codes. Using seasoned nurses as facilitators allowed those with advanced skills and knowledge base to mentor inexperienced nurses in a non-threatening manner. The buddy system allowed for immediate teaching and learning if needed which developed “stronger, calmer, more efficient and confident nurses during Codes” (Cuda et al., p. 279). According to Funkhouser and Hayward (1989) “Mock Code exercises increases the confidence levels of all staff involved regarding their ability to effectively and competently function in a Code situation” (p. 237). Confidence in nursing skills is an especially important aspect to consider when dealing with new graduate nurses.

The facilitator for the Code training plays an important role as communicator to all simulation participants. Each nurse interprets and utilizes Mock Code information and experiences differently. Nurses with a dominant right brain hemisphere respond better to visual and abstractly oriented teaching methods such as role playing, simulations, self-assessments, and use of feedback. Nurses with a dominant left brain hemisphere learn more from concrete and procedurally oriented teaching methods including a review of Code procedures, participant roles and responsibilities, and crash cart drawer content (Funkhouser & Hayward, 1989). Simulation provides the opportunity for participants to practice hands on skills and discuss, or debrief participant actions during the simulation. The debriefing process provides the opportunity for review of policies, procedures, and equipment. Providing the simulation as well as the debriefing incorporates learning style techniques for both right and left brain dominant participants.

## Purpose

Several studies have described the use of simulation with students, but few have included new graduate nurses or the orientation process. There is a clear link that simulation training develops critical thinking skills in many disciplines. If nursing is to improve patient outcomes with the influx of new graduate nurses, academic educators need to better prepare them for critical thinking. One way to develop critical thinking is through simulation training, but the effect of simulation training on new graduate nurses is unknown. New graduate nurses are the main area of interest for this research.

There is very little documentation on simulation use once the student transitions into the role of new graduate nurse. With the cost of orientation programs rising and limited resources available, educators need to determine the most efficient and effective ways to orient new nurses. Simulation may be the answer to this problem, but it is neither inexpensive, nor easy to implement. Purchasing equipment is costly and learning how to program and run the mannequins is time consuming and requires much effort on the educator's part. If educators are to use simulation as an orientation tool they need to evaluate its effectiveness.

Simulation is currently being used to train nurses in a variety of ways. Pre-licensure nursing education programs are utilizing HPS for basic skill acquisition, patient care management, and as a means to learn assessment techniques. Simulation is also being used with new nurses. Simulation is being used as a means to demonstrate competency and to practice skills during the orientation process. The use of simulation with experienced nurses is not well documented. One area of special interest is the use of simulation for acquiring and practicing resuscitation skills. Although researchers suggest

that simulation can offer a means of building critical thinking skills and developing nursing judgment there is no research that clearly depicts these findings. Since there is limited quantitative research surrounding the use of simulation with nurses this is one area that should be explored.

There has been much research on using simulation training in nursing education, but limited numbers on new graduate nurses' experiences with simulation training during the orientation process. New graduate nurses need to be asked about their experiences with simulation training during the orientation process. New graduate nurses may provide educators with information on how to improve the orientation process to better meet new graduate nurse needs. The new graduate nurses may also provide information on how to improve the use of simulation training by identifying new graduate likes and dislikes in regards to simulation. A query of the new graduate nurses may answer whether simulation is worth all of the time, effort, and money it takes to use for orientation. If new graduate nurses do not think that simulation is helpful for improving confidence and critical thinking then it may not be beneficial as part of orientation and educators will need to go back to the planning process. For these reasons, a descriptive qualitative study was conducted.

#### Research Question

The question driving this research proposal is: What is the experience of new graduate nurses in a mock code simulation using HPS?

## CHAPTER 2

### METHODOLOGY

The focus of this research is to examine new nurses' experiences using simulation training during the orientation process. Since the desired data to be collected is subjective in nature, a qualitative study was conducted. According to Vishnevsky and Beanlands (2004) descriptive qualitative design is a generic but not uncommon term used to describe qualitative research designs. Burns and Grove (2005) further described descriptive research as providing an accurate portrayal or account of characteristics of a particular individual, situation or group. Descriptive research is usually gathered by utilizing structured observations (Burns & Grove, 2005) and provides detailed information on the variables under study (Wood & Ross-Kerr, 2006).

#### Setting and Participants

The ideal place to access data on new graduate nurses' experiences with simulation training is at a location that has a simulation lab and a new graduate nurse orientation program. Southern New Hampshire Medical Center (SNHMC) is a community based hospital that offers a new graduate nurse orientation every summer and has a simulation lab located within the hospital. Historically, SNHMC has had 10 to 20 new graduate nurses who participate in the new RN orientation each summer. Acceptance into the new graduate orientation program is dependent on participants passing the NCLEX prior to the first day of the program, as well as being able to read and write the English language.



The study used purposive sampling of all new graduate nurses from one summer orientation program offered at SNHMC. The orientation program in the summer of 2008 had eight new graduate nurses, an adequate sample size for a qualitative study. Inclusion criteria included those who were new graduate nurses that had graduated within the last six months from an associate or baccalaureate nursing degree program, but had not been employed previously as a Registered Nurse (RN), and those who attended the orientation program at SNHMC. There were no exclusion criteria. Age, gender, race, previous experience with simulation, and hiring department were not exclusion criteria for this study so that experiences from a broad range of new graduates could be gathered. Simulation training is a mandatory part of the new graduate nurse orientation program. While participation in the study was voluntary, participation in the simulation itself was required.

#### Informed Consent

Permission to conduct this study was granted by the University of New Hampshire's Institutional Review Board (IRB) as well as the hospital's IRB. New nurses were given a letter on the first day of orientation inviting them to participate in the research (Appendix A). A key ethical element of the research process is to avoid unnecessary harm to the participants. The new graduate nurses were told verbally and given an information sheet outlining that participation in the study was voluntary, that signed consent of participation was required, and that they had the right to withdraw at any time. According to Burns and Grove (2005), "interviews are an invasion of the psyche... [and are]... capable of producing risks to the health of the participant" (p. 541). New graduates were interviewed in a group setting to minimize this risk.

## Data Collection

The purpose of data collection in this study was to generate knowledge about new graduate nurses' experiences in regards to the simulation training used during the orientation process. The study occurred in two phases. Phase I was a simulated Mock Code scenario and Phase II was a focus group analysis of the simulation experience.

### Phase I

The researcher, trained in simulation programming, is familiar with and had access to the lab that was utilized in this study. The researcher is also employed at SNHMC and played an integral role in developing and teaching the new graduate nurse orientation. The researcher utilized the book "*Simulation in nursing education: From conceptualization to evaluation*" (Jeffries, 2007) as a guide and resource for preparing the simulation scenarios.

Prior to the start of the orientation, Mock Code simulation scenarios were programmed into the HPS. Each scenario included a brief description of the simulated patient including demographic information, past medical history, history of present illness, and primary medical diagnosis. The scenarios also included the required psychomotor skills of the new graduates prior to simulation, cognitive activities required prior to the simulation, the nursing diagnosis, simulation learning objectives, and scenario specific objectives. The simulation mannequin was then programmed to show physiologic trends, that, when acted upon by the new graduates during the simulation, meet the objectives of the scenario.

The new graduate nurses attended a didactic class on code management provided by the Clinical Education Department of the hospital prior to the simulation training. The

simulation training began with an introduction to the simulation lab and a review of information included in the scenario. Participants had the opportunity to interact with the HPS mannequin and ask questions about its capabilities before the scenario began. Participants were told that the scenario would be videotaped for review during the debriefing portion of the simulation. Videotaping participation in scenarios for use in the debriefing process is a standard practice during simulation (Nehring, Ellis, & Lashley, 2001). The preprogrammed scenario was then monitored by the simulation facilitator with the new graduates participating. Each new graduate nurse was asked to take turns acting as the primary nurse during the Mock Code scenarios while the rest of the group observed. The observers were encouraged to offer suggestions to the participant acting as the primary nurse. To allow the opportunity for all participants to act as primary nurse in the Code scenarios eight different scenarios were utilized.

At the completion of the scenarios the new graduates were debriefed by the simulation facilitator, who was a staff member of the Clinical Education Department of the hospital, using the video of the simulation. The researcher was present in the room during the simulation training and debriefing as an observer only, not as the facilitator. The purpose of the debriefing was to review the Mock Code simulation step by step and discuss the role each participant played in the success or failure of the scenario (Nehring, et al., 2001). All new graduate nurse participants were present when the debriefing video was reviewed. The videotape was erased at the completion of the debriefing session.

## Phase II

Phase II was the focus group discussion. A focus group involves people with common experiences who are interviewed by a moderator for the purpose of eliciting

ideas, thoughts and perceptions about a specific topic or issue in an area of interest (Holloway & Wheeler, 2002). According to Burns and Grove (2005) “focus groups are designed to obtain participants’ observations of a focused area in a setting that is permissive and non-threatening” (p. 542). It is thought that focus groups allow people “to express and clarify their views in ways that are less likely to occur in one-on-one” sessions (p. 542). To get the most information from the new graduates about their experiences with simulation, the focus group was the method of choice for this research.

The focus group met on the same day as the simulation scenario. The focus group session lasted 45 minutes. The interview room was located inside the hospital and did not have a phone. The door was closed with a “do not enter” sign to minimize interruptions during the focus group process. Temperature was controlled inside the interview room and comfortable chairs were arranged around a round table. A high quality digital recorder was placed in the middle of the table.

The focus group began with the participants signing consent to participate (Appendix A). Participants were reminded that the focus group discussion would be audio taped. Holloway and Wheeler (2002) suggested that videotaping interviews might inhibit participants, particularly when discussing a sensitive subject. For this reason audio taping the focus group discussion was the method of choice for this study.

The focus group was lead by a moderator who was briefed by the researcher. The moderator was the researcher’s academic advisor and contracted Nurse Researcher for SNHMC. The moderator was not present during the simulation training or debriefing. According to Burns and Grove (2005), it is imperative for the researcher to clarify the aims of the focus groups and communicate these aims to the moderator who in turn

communicates them to participants before the group session begins. According to Auebach and Silverstein (2003), the moderator needs to be able to stimulate discussion and have insight and interest in the ideas of the participants. The moderator must also have social and refereeing skills to guide the group towards effective interactions. Holloway and Wheeler (2002) stated that by taking these steps the group will feel at ease with the moderator, ensuring the interaction will be open, productive, and the participants will be comfortable discussing their perspectives and feelings. The researcher was not present in the room during the focus group discussion.

The moderator proceeded through a list of prompt questions (Appendix B). Open-ended questions were utilized to allow the new graduate nurses the freedom to respond in their own words. The prompt questions were aimed at gathering information on new graduate nurses' experiences of simulation training used during the orientation process.

A written survey was handed out at the end of the focus group to elicit demographic data (Appendix C). Participants were paid their hourly wage by the hospital for participation in the simulation as well as the focus group discussion.

#### Data Management

All data collected, including the audiotape of the focus group discussion, field notes from the moderator, and the typed transcripts were locked in a file cabinet in an office accessible only by the researcher.

Since this study is qualitative in nature it is imperative to maintain rigour throughout all steps of the research process. The rigour of qualitative research is associated with thoroughness of data collection (Burns & Grove, 2005) and can

successfully capture individual's beliefs, attitudes, and perceptions in a narrative format (Jack, 2006). In order to maintain rigour in the collection of data the researcher audio taped the focus group discussion. Replaying the taped interviews is a way to verify the content of the raw data as well as document verbal cues not recorded during the initial data collection process. Audio-taping provides an avenue to confirm the accuracy as well as completeness of the data recorded by the researcher and moderator. By audio taping the focus group discussion and keeping detailed notes of the interaction, the information gathered can be audited. After the tapes were professionally transcribed verbatim the researcher then played the tape and read along with the transcribed records to verify content was accurate.

### Data Analysis

Roberts, Priest, and Traynor (2006) and Burns and Grove (2005) discussed how qualitative content analysis is a particularly reliable approach to handle data since specific codes are created to describe data, such as statements from interview transcripts, and can be confirmed by revisiting previously coded data periodically to check for stability over time. Roberts et al. (2006) also stated that tape-recording interviews and interview transcripts can help improve reliability. The content analysis coding process is the method of choice for this research study.

Burns and Grove (2005) outlined the steps involved in the coding process as identification of themes, category development, category saturation, concept development, searching for additional categories, category reduction, searching for instances that do not fit into categories, and linking categories. Auerbach and Silverstein

(2003) think of the steps in coding as a staircase, moving the researcher from a lower to higher level of understanding in the research process.

In qualitative research, data collection and analysis often occur simultaneously (Burns & Grove, 2005). Once the discussion was transcribed, the researcher examined the data manually, line by line to identify common words and phrases in answers of new graduates. The researcher coded responses by extracting the essence of ideas within them and writing labels in the margins of the transcript. The researcher then printed the transcripts and separated out individual responses. The coded responses were grouped together using the common words that emerged from responses and pasted onto poster board. In the original analysis 13 themes emerged (Appendix D). At that point the researcher asked the moderator to review the themes and together they collapsed the themes into more generic themes (Appendices E & F). The process of collapsing themes resulted in the four emerging themes which contained sub-themes. Further discussion of emerging themes will follow.

## CHAPTER 3

### EMERGING FINDINGS

A focus group discussion exploring new graduate nurses' experiences with simulation training during the orientation process provided data for the study. The focus of this chapter is to describe the emerging themes from the focus group discussion.

#### Participants

There were eight new graduate nurses in the orientation program, but only seven new nurses chose to participate in this research. One new graduate was male. Participant ages ranged from 47 to 22 years. Three participants were over the age of 38, while four were under the age of 25. One participant graduated from a Baccalaureate Degree Nursing Program, the remaining nurses were from Associate Degree Nursing Programs. In addition to nursing degrees, four of the seven new graduate nurse participants held Associate Degrees outside the nursing field. Six of the seven new graduates reported using simulation training in their educational program prior to the new graduate nurse orientation program.

#### Ethical Considerations

An ethical aspect of research to be considered is the role of the researcher. The researcher is a staff member of SNHMC who participates in teaching the new graduate orientation program and is trained in simulation training at the hospital. Four of new graduates who participated in the orientation program were new employees of SNHMC, so they did not know the researcher and had no previous contact with the researcher prior



to the orientation program. There were three new graduates that were already employed by SNHMC having changed roles from aide to nurse. Two were from different departments and did not have any previous contact with the researcher. The other new graduate was an employee in the same department as the researcher, but worked an opposite shift. The research project was not discussed between this new nurse and researcher outside the orientation program.

The researcher did not want to influence the study participants; therefore the study was not discussed with any of the new graduate nurses by the researcher herself until the focus group discussion began. A staff member from the Clinical Education Department introduced the study to the participants and distributed the consent form at the beginning of the orientation program. The researcher included a statement in the consent form stating "participation is strictly voluntary; refusal to participate will involve no prejudice, penalty, or loss of benefits to which you would otherwise be entitled. If you agree to participate and then change your mind, you may leave the focus group discussion at any time without penalty. Once data is transcribed, your comments will no longer be linked to your name" (Appendix A). The researcher met with the participants briefly before the focus group discussion to review the consent form and reiterate that participation was strictly voluntary. Participants had the opportunity to ask the researcher questions about the study at that time. It was important for the participants to know that there would be no repercussions if they chose not to participate in the study or if their comments were less than positive. These ethical considerations will be further discussed in the limitation section of Chapter 5.

### Emerging Themes

The focus group discussion attempted to gain insight into new graduate nurses' experiences with simulation during the orientation process. Analysis of the focus group transcripts identified four emerging themes (Appendix F): Developing Confidence, Developing Knowledge Base, Developing Critical Thinking, and Developing a Sense of Realism. Each of the four emerging themes contained sub-themes.

Table I: Emerging Themes and Sub-themes

| Emerging Themes                  | Sub-themes  |
|----------------------------------|---|
| 1. Developing Confidence         | <ul style="list-style-type: none"> <li>• Self-doubt</li> <li>• Post-licensure Self-confidence</li> <li>• Confidence Through Teamwork</li> </ul> |
| 2. Developing Knowledge Base     | <ul style="list-style-type: none"> <li>• Pre-licensure Educational Preparation for Codes</li> <li>• Post-licensure Code Knowledge</li> </ul>    |
| 3. Developing Critical Thinking  | <ul style="list-style-type: none"> <li>• Nurturing Environment</li> <li>• Seeing the Big Picture</li> </ul>                                     |
| 4. Developing a Sense of Realism | <ul style="list-style-type: none"> <li>• Suspending Disbelief</li> <li>• Presence</li> </ul>  |

#### Emerging Theme 1: Developing Confidence

Confidence is generally described “as a judgment about one’s perception of ability... Confidence in one’s ability directly affects his/her performance” (Leigh, 2008, p.3). Self-confidence is having confidence in oneself. “Self-efficacy is the belief in one’s capability to execute the actions required to attain a goal” (p. 2). Literature uses the terms confidence, self-confidence, and self-efficacy interchangeably. The theme Developing Confidence emerged as the participants discussed their experiences with the Mock Code

simulation and common phrases were used including: self-conscious, missing something, felt stupid, unfamiliar, felt lost, fear, and confidence. The emerging theme Developing Confidence included 3 sub-themes: Self-doubt, Post-licensure Self-confidence, and Confidence through Teamwork.

Self-doubt. New graduate nurses enter the workforce with little practical experience or confidence in their ability to care for patients with complex needs (Duchscher, 2008). Self-doubt, or the lack of faith or confidence in oneself, is a common problem that new graduate nurses face when transitioning from students to practicing nurses. Self-doubt can manifest as feelings of being self-conscious and nervous in unfamiliar clinical settings. The new graduate nurse participants discussed their feelings of self-consciousness and panic when asked to perform nursing skills using the HPS in front of their peers.

“I think there is a certain level of being self conscious when you are in front of your peers and you know that you are...being watched...”

“What are people going to think? Am I going to feel stupid?”

“We have to know how to act and what to do and that scares me because what if I’m not doing something that I should be.”

“Do I really have all of the skills I need to be starting out? Am I missing something? Did I not get something in school?”

When asked about their performance in the simulation scenarios participants replied:

“I think everyone panicked a little bit.”

“I feel the same way, because there were so many people in the room I was kind of nervous and didn’t have enough time to think things through.”

Some of the participants identified that they found it easier to watch the simulation than to actually participate in the scenario.

“It is easier to think about what you should do when you are not in the situation.”

“It is easier to stand back and go oh yeah, I know what’s going on, but to be the actual person with the hands on it, you get the deer in the headlights look. Oh my god, what am I doing?”

New graduate nurse participants were asked how they felt in the simulation (SIM) lab.

Some of the responses were:

“It’s unfamiliar.”

“I felt like I was lost.”

The feelings of nervousness, self-consciousness, and panic are all part of the new graduate nurses’ experience of confidence, or in this case lack of confidence.

Post-licensure Self-confidence. Duchscher (2008) reported that as new graduate nurses transition into their roles they will become increasingly comfortable with their roles and responsibilities as nurses. Simulation is one way to facilitate the transition. One participant reported the use of simulation was:

“Good teaching, learning tool. It helped with the fear. It made me feel like there was something beyond this.”

The majority of new graduate participants identified practice as the only way to build confidence in skills and knowledge.

“I think the only way you will get good at knowing what to do is practice and keep practicing whether it be simulation or...having a real code.”

“I think the more I do in clinical practice the more I will retain and the better I will do in the future.”

“I think if they have an actual visual of a real code going on they are going to start familiarizing and say oh yeah. I remember doing that in the simulation lab. I think a visual would be a big bonus and would seal the SIM lab experience as well.”

New graduate participants commented about their experiences using simulation to build their knowledge in Code Management.

“I...think that it plays a really useful tool because we wouldn’t be able to walk out those roles without the SIM lab.”

“I feel like if I took one thing home then it is more than I had when I first got here. So if I just learn one thing then that’s an improvement.”

“I would like to practice because I want to have the feeling that if something happens that I wouldn’t freeze and I would be helpful. I want to feel more confident about my own abilities in that situation. That is your worst fear. That it is going to happen and I want to feel more comfortable. I don’t think comfortable is the right word. I would like to feel more confident.”

Some participants suggested that simulation was not the only tool needed to build skills and confidence. Others identified simulation as a good base onto which they could build experience.

“[Using simulation] is a good place to start but you need more than just that.”

“It was good at pointing out the holes and what you don’t know.”

“Right now I think just the SIM lab isn’t enough to build our skills confidence because it’s just not enough.”

“I am hoping that it is a little base or a little foundation that you can slowly build on.”

The new graduate nurses’ comments in the focus group reflect their desire to build confidence through practice.

Confidence Through Teamwork. Effective communication and sharing of information are essential to successful multidisciplinary team working (Doyle, 2008).

New graduate nurse participants identified their desire to be part of a functioning code team during the focus group discussion.

“I can see myself really wanting to be part of a team, a code team. I could see myself really wanting to do that because I would love to feel on the edge there.

It's somebody's life or death and you have to perform really well and you have to know your stuff and everybody else in the room has to be like that too. To be part of that team would be really rewarding."

"Even though this was just a mock simulation you get a slight sense of what it would be like if you were in the room with... people who knew what they were doing. I think we have all been in those situations where you work with somebody who works as a team and they get in and do something really well, really fast. I know in my experience I have been in teams like that and loved that. But to be in a situation like that and have it be a scenario and have everyone working so well. I would really like to get the chance."

The hands-on training of simulation can help new graduate nurses overcome their self-doubt while building their knowledge and confidence in code management.

### Emerging Theme 2: Developing Knowledge Base

New graduate nurses have limited clinical experience. Simulation is one strategy that can be used to bridge the gap in knowledge as new graduate nurses transition from the role of student to practicing nurse. During the focus group discussion the new graduate nurse participants reflected on their simulated Mock Code experience and the theme Developing Knowledge Base emerged. Some of the common phrases used to identify this theme were Code knowledge, assessment skills, organized thought process, learning in different ways, Code roles, Code equipment, and monitoring patients. The emerging theme of Developing Knowledge-base was broken down into two sub-themes: Pre-licensure Educational Preparation for Codes and Post-licensure Code Knowledge.

Pre-licensure Educational Preparation for Codes. According to Covell (2006) inexperience has been identified as a common barrier to excellent performance by nurses during codes. Nurses suggested that practicing mock codes would improve their knowledge and skills and address their feelings of inexperience. The new graduate nurse

participants discussed how their educational programs aided them in obtaining assessment skills necessary to identify changing patient needs.

“I think that the assessment skills that we have gotten through school and clinical really played a big role in the code. I think those assessment skills are going to be key to whether that patient lives or not. I think that as far as school goes, I think that they prepared us pretty well for where we are. As far as any school could prepare you.”

“In school they have to be pretty generic. We have a SIM lab at my school. They have students going to however many different hospitals and they organize their responses differently. They have to give you a general overview and then you get more specific when you actually are hired at a specific place so you know their Code policy.”

Many of the participants discussed their lack of previous experience with Code situations.

“You can’t throw a new grad out into the field and expect them to know [Code Management]”.

“I don’t ever remember talking about what you do when you are in a Code. I don’t think we have talked about that in any classes or clinical that we have had.”

“For some of us who had that experience in school and it went horribly wrong, I feel bad. I think that school definitely prepares you, but there is only so much you can learn from a book and clinical. I have never had to deal with a code. Your education can only take you so far until you actually do it.”

“We all learn in different ways... Then when you have to walk through it, it becomes more concrete. Even though it is just a walk through with the dummy it still becomes more concrete, you have touched, you have felt it. You walked through it so it will stay in your memory longer.”

Some new graduate participants had generic Code Management education, while others had no resuscitation information provided during their educational programs. Many participants discussed their belief that they could not learn Code Management from books alone, but required hands-on practice that the simulation provided.

Post-licensure Code Knowledge. Hamilton (2005) reported that simulation training was an ideal way for new graduate nurses to familiarize themselves with policies,

procedure, and equipment involved in resuscitation efforts. Competent resuscitation requires a combination of theoretical knowledge and practical hands-on skill, therefore HPS mannequins are highly recommended for resuscitation training (Curran, Aziz, O'Young, & Bessell, 2004). New graduate nurse participants discussed the benefits of simulated Mock Code training.

"I definitely think it's beneficial because it can put your thought process in a more organized way. Like, Ok they are not breathing but they still have a pulse so you do supportive respiratory care. If you had not done the simulation... it's not going to be as engrained in your head. But in a real person on the unit and this happens and you have never had this happen before even if you had done a little simulation, I think you would be like ok, now you can be more systematic in your head if you've already done a dry run through, even if it wasn't a real-life person."

The participants also discussed their experiences with different types of codes. When the new graduates were asked if they were surprised at having different types of codes they responded:

"Kind of. When you are doing CPR, your basic life support, you just have an unresponsive adult on the ground. You perform two rescue breathes and then start compressions and it's pretty straight forward."

"I think it was helpful too that they were all different scenarios. One was respiratory, one was heart, so it wasn't like when you typically think of a code. You think they have no pulse and they have stopped breathing, what do you do? Where it is not always like that. Sometimes you are just doing rescue breathing so I think it helped seeing all the different kinds of ways that a code can begin."

"I don't think that one code is the same as all codes. I think that the meds and mechanics of it are all the same. Yes, the intubation is the same, but I think every patient is different and you have to look at other aspects of their health, so I think there is a lot of dynamics in the code that are different in each code. So even if you saw 10 codes a month, they are all a little bit different. I mean the basics are the same and you get the basic idea. Like Ok I need to do this and I need to do this and as the patients nurse this is my responsibility. Everybody has a job and as long as everybody sticks to their job it runs smooth, but if someone is confused it messes up the whole thing."



The new nurse participants identified the importance of learning the steps of resuscitation for optimal Code Management.

“It is good practice, going through the situation and going through the step by step and knowing who does what I think it’s valuable for everyone.”

“I think it is a good way to show the order of the way you should do things, like the way you should follow.”

“If you could practice it in the SIM lab in a controlled atmosphere and a safe atmosphere then everyone gets to learn their roles and you get to make all the mistakes you know and nobody gets hurt.”

Another key point identified in the focus group was the opportunity for the new graduates to experience the code cart and other equipment.

“One other thing that I thought was really important was that we got to experience the crash cart. You know what was in there, what is in the drawers and how to handle them, where as they are all locked up on the floors... You can take the book out and memorize what is in all the different drawers but to actually be able to see it and handle it is a completely different thing and that is really helpful.”

“[The SIM lab] gives you the opportunity to open the code cart and see where everything is and learn what everybody else’s role not just what you’d be responsible for.”

The participants reported how simulation increased their Code Management knowledge.

“I feel like I know more just in the 2 weeks that we’ve been here. I have learned that when some one codes you need to get the board under them. When you’re ambuing them you should be behind them. I wouldn’t have known that before these two weeks. I definitely leaned stuff like that. You take the meds out and put them between their legs. You take the respiratory stuff out and put it up by their head. I wouldn’t have even known that if we hadn’t done this. If there was a code I would have been like, oh my god, who do I call?”

“I was just thinking about all the time we spent going onto the floor as a new nurse, but you’re always hoping your patients never get to that point that you have to call and then when you’re in the SIM lab, all of a sudden you were past that point. You know what I mean? You’re already out there and calling Rapid Response is step number 1 and we have to keep going and I thought that was really valuable.”

After the simulation experience new graduate participants reported that they saw the

necessity of frequent patient rounding and reassessment.

“I think your assessment skills have to be top notch.”

“I think it shows that you have to stay on your toes and monitor your patients because anything can happen at any moment... you have to make sure you are doing your rounds and watching your patients.”

“It just makes you see how important it is to keep an eye on your patient you know frequently.”

When the group was asked their thoughts on using simulation for new graduates, they thought it was a good idea.

“I think it’s a good idea.”

“A good way to start.”

“If you make errors on that [the HPS], at least it’s not a real person.”

“I also think it doesn’t give you a complete picture until you’re on the floor. I think it is a component of your orientation, a good component. I don’t think it substitutes actually experiencing it for real.”

One participant identified the outcomes of participation in simulation as a way to predict behavior in future code situations.

“I think you begin to know yourself better and you know ok I do work well under this kind of pressure or I don’t work so well under pressure and you know if you can take more of a leadership role or if you are better taking direction from other people. Some people are adrenalin junkies and other people don’t like it. So I think you know yourself better after.”

The new graduate nurse participants agreed that simulation should be used during the orientation process. The new graduate nurses all agreed that simulation was an ideal way for them to learn their roles and responsibilities, as well as equipment used during resuscitation efforts.

### Emerging Theme 3: Developing Critical Thinking

Critical thinking is defined as purposeful and autonomous reasoned thinking that enables an individual to determine the accuracy, objectivity, and work of information (Daly, 2001). According to Broussard (2008), the active nature of simulated learning “allows participants to build on prior knowledge, relate the simulation scenario to real clinical problems and further develop their critical thinking skills” (p.523). The theme Developing Critical Thinking emerged as the participants discussed how the simulated environment provided the learning medium needed to nurture and encourage them to critically think about the Code scenarios presented. Common phrases used to organize this theme were safe, calm environment, critical thinking, supportive, and facilitator. The emerging theme Developing Critical Thinking included two sub-themes: Nurturing Environment and Seeing the Big Picture.

Nurturing Environment. Utilizing the SIM lab allows nurses to use all four learning styles: visual, auditory, tactile, and kinesthetic while bringing theory to life (Curtain & Dupuis, 2008). In the SIM lab facilitators guide participants through simulated scenarios and then debrief the experience. New graduate participants discussed their experiences with the simulation learning environment.

“At first I felt weird because I felt like I was being watched but then after it got going the instructors helped us to feel comfortable and I felt more confident in making those kinds of decisions that I would have to deal with if it was a real code.”

“I also think it is there to make you feel more confident.”

“I like doing SIM lab. I am a hands-on person. So to get in there and you know you might forget ok what is the next step, but you have other people there that are giving you that information or that are helping you think oh yeah that’s what I should be doing next and you do have somebody that’s running it so you can ask

some questions and well what if the simulation didn't go down that road and you said well what would we had done if it had gone that way. So I like to do that."

"I don't think anything is going to really prepare for the first time you walk in that room and realize this person is like going to die... I think just the really calm environment when we were doing it in the SIM lab was very helpful. It did get a little chaotic when people started shouting things out. But they just helped you. You have the critical thinking some what and they just made it a little more clear. Like, ok what's next?"

The participants identified the facilitator as playing a key role in participants feeling comfortable during the simulated experience.

"I think it helped too that [the facilitators] were both very supportive while we were doing it. When we didn't know something they just hinted and then we would be able to get it right away."

"I know compared to our school there was a lot of negativity during our mock codes, so this quite refreshing."

"You're not afraid to ask any question. Even if it sounds like it might be a stupid question. They take it seriously and answer it seriously."

"I think it will make a difference who is doing it with you, like who are the people running the computer. The people today were great, but other people, no. I mean the other people would not be beneficial. They need to have that calm environment and the knowledge base to help you talk through it because it is a learning situation."

The participants identified the SIM lab as a safe place to make mistakes.

"As far as being in the SIM lab, I am a hands-on learner and for me it's a safe place to try out these things and make mistakes. You're not going to hurt anyone and you're learning. Not that its comfortable, because I get uncomfortable doing things in front of people like that but it is a safe environment to do it in and they were supportive."

"You get to make all the mistakes... and nobody gets hurt."

The new graduate nurses felt that the simulation lab was a safe learning environment with the right facilitator. New graduates identified having a calm, supportive facilitator as pivotal in ensuring that participants had a positive simulation experience.

Seeing the Big Picture. Often times new graduates are task oriented and fail to see how all of the pieces of information fit together to form a complete clinical picture. As new graduates develop skills and confidence in their skills they gain the ability to put the clinical pieces together through critical thinking. The new graduate nurse participants reflected on how simulation aided in their critical thinking abilities.

“I think even just a code, a mock code that even though you know it’s limiting it stimulates critical thinking so at least you get that first bit of ok well you know go down that path and think about how you would respond and I think that is a skills that everyone needs is critical thinking.”

“[Simulation] shows you what if. What if this happened and what if someone’s blood pressure goes down, this can happen. It’s a lot of what ifs, but it’s good. It gets you thinking. It does get your critical skills thinking. Ok I know I have learned this in school. This is what can happen. It ties it all together. I did SIM labs in schools. I definitely think that SIM labs for new grads should be used more... I think it would be great. Another great tool because you might not get those kinds of patients all the time.”

“It did get a little chaotic when people started shouting things out. But they just helped you kind of, you have the critical thinking somewhat and they just made it a little more clear. Like, ok what’s next?”

The new graduate nurse participants reflected that they felt the need for further knowledge in Code Management. Simulation was seen as an adventitious strategy for obtaining needed resuscitation skills since it was perceived as a nurturing environment that fostered critical thinking.

#### Emerging Theme 4: Developing a Sense of Realism

The ability of a participant to suspend their disbelief in a simulated setting is paramount in the success of the scenario as a learning activity. The theme Developing a Sense of Realism emerged as the new graduate nurse participants discussed how they felt the simulation environment and mannequin were capable of mimicking actual patient care. The common phrases used in this theme were real to life, real person, dummy, skin

color, temperature, human like, adrenalin, and life or death. The emerging theme Developing a Sense of Realism was further organized into two sub-themes: Suspending Disbelief and Presence.

Suspending Disbelief. Fidelity is created to imitate reality by setting the simulation scene in the room to look like a clinic, hospital room, or room in the home (Rothgeb, 2008). New graduate participants were asked their thoughts on the simulation environment used during their orientation.

“It was good just like a patient’s room.”

“I think it was real to life.”

“The only things that were kind of hard were the blood pressure cuff wasn’t working and it’s hard to feel a pulse on that thing in general.”

New graduate participants discussed how they thought the HPS was not real to life.

“It’s never going to feel like a real person but you can walk through the scenarios. You get that sense of having touched it. Then you go and observe one. It would put the two pieces together. I don’t think the SIM lab is trying to get it to be life like. I don’t think that’s what it’s for. I think it is more to walk through these things.”

“I think it is really hard because you know it’s a mock code. You know you’re practicing on a dummy and [it] is really hard to act it out. I think you can have a scenario and do maybe what you would do in real life but it’s not the same.”

“No, I don’t think it would be a fair representation of what really could really happen and what could really go wrong.”

“It is hard to act in that kind of manner when there is a dummy and you feel like everyone is watching you, where as in real life you’re just going to do it.”

Participants point out that the HPS was incapable of the color or temperature changes that they were used for visualizing changes on actual patients.

“Through experience we will be able to get more out of it by our assessments and it’s hard when we are up there to be assessing even if the patient does talk to you. You don’t see the skin color. You don’t get the same thing from it, so it is a little bit different.”

“Waiting for them to tell you what this patient is doing is different than feeling it when you’re actually there.”

“If you’re looking at a real person you can see that they look like crap and that something is obviously wrong. I think with the dummy you can’t get a very comprehensive big picture assessment because you don’t see their skin color or [that they are] cold or clammy. There is only so much you can do with simulation.”

The new graduate participants were asked what would make the SIM lab real life. The response was an automatic simulation with no computer input from the facilitator.

“A dummy that is human like. That the controller can put it on, not just someone clicking buttons. A whole scenario that would just run through the whole thing.”  
 “[I want to know] what is it like to start an IV on a person who is unresponsive.”

While the participants thought that the simulation environment was an accurate portrayal of a patient room, they were unable to suspend disbelief in the HPS mannequin or in the feeling of presence during the Code simulation.

Presence. Presence or the sense of "being there" has been discussed in the literature as an essential part of simulation (Huang & Alessi, 1999). “Emotions are an essential part of how people experience the world” (p. 148). The interaction between presence and emotional state will improve the fidelity of the simulation environment. The new graduate participants were asked if they felt the simulated Code experience elicited the same feelings as actual Codes. The group stated that simulation did not provide the same presence as actual codes.

“I think it a great thing and by being in [the code, it] gets your adrenalin. I mean you can feel it from you toes and when that code is done you just have this let down. That’s me, wow it’s over. It’s that whole feeling of what you feel like during a code. Your physical feeling is different then being in the SIM lab. Life or death.”

“The patient is either going to live or die. Very often what you do is going to make the difference and that is what I mean on the edge.”

“It’s like adrenaline, a rush.”

“Also that sense of this is somebody’s life. We didn’t get that today, the magnitude of it when it is a real situation.”

The new graduate participants all agreed that they did not have the same sense of presence in the simulated Code as they would feel in an actual Code.

This chapter provided examples of statements made by the new graduate nurse participants that support the four emerging themes identified during the focus group discussion. The emerging themes included: Developing Confidence, Developing Knowledge Base, Developing Critical Thinking, and Developing a Sense of Realism. Further discussion of the themes will follow.



## CHAPTER 4

### DISCUSSION

The purpose of this chapter is to analyze in detail the four themes that emerged from the new graduate nurse focus group discussion. This chapter will provide an overview of how the emerging themes relate to existing nursing research on the transition of nursing students into the role of working professional and how nurses develop confidence, knowledge, and critical thinking skills during the transition.

#### Emerging Theme 1: Developing Confidence

During the focus group the participants discussed their transition from student to practicing nurse. The new nurse participants identified issues with self-doubt and lack of self-confidence during the transition into the work force, especially when dealing with Code situations. New graduate participants verbalized their hopes of increasing confidence by building skills and practice, and identified simulation as a tool to help develop the skills needed for successful Code Management.

Self-doubt. Duchscher (2008) reported that it is not surprising that new graduates lack strategies to manage complex clinical scenarios since they have yet to be exposed to them in practice. Literature shows that during the first 3 months of transitioning into the workplace, new graduate nurses are consumed with adjustment to new roles (Duchscher, 2008; Newton & McKenna, 2007). Duchscher (2008) identified some troublesome areas for newly graduated nurses as they transition roles that relate to limited clinical knowledge, lack of confidence in skills, building relationships with colleagues, balancing

workload demands, organization and prioritization as they relate to decision making and patient care, and communicating with care providers. The new graduate participants in this research share the same feelings of being overwhelmed with the transition into the workforce that are present in the findings of Duchscher (2008) and Newton and McKenna (2007).

Lasater (2007) documented nursing students' feeling of anxiety and stupidity when dealing with simulation scenarios. The new graduate nurse participants in this research identified similar feelings of anxiety and lack of knowledge when dealing with Code management scenarios. The new graduate nurse participants in this study also felt self-conscious about performing in front of peers and many preferred to watch the scenarios rather than participate. The theory of situated learning "emphasizes the importance of each learner gradually becoming part of a community of practice...[where] participants learn as much from observing and interacting with one another as they do from those with an explicit teaching role" (Kneebone et al., 2005, p. 39). The participants in this research supported Kneebone et al.'s findings of learning as much through observation as they did from participation in the simulation scenario.

Reddish and Kaplan (2007) studied new graduates as they transitioned from student to practicing nurse and reported that new graduates felt confused, overwhelmed, and had performance anxiety when they entered patient care areas. Lasater (2007) also documented nursing students' beliefs that it was easier to watch than participate in the scenarios. Several of Lasater's participants stated that they learned more when they were in a supportive role where being task oriented allowed them to step back to think about what they would have done in different situations. These findings are consistent with

comments made by the new graduates during this study's focus group discussion in the emerging theme **Developing Confidence**.

The new graduate nurse participants in this research identified simulation as a tool to help with the fear associated with Code management. According to Leigh (2008) confidence in one's own ability is essential for good patient care. Castle, Garton, and Kenward (2007) identified the combination of hands-on training and clinical exposure to resuscitation can develop an individual's confidence and competence with Code Management. Curtin and Dupuis (2008) reported nursing students who had used simulation felt better prepared for identifying changes in patients' conditions which increased student confidence and helped ease the students' transition into the workforce. Bremner, Aduddell, Bennett, and VanGeest (2006) studied nursing students' experiences with HPS and reported students felt that the HPS experience provided an opportunity for active learning that allowed them to develop confidence. The new graduate participants in this research concur with the findings of Bremner et al. (2006) and Curtin and Dupuis (2008) that simulation does better prepare the user for identifying changes in patient condition allowing the new nurse to develop the confidence needed for transitioning into the workforce.

Post-licensure Self-confidence. Newton and McKenna (2007) studied new graduate nurses as they transitioned into the work force and found that the new graduates lacked confidence in many areas including emergency management. Mooney (2007) also studied the transition of new graduates into the work force and found that the new graduates were concerned about their ability to provide safe patient care, knowledge deficits, and inexperience. The new nurse participants in this research were also

concerned about their ability to provide safe patient care and discussed their belief that by practicing they would develop skills and confidence needed to overcome their fears in the emerging theme Developing Confidence.

Simulation training is one strategy used for gaining knowledge and confidence through hands-on training without harm to patients. Simulation differs from the clinical experience gained in a hospital setting by providing a safe learning environment, away from potentially risky patient care situations. During simulation “students have the chance to repeat specific scenarios and observe different outcomes” (Van Sell, 2006, p. 33). Simulation provides opportunities for the integration of feedback and guided reflection which develops the learner’s ability to incorporate knowledge from multiple sources in order to make sound and safe patient care decisions (Broussard, 2008). The new grad participants in this research agreed with Broussard that simulation was a useful tool that allowed them to practice without harming patients.

According to the research performed by Brennan, White, and Bezanson (2008) “confidence level among students who participated in the HPS instructional method was not found to significantly differ from those students who received the traditional lecture teaching approach” (p. 498). Although classroom-based Code training does not fully reproduce the potential difficulties encountered during actual emergencies, it is likely that combining training and clinical exposure can increase an individual's confidence and competence (Castle et al., 2007). The new nurse participants in this research supported the findings of Castle et al. when discussing their experiences with Code training. The participants stated they thought that the combination of simulation training and practice would help them develop confidence in their skills.

While the majority of new graduate participants in this study did agree that simulated Mock Codes helped alleviate their fear, some felt that nothing would help except practice. Misko and Molle (2003) reported that Mock code training promoted staff comfort, improved patient outcomes, and strengthened interdisciplinary communication, but was unable to completely eliminate the stress of a Code situation. The findings in Misko and Molle (2003) that Code stress could not be completely eliminated are consistent with the views of the new graduate participants in this study.

Many of the new graduate participants in this research stated the simulation experience was a good base onto which they can build their skills. Simulation was identified by the new graduate participants as a good way to point out what the participant does not know. Parr and Sweeney (2006) studied the use of simulation with undergraduate nursing students and reported the scenarios allowed instructors to see the skills that students struggled with and identified gaps in the students' knowledge. Zekonis and Gantt (2007) documented new graduate nurses' beliefs that simulation pointed out how much they needed to learn during the remainder of their orientation. The new graduate nurses in this research confirmed the findings of Parr and Sweeney (2006) and Zekonis and Gantt (2007) by stating simulation was a good way to identify gaps in knowledge and areas needing further development.

Confidence Through Teamwork. The new graduate nurse participants in this research identified their desire to be part of a "well oiled" Code team. Mock Codes encourage teamwork from all staff members (Blakely, 2007). During Code situations nurses want to work in a respectful environment where healthcare professionals are knowledgeable and competent in their roles and have the ability to work quickly and

efficiently under pressure (Kiem, 2007). Pappas (2007) observed a lack of effective delegation by new graduates and noted that new graduates had difficulty communicating with other team members. Simulation allowed participants the opportunity to practice communication and team interaction while developing resuscitation skills. The new nurses in this research identified simulation as a way to develop their confidence and build the skills needed to master different Code team roles.

### Emerging Theme 2: Developing Knowledge Base

As the new graduate nurse transitions into the role of professional nurse it is imperative to provide a comprehensive orientation program to help ease the transition. Nehring and Lashley (2004) documented new graduate nurses as stating simulation helped ease the transition to clinical practice. Nurses of all levels of expertise identify Code situations as one of the most stressful situations for nurses to encounter. For this reason Mock Code training is incorporated into new graduate nurse orientation programs. According to Allen et al. (2008) integrating simulation scenarios of stressful situations from the practice environment into training can develop nursing skill and confidence.

Pre-licensure Educational Preparation for Codes. New graduate participants in this research discussed the need to develop their knowledge base. They reported that they had limited or no exposure to Code management as students and the little information they did acquire was from books. Although the new graduate participants in this research did acquire assessment skills during their prelicensure education, they did not feel this was enough preparation for adequate Code Management. According to Currie (2008) new graduates “desire to gain knowledge and confidence in order to improve their ability to

make a difference to patients” (p. 5). The desire to make a difference to patients is consistent with the views of the new graduate participants in this research.

Childs and Sepples (2006) utilized three different scenarios when researching nursing students’ experiences with simulation. Nursing students “rated the experience as overwhelmingly positive... and felt they learned the most from the code scenario... Many students stated that this experience taught them more than any other learning opportunity in their nursing program.” (p. 157). The participants in this research shared the views of the nursing students in the research by Childs and Sepples (2006) that the simulation experience was positive.

Simulation training is one tool used during the orientation process to help new nurses overcome their fear of Code situations. Ackermann et al. (2007) studied the use of simulation in new nurse orientation programs and found the nurses believed that the Mock Codes were realistic and that they eased their fear of Codes. During the focus group discussion the new graduate nurse participants in this research agreed that the simulated Mock Code experience was positive and they recommend using simulation during orientation to develop skills and confidence.

Post-licensure Code Knowledge. Simulation was identified by the new graduate participants in this research as a way to learn Code roles and equipment. The Mock Code scenarios allowed the new nurses to organize their thought processes while fulfilling the required Code roles and responsibilities. The simulation allowed the new graduates to practice new skills in a safe environment where questions were welcome.

Literature shows there are three main areas of teaching required for Code training (Brown, et al., 1995). They include hands-on time with equipment, discussion and

demonstration of Code roles and responsibilities, and Code case study. Simulated Mock Codes provide all three areas of teaching. Reddish and Kaplan (2007) identified learning policy and procedures as a priority for new graduate nurses. Once new graduates learn the rules their confidence builds. The new graduates in this research agreed that practice would help develop their Code Management skills.

Interestingly, new graduate participants in this research discussed how they had not thought of any other type of code other than what they had been exposed to in BCLS classes. The Mock Code scenarios used in the simulation lab provided the opportunity to see how changes in patient assessments can lead to Code situations if they are not acted upon by the nurse. Lasater (2007) studied nursing students' experiences with simulation and documented several participants stating that the simulations increased their awareness of potential issues in the clinical setting. According to Van Sell (2006) the skills acquired through simulation exercises can help students make the transition to real-life patient care easier. The new nurse participants in this research agreed that simulation allowed them the opportunity to develop their skills which would allow them to recognize changes in patient assessment.

The new graduate participants in this research identified that simulation scenarios allowed them the opportunity to see the necessity of frequent patient rounding and assessment. According to Curtin and Dupuis (2008) after participating in simulation training nursing students "felt better prepared to identify changes in a patient's condition" (p. 523). Rauen (2004) studied using simulation during the orientation process and found that new nurses reported that "they had no idea how quickly a patient's status or condition could become unstable" and how important reassessment is to patient outcomes



(p. 49). Lasater (2007) documented nursing students' experiences with simulation and found the students felt that the scenarios highlighted the need for frequent patient assessment as well. The new graduate participants concurred with the findings of Curtin and Dupuis (2008), Lasater (2007), and Rauen (2004) that frequent patient assessment is necessary to identify changing patient needs.

New graduate participants in this research verbalized that they thought simulation was a good orientation tool since it allowed them to practice and make errors without harming patients. Castle et al. (2007) reported classroom-based resuscitation training cannot fully reproduce an actual emergency. One new graduate in this research did state that simulation was not a substitute for actual patient care which is consistent with the findings of Castle et al. (2007). Simulation is one strategy that allows for a more realistic reproduction of an emergency situation which allows the participants to develop their resuscitation skills.

### Emerging Theme 3: Developing Critical Thinking

The new graduate nurse participants in this research identified simulation as a means to develop critical thinking skills. The use of simulation to develop critical thinking skills is well documented (Beyea & Kobokovich, 2004; Lasater, 2007; Nehring et al., 2001; Nehring & Lashley, 2004; Rauen, 2004; Rhodes & Curran, 2005). According to Broussard (2008), the active nature of simulated learning "allows participants to build on prior knowledge, relate the simulation scenario to real clinical problems and further develop their critical thinking skills" (p.523). The new graduate participants in this research concurred with the views of Broussard (2008) that simulation helps develop critical thinking. Simulation "allows learners to practice skills related to making

assessments, setting priorities, and providing medical and nursing interventions” (Beyea & Kobokovich, 2004, p. 742). Beyea et al. (2007) utilized simulation scenarios during a new graduate orientation program and found that simulation provided the opportunity for new nurses to develop clinical and critical thinking skills. New graduate nurses in this research as well as the reports of Beyea et al. indicated that the simulation helped them overcome their fear of Codes while allowing them practice and develop hands-on skills.

Nurturing Environment. New graduate nurse participants in this research identified the simulation facilitator as having a key role in the success of the simulation for developing critical thinking. The facilitator is instrumental in ensuring that the simulation environment is a safe place for participants to ask questions and make mistakes without feeling judged. The new graduates in this research felt comfortable asking questions and being able to make mistakes without consequences.

Rhodes and Curran (2005) reported that nursing students identified faculty guidance during simulation as being beneficial, consistent with the views of the participants in this research. Childs and Sepples (2006) researched nursing students’ experiences with simulation and found the “students felt that feedback and objectives/information were the most important features in the simulation” (p. 156). Rossetti and Fox (2009) studied factors associated with successful teaching of nursing students. The research showed trust, respect, and caring are important in the relationship between students and professors in the learning environment. The new graduate participants in this research found that the facilitators were instrumental in maintaining their comfort level during the simulation allowing them to practice and develop the skills

needed for Code management. A successful facilitator can guide learners through the scenario in order to help them achieve the objectives of the scenario.

Seeing the Big Picture. The new graduate participants in this research talked about how simulation allowed them to practice putting the clinical pieces of the scenarios together. According to Orsolini-Hain and Malone (2007) new graduates focus on concrete thinking and often have difficulty multitasking and recognizing clinical distinctions. New graduates can use simulation to gain perspective on the big picture and learn to incorporate various aspects of the patient's care into a safe plan of care (Reddish & Kaplan, 2007). Making mental connections between aspects of care allows new graduates to develop their critical thinking skills. Rauén (2004) recapped new nurses' feedback about using simulation during the orientation process and reported that the nurses liked being able to pause during the simulation to seek clarification or assistance from the facilitator and peers. Simulated patient situations allowed the new nurses the opportunity to see the big picture of the patient and critically think about providing patient care based on assessments. The participants in this research agreed that simulation allowed them to develop their ability to see the big picture during the Mock Code scenarios.

#### Emerging Theme 4: Developing a Sense of Realism

New graduate participants in this research discussed the realism of the SIM lab and HPS. The participants noted that while they thought the SIM lab was an accurate portrayal of a patient room, they did not feel the HPS itself was real to life. According to Kneebone et al. (2008), "scenario-based teaching within an authentic clinical environment is feasible and perceived by participants to be educationally useful" (p. 39).

The findings of Kneebone et al. are consistent with the views of the participants of this research as the participants found the simulation environment realistic and useful as an educational tool.

Suspending Disbelief. The new graduate nurse participants in this research were unable to suspend disbelief that the HPS mannequin was in fact a patient that they were caring for. The issue with realism of mannequins dates back to the introduction of the original resuscitation mannequin at the turn of the 19<sup>th</sup> century. The inventor of the mannequin, Asmund Laerdal was convinced that if the mannequin was life-like, nursing students would become more motivated to learn effective life-saving techniques (Kendall-Raynor, 2008). "For simulation to be successful, learners need to suspend reality and interact with the simulator as though it was a real patient" (Wilford & Doyle, 2006, p. 928). The patient simulator is 'brought to life' to achieve tremendous realism because of sophisticated physiological and pharmacological models that automatically control the majority of its features (Good, 2003). While the HPS mannequin used during this research had sophisticated physiological capabilities the participants were unable to overcome their disbelief and treat the HPS as a real patient. According to Parr and Sweeney (2006) the facilitator is responsible for using moulage on the HPS to make it appear as real as possible.

The new graduate participants in this research identified the HPS as difficult to work with since the skin does not allow for color and temperature changes and the mannequin does not move. The research by Wilson et al. (2005) and Lasater (2007) showed that nurses and nurse educators reported that most of the components of the HPS were realistic, but did note that skin color and temperature, as well as movement were

seen as limitations of the mannequin. The new nurses in this research agreed with the findings of Ackermann et al. (2007) and Rhodes and Curran (2005) who reported that new graduate nurses thought the mannequins were limiting and had trouble taking blood pressures.

Modern-day patient simulators look and respond to interventions with ever-increasing degrees of realism. High-fidelity simulators present the most realistic depiction of the human body in look, feel, and response to provided care (Rothgeb, 2008). Even with these technological advances Medley and Horne (2005) found that “nursing students often do not make the imaginative leap required to visualize a dummy model as a real patient” (p. 31). The new graduates in this research stated that seeing the facilitator clicking buttons on the computer distracted them from the realism of the situation.

Presence. The new graduate participants in this study also identified that the simulation scenarios did not have the same sense of presence as real patient care. The participants described that they did not get the same emotional feeling, or adrenalin rush, from the simulation as they would from an actual code. “Emotions are an essential part of how people experience the world” (Huang & Alessi, 1999, p. 148). The interaction between presence and emotional state improves the fidelity of the simulation environment. Real to life clinical scenarios with the HPS provide students the opportunity to manage changing patient conditions prior to encountering these events in the clinical setting (Register, et al., 2003). The new graduate participants in this research did value the opportunity to practice different scenarios, but were unable to experience the same sense of presence as they would with actual patient care.

According to Campbell, Themessl-Huber, Mole, and Scarlett (2007) “the realism of the simulation generates a meaningful learning experience that challenges the students” (p. 340) and the ability to entertain possibilities and draw inferences about them is essential to human intelligence (Hadjichristidis, 2007). Lasater (2007) documented that nursing students did state that there are limitations with HPS, but that participants quickly forgot those limitations. The participants in this research did not agree with Lasater (2007) that the HPS limitations could be easily forgotten. The inability of this study’s participants to suspend disbelief may be due to the lack of moulage or an insufficient orientation to the HPS mannequin. If participants are unable to forget the limitations of the HPS, then they may not see simulation as an accurate portrayal of patient care. If participants cannot view the HPS as a real patient they will not find the simulation experience valuable as a learning tool.

The majority of experiences of the new graduate nurses in this study are similar to those of other research participants. In the theme *Developing Confidence* the new graduates discussed their self-doubt and hopes of building confidence in practice. The new nurses shared that they felt it was easier to watch than participate in the simulation scenarios. The new graduates also identified their desire to participate in a functioning Code Team. The views expressed by the new graduate nurses during the focus group are consistent with existing research surrounding the transition into the role of professional nurse. In the theme *Developing Knowledge Base* the new graduates expressed that they felt their pre-licensure education provided them the necessary assessment skills on which to build resuscitation skills. The new graduates reported that they felt the simulated Mock Codes allowed them the opportunity to practice resuscitation skills in a safe environment

and that simulation was useful in determining areas of weakness that must be further developed. Ultimately the new graduate nurses felt that the only way they would be able to develop their confidence was by increasing their knowledge base and practicing skills. These findings are similar to existing research on developing confidence through practice. In the theme *Developing Critical Thinking* the new graduate nurses discussed their beliefs that simulation was a useful tool in developing critical thinking skills. Simulation allowed them to apply theory to practice in order to see the big picture in patient care. New graduates also reported that the facilitator was instrumental in setting the mood for the simulation exercises and that having a calm, supportive facilitator ensured that the participants felt comfortable during the simulation. These findings are echoed in existing research surrounding critical thinking and facilitator roles. In the theme *Developing a Sense of Realism* the new graduates reported that they felt the simulated environment was realistic. All of these findings are consistent with the findings of other studies.

The one area where new graduate experiences differed from existing research was in the theme *Developing a Sense of Realism*. In this section the new graduates were unable to suspend disbelief in the simulation mannequins as real patients. The new nurses also felt that they did not get the same emotional experience utilizing the HPS mannequins as they would with real patients. This information is important for educators since the success of the simulation revolves around the participants' ability to see the HPS as they would a real patient. Simulation is used to mimic patient care. If the participants do not view the HPS as realistic then they might not make the intellectual leap to transferring the skills they practice on the HPS to real patient care.

The themes Developing Confidence, Developing Knowledge Base, Developing Critical Thinking, and Developing a Sense of Realism can be seen during the transition of a new nurse from student to working professional. The successful transition from student to working nurse occurs as the nurse develops both socially and professionally into the role of professional nurse. Lack of confidence and self doubt are common feelings for new graduate nurses as they enter into the workforce. Until new graduates have the opportunity to practice and learn from their mistakes they will not gain confidence in their skills. Building knowledge base will lead to developing confidence in one's practice as a professional nurse. Simulation is one way to provide the practice needed to master nursing skills and develop critical thinking. Simulation is a valuable tool available to help subside the fear and anxiety that new graduates feel as they transition from student to nurse. In order for simulation to be successful the participants must develop a sense of realism by suspending disbelief in the mannequins and simulation environment. As new graduates build skills and develop their knowledge base, their self confidence and comfort with their roles as nurses will increase. Through practice the new nurse will develop the confidence, knowledge base, and critical thinking skills needed to successfully manage changing patient needs.



## CHAPTER 5

### CONCLUSION

This study shows that simulation may be beneficial for assisting new graduate nurses in developing the confidence, knowledge base, and critical thinking skills needed during their transition into the workforce. The findings from this study indicate that new graduates do see the value of utilizing simulation training for developing Code Management skills during the orientation process. New graduates agree that simulation is valuable for developing their knowledge base in Code Management. Simulation allows the new graduates to learn Code roles and equipment in a safe learning environment which helps develop their self-confidence and critical thinking skills needed to manage resuscitation efforts. While the new graduates were able to develop a sense of realism in regards to the simulation environment feeling realistic, they had difficulty suspending disbelief in the realism of the simulator itself.

This research conveyed that the new graduate nurse participants had an overwhelming lack of self-confidence as they entered the workforce. While it was expected that the participants would have some gaps in knowledge in regards to Code Management, it was surprising to learn how little resuscitation knowledge the participants did possess and that Code Management was not a standard part of nursing education curriculum.

Inability of the new graduate nurses to suspend their disbelief in the HPS mannequin was another area that surprised the researcher. The existing research shows

that the majority of students and nurses exposed to simulation were able to believe in the fidelity or realism of the HPS mannequins. The new graduate participants in this research were completely unable to suspend their disbelief in the HPS mannequin as a real patient. It is unclear why the participants were unable to view the HPS as a real patient. Further research would be beneficial to discover what obstacles the participants perceive in their ability to suspend disbelief in the HPS. The inability of participants to suspend disbelief in the HPS can severely limit the scope of training that can be accomplished within the simulated environment. If the participants do not believe that the scenario is real, the simulated learning environment may be of no benefit as a learning tool.

This study highlighted the importance of assisting the new graduate participants with overcoming their lack of self-confidence. Hiring institutions need to aim orientation programs at developing new graduate nurses' confidence, knowledge base, and critical thinking skills so that they are better prepared to meet patient needs. Simulation can be a beneficial tool to assist with the new graduate nurse transition into the workforce with the right facilitator and proper safeguards to ensure a sense of realism in the HPS and simulation environment.

### Recommendations

One major obstacle noted in this research is the ability of the HPS to be viewed as a real patient by the participants. Educators are encouraged to improve the realism of the HPS through use of moulage. The realism of the simulation scenario in this research was hindered by the facilitator visibly running the computer. The issue of the computer being visible could be overcome by redesigning simulation labs so that the simulation facilitator running the computer is not visible to the participants. Education on realism of HPS

might also be of use for new graduates to assist them with suspending disbelief in the simulation environment.

The researcher recommends that pre-licensure nursing education programs include basic Code Management scenarios into curriculum so that student nurses can begin to build their resuscitation skills. Both didactic and laboratory time is necessary for the development of resuscitation skills. Simulation should be utilized when available to assist students in the development of skills and confidence. In light of the overwhelming lack of self-confidence of the participants in this research, it may be beneficial for nursing education programs to introduce the developmental stages of transition into the workforce as outlined by Duchscher (2008) and Newton and McKenna (2007) so that the new graduates know the lack of confidence is to be expected and can be overcome.

Post-licensure orientation programs are encouraged to continue Mock code training utilizing simulation when available. Again, use of moulage and education on suspending disbelief is encouraged.

Recommendations for future nursing research include pre-licensure nursing education programs examining nursing student experience with Code scenarios and use of HPS with students. The researcher also recommends conducting research with future new graduate nurses to see if the issue of realism is an ongoing issue and to ascertain if simulation continues to meet the needs of the new nurses. Post-licensure hiring facilities are encouraged to research the use of simulation training to help ease the transition of new nurses from student into working professional. The researcher also recommends studying the use of HPS with nurses in regards to acquiring and maintaining resuscitation skills.

More qualitative research is recommended in a variety of simulation situations to incorporate views from a larger sample size and obtain a greater amount of data over a broad range of simulation topics. It would also be beneficial to have quantitative data describing pre and post simulation scores for competence, critical thinking and user satisfaction with HPS. Quantitative research would provide objective data on the cause and effect relationship between simulation use and knowledge base. Quantitative research could also test theories that simulation develops critical thinking and increases clinical judgment.

#### Participant Recommendations

New graduate nurse participants in this research also made recommendations during the focus group discussion. The new graduate nurses wanted more simulation scenarios required during the orientation process and refresher classes offered every year. The new nurses felt that Code management is something that needs to be re-enforced and that having Mock Codes throughout the year would be helpful for maintaining skills. The new graduates also thought it would be beneficial if they were able to watch nurses with Code experience work through scenarios in the SIM lab.

#### Limitations

This research does have some limitations. This study represented experiences of only seven new graduate nurses from one orientation group. The focus group discussion gathered data on only one day during new graduate nurse orientation at a community hospital. The small sample size and limited setting makes the research unsuitable for generalization. Another limitation is that prompt questions (Appendix B) were utilized

during the focus group discussion and may have influenced or biased the focus group discussion.

**APPENDIX A**

July 2008

Dear New Graduate RN:

I am a graduate student in the Nursing Department at the University of New Hampshire and also a Clinical Teacher here at SNHMC. I am conducting a research project to find out new graduate nurses' experiences with mock code simulation during the orientation process. I am inviting you to participate in this research project because you are a new graduate RN who is attending the SNHMC Nurse Residency Program for orientation. I plan to work with approximately 5-10 new graduates in this study.

If you agree to participate in this study, you will be asked to meet as a group and discuss your experiences using simulation during the orientation process. The discussion will be audio taped. It is anticipated that your participation will require approximately 1-1 1/2 hours.

There are no identified risks for participating in this study. Your participation will contribute to the knowledge needed to better meet the educational needs of new graduate nurses during the orientation process. You will also be paid your hourly wage by the hospital for your time to participate in the discussion.

Participation is strictly voluntary; refusal to participate will involve no prejudice, penalty, or loss of benefits to which you would otherwise be entitled. If you agree to participate and then change your mind, you may leave the focus group discussion at any time without penalty. Once data is transcribed, your comments will no longer be linked to your name.

I seek to maintain the confidentiality of all data and records associated with your participation in this research. You should understand, however, there are rare instances when I am required to share personally-identifiable information (e.g., according to policy, contract, and regulation). For example, in response to a complaint about the research, officials at the University of New Hampshire, designees of Southern NH Medical Center, and/or regulatory and oversight government agencies may access research data. Data will be kept in a locked file cabinet in my office; only my faculty advisor and I will have access to the data. At the completion of the research the audio tape of the discussion will be deleted.

If you have any questions about this research project or would like more information before, during, or after the study, you may contact Karen Britt at 577-2966 or at karen.britt@snhmc.org. If you have questions about your rights as a research subject, you may contact Julie Simpson in the UNH Office of Sponsored Research at 603-862-2003 or the SNMHC IRB Office at 603-577-2963 to discuss them.

I have enclosed two copies of this letter. Please sign one indicating your choice and return in the enclosed envelope. The other copy is for your records. Thank you for your consideration.

Sincerely,

Karen Britt BSN, RNBC  
Clinical Teacher 4 West SMHMC  
Graduate Student Nursing Department UNH

Yes, I, \_\_\_\_\_ consent/agree to participate in this research project.

No, I, \_\_\_\_\_ refuse/ do not agree to participate in this research project.

**APPENDIX B**



**PROMPT QUESTIONS**

1. Please tell me about your experience during the mock code simulation?
2. How satisfied were you with your ability to function in the RN role throughout the simulation? Please explain.
3. Please describe how you feel your actions during the simulation training are representative of your knowledge base?
4. Discuss how you would use what was learned in this experience in the future?
5. Please describe your thoughts on using simulation to train new graduate nurses?

**APPENDIX C**

## DEMOGRAPHIC SURVEY

This information will help us gather a greater understanding of factors that might affect how you perceive simulation training in the orientation process. Your identity will not be revealed through this information. Please circle the appropriate response to each question.

## 1. Gender

Male

Female

## 2. Year of Birth

19\_\_

## 3. Highest Degree Held in Nursing

Diploma

Associate's Degree

Baccalaureate Degree

Master's Degree

Doctoral

Other (please specify) \_\_\_\_\_

## 4. Highest Degree Held other than Nursing

Diploma

Associate's Degree

Baccalaureate Degree

Master's Degree

Doctoral

Other (please specify) \_\_\_\_\_

## 5. Have you used simulation training prior to this orientation program?

Yes

No

**APPENDIX D**

PRELIMINARY THEME ANALYSIS-13 THEMES

This is a condensed version of the preliminary theme analysis so that the reader can see how new graduate comments were coded and grouped into preliminary categories. *Researcher comments/codes are italicized.*

**# 1 NG Experience Self-Doubt**

I think there is a certain level of being self conscious when you are in front of your peers and you know that you are kind of being watched and you don't feel that way when it is a real individual. You are not thinking about yourself, you're only thinking about this person's life and that's all that everyone's focus is on. So it takes the pressure off "am I doing this right?"

*Self conscious in front of peers, am I doing this right?*

When I was the helper I felt like "ok what's next." I was constantly going through the check list in my head. If he's doing that, what should I be doing? Please let me say something. It's like I felt like I was lost. It's like oh my god I don't know what to do and I am looking and he's not breathing. I think that you have this mental check list that you make sure you're thinking of everything that needs to be done and then you are panicking and trying not to show it. But I think everyone panicked a little bit.

*Panic, I don't know what to do*

What are people going to think, am I going to feel stupid?

*Feel stupid*

Yeah personally I am a questioning, ok do I really have all of the skills I need to be starting out. Am I missing something? Did I not get something in school?

*Self doubt, did I miss something*

**# 2 NG Experience that it is easier to watch than participate**

But when you were stepped back watching people I am sure you were like, oh they should probably do this and that. It is easier to think about what you should do when you are not in the situation. When you are in it you're like uh, ok.

*Watching is easier than doing*

I think that you have that total freeze. You are like I know but it is getting it out. It is easier to stand back and go oh yeah I know what's going on. But to be the actual person with the hands on it, you get the deer in the headlights look. Oh my god what am I doing?

*Deer in headlights, easier to watch*

**# 3 NG Experience Improving/Increasing confidence and comfort in knowledge through Practice**

I think the only way you will get good at knowing what to do is practice and keep practicing whether it be simulation or you know having a real code.

*Only way to learn is practice*

But I also think that it plays a really useful tool because we wouldn't be able to walk out those roles without the sim lab. Do you know what I mean?

*Sim useful for practice*

#### **# 4 NG Experience with Teamwork**

I think that you can get, and I don't mean this in a bad way because its going to come out badly but you can be charged about being part of a team that worked like clockwork, like a well oiled machine. That can really be a driving force. I can see myself really wanting to be part of a team, a code team. I could see myself really wanting to do that because I would love to feel on the edge there. It's somebody's life or death and you have to perform really well and you have to know your stuff and everybody else in the room has to be like that too. To be part of that team would be really rewarding.

*Teamwork, NGs want to work with well oiled team, rewarding, feeling on the edge.*

Even though this was just a mock simulation you get a slight sense of what it would be like and what it would be like if you were in the room with, no offense, people who knew what they were doing. I think we have all been in those situations where you work with somebody who works as a team and they get in and do something really well, really fast. I know in my experience I have been in teams like that and loved that. But to be in a situation like that and have it be a scenario and have everyone working so well would be..., I would really like to get the chance.

*Want to be part of a team that works well together.*

#### **# 5 NG Experience With Educational Preparation for Codes**

We all learn in different ways anyway, but to have learned it through schooling or habit in your head it is all theoretical basically. Then when you have to walk through it, it becomes more concrete. Even though it is just a walk through with the dummy it still becomes more concrete, you have touched, you have felt it. You walked through it so it will stay in your memory longer.

*+ hands-on learning*

For some of us who had that experience in school and it went horribly wrong, I feel bad. I think that school definitely prepares you, but there is only so much you can learn from a book and clinical. I have never had to deal with a code. Your education can only take you so far until you actually do it.

*School only takes you so far then you have to do it.*

I don't ever remember talking about what you do when you are in a code. I don't think we have talked about that in any classes or clinical that we have had.

*School no prep for codes*

### # 6 NG Experience with Simulated Mock Code

You can't throw a new grad out into the field and expect them to know.  
*NGs have no experience with codes.*

No I definitely think it's beneficial because it can put your thought process in a more organized way. Like, Ok they are not breathing but they still have a pulse so you do supportive respiratory care. If you had not done the simulation, I think personally that my honest opinion is that even seasoned nurses should be required to one of these simulations, like once a year, because if you don't do it, it's not going to be as engrained in your head. But in a real person on the unit and this happens and you have never had this happen before even if you had done a little simulation, I think you would be like ok, now you can be more systematic in your head if you've already done a dry run through, even if it wasn't a real-life person.

+ *organize thoughts*

I think it was helpful too that they were all different scenarios. One was respiratory, one was heart so it wasn't like when you typically think of a code. You think they have no pulse and they have stopped breathing, what do you do? Where it is not always like that. Sometimes you are just doing rescue breathing so I think it helped seeing all the different kinds of ways that a code can begin.

+ *helped seeing all types of codes*

**Proctor:** Did that surprise you, having different experiences like that?

Kind of. When you are doing CPR, your basic life support, you just have an unresponsive adult on the ground. You perform two rescue breathes and then start compressions and it's pretty straight forward.

*Didn't think of codes as any other way besides what they have seen in BCLS training.*

### # 7 NG Experience Using Simulation for Orientation

**Proctor:** What do you think about using simulation for new grads?

I think it's a good idea

A good way to start

If you make errors on that at least it's not a real person.

*NGs liked idea of using sim with NG*

I also think it doesn't give you a complete picture until you're on the floor. I think it is a component of your orientation, a good component. I don't think it substitutes actually experiencing it for real.

*Sim good component of orientation but Sim not a substitute for real patients*

### #8 NG Experience with Simulated Learning Environment

At first I felt weird because I felt like I was being watched but then after it got going the instructors helped us to feel comfortable and I felt more confident in making those kinds of decisions that I would have to deal with if it was a real code.

*"I'm being watched" Facilitators good at making NG comfortable then NG felt ok*

I like doing sim lab. I am a hands on person. So to get in there and you know you might forget ok what is the next step, but you have other people there that are giving you that information or that are helping you think oh yeah that's what I should be doing next and you do have somebody that's running it so you can ask some questions and well what if the simulation didn't go down that road and you said well what would we had done if it had gone that way. So I like to do that, especially where I am not going to be over here. I am not going to have the opportunity to go into a code. We have had a few where I work but it's not that often, so just to see that dynamic.

*OK to ask questions, + hands on*

### # 9 NG Experience with Simulation Fostering Critical Thinking

I think even just a code, a mock code that even though you know it's limiting it stimulates critical thinking so at least you get that first bit of ok well you know go down that path and think about how you would respond and I think that is a skills that everyone needs is critical thinking.

*Sim stimulates critical thinking*

It did get a little chaotic when people started shouting things out. But they just helped you kind of, you have the critical thinking somewhat and they just made it a little more clear. Like, ok what's next?

### # 10 NG Experience with Simulation Environment

**Proctor:** What did you think of the environment of the simulation?

It was good just like a patient's room.

*+ like pt room*

I think it was real to life.

*+ real to life*

The only things that were kind of hard were the blood pressure cuff wasn't working and it's hard to feel a pulse on that thing in general.

*-BP cuff not working, hard to feel pulses*

### #11 NG Emotional Experience with Simulation

**Proctor:** Tell me a little bit more about that feeling of being on the edge.



The patient is either going to live or die and very often what you do is going to make the difference and that is what I mean on the edge.

*Feel on the edge, adrenalin rush*

It's like adrenaline, a rush.

The adrenalin that kicks in and the questions you ask yourself. Did I do this right, did I do that right? Did I forget to do this? Could I have that differently?

### **# 12 NG Experience with HPS Mannequins**

I think it is really hard because you know it's a mock code. You know you're practicing on a dummy and stuff is really hard. A real life scenario, you know when you have a real patient and stuff and you know it's kind of hard. To act out you know, act it out. I think you can have a scenario and stuff and do maybe what you would do in real life but it's not the same.

*Not real*

I think that goes back to what she was saying earlier that through experience we will be able to get more out of it by our assessments and it's hard when we are up there to be assessing you know, even if the patient does talk to you, you don't see the skin color, you don't get the same thing from it so it is a little bit different. Waiting for them to tell you what this patient is doing is different then feeling it when you're actually there.

*No change in skin color, had to wait for facilitator to tell you what HPS was visibly doing*

### **#13 NG Recommendations For Simulation**

#### **NGs want more sim required**

And then just have a refresher class every year.

Yes I think that would be so valuable, absolutely. I would really appreciate it and actually know what was going on.

*NGs want sim refresher yearly*

More often maybe in clinical not just once.

Even seasoned nurses should be required to one of these simulations like once a year because if you don't do it, it's not going to be as engrained in your head.

*Require all RNs to do annual sim*

**APPENDIX E**

## ANALYSIS FOR EMERGING THEME: DEVELOPING A SENSE OF REALISM

This is a condensed version of the final theme analysis so that the reader can see how new graduate comments were coded and grouped into the final emerging theme of Developing a Sense of Realism.

*Researcher comments/codes are italicized.*

### Emerging Theme # 3 Developing a Sense of Realism

#### Sub-theme # 1 Suspend Disbelief

**Proctor:** What did you think of the environment of the simulation?

It was good just like a patient's room.

+ *like pt room*

I think it was real to life.

+ *real to life*

The only things that were kind of hard were the blood pressure cuff wasn't working and it's hard to feel a pulse on that thing in general.

-*BP cuff not working, hard to feel pulses*

**Proctor:** So all out a positive or negative experience?

Positive (from the group)

+

**Proctor:** Would recommend to all?

Yes (from the group)

+ *would recommend simulation*

**Proctor:** Anything else you would like to share?

Overall very positive.

+ *overall*

I think it is really hard because you know it's a mock code. You know you're practicing on a dummy and stuff is really hard. A real life scenario, you know when you have a real patient and stuff and you know it's kind of hard. To act out you know, act it out. I think you can have a scenario and stuff and do maybe what you would do in real life but it's not the same.

*Not real*

I think that goes back to what she was saying earlier that through experience we will be able to get more out of it by our assessments and it's hard when we are up there to be assessing you know, even if the patient does talk to you, you don't see the skin color, you don't get the same thing from it so it is a little bit different. Waiting for them to tell you what this patient is doing is different then feeling it when you're actually there.

*No change in skin color, had to wait for facilitator to tell you what HPS was visibly doing*

Because if your looking at a real person you can see that they look like crap and that something is obviously wrong. I think with the dummy you can't get a very comprehensive big picture assessment because you don't see their skin color or cold or clammy. There is only so much you can do with simulation.

*Skin not real, cool clammy color, sim is limited*

No, I mean on a real person. I mean like looking different and all the actual, you know doesn't look good just because your visual skills look good too. My biggest fear is to walk into a patient's room and being able to tell that there is something wrong. Because a nurse will go in and say they look like crap and I'm like they don't look like crap to me. I mean they just pin point and I am just scared that I won't.

*Can't see what they look like*

No, I don't think it would be a fair representation of what really could really happen and what could really go wrong.

*Not a true representation of code*

**Proctor:** So what would make the sim lab real life, obviously we can't order a sim lab on demand?

A dummy that is human like. That the controller can put it on, not just someone clicking buttons. A whole scenario that would just run through the whole thing.

*Want more realistic mannequins*

Yeah what is it like to start an IV on a person who is unresponsive

*Want more realistic IV arm on mannequin*

Also that sense of this is somebody's life. We didn't get that today. The magnitude of it when it is a real situation.

*Not life like*

It's never going to feel like a real person but you can walk through the scenarios. You get that sense of having touched it. Then you go and observe one. It would put the two pieces together. I don't think the sim lab is trying to get it to be life like. I don't think that's what it's for. I think it is more to walk through these things.

*Not real, NG doesn't think sim is trying to be real*

Well it is hard to act in that kind of manner when there is a dummy and you feel like everyone is watching you, where as in real life you're just going to do it.

*Nervous with peers*

### Sub-theme #2 Presence

**Proctor:** Tell me a little bit more about that feeling of being on the edge.

The patient is either going to live or die and very often what you do is going to make the difference and that is what I mean on the edge.

*Feel on the edge, adrenalin rush*

**Proctor:** What is that feeling?

It's like adrenaline, a rush.

The adrenalin that kicks in and the questions you ask yourself. Did I do this right, did I do that right? Did I forget to do this? Could I have that differently?

**Proctor:** Did you do that today?

Kind of, not the same.

*Sim not the same rush as real codes*

I think you begin to know yourself better and you know ok I do work well under this kind of pressure or I don't work so well under pressure and you know if you can take more of a leadership role or if you are better taking direction from other people. Some people are adrenalin junkies and other people don't like it. SO I think you know yourself better after.

*Sim is a good way to gauge how you work under pressure*

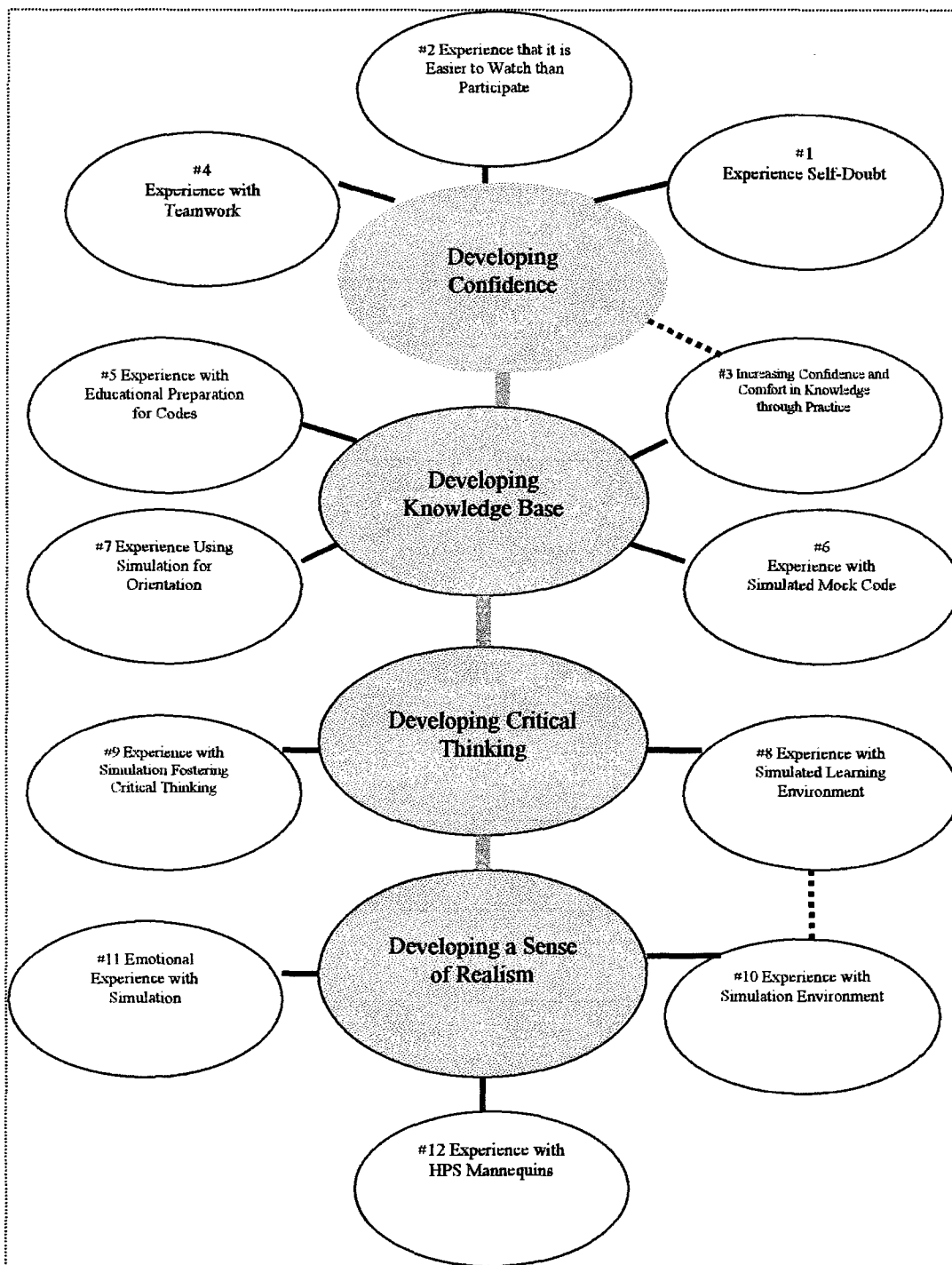
I think doing the 100 days when they are with their preceptor I think should say ok today if there is a code in the hospital you're going to leave your preceptor and she is going and you are going to go to the code and stand back and watch in the corner because I think if they have an actual visual of a real code going on they are going to start familiarizing and say oh yeah. I remember doing that in the simulation lab. Even if one can float and one if there is a code in the ER they don't call codes but can call and say send one of your students down we have a code coming in. Because we obviously get a call from patch 2-3 minutes out it gives them enough time to get there. So they can watch. I think a visual would be a big bonus and would seal the sim lab experience as well. I think it a great thing and by being in gets your adrenalin. I mean you can feel it from you toes and when that code is done you just have this let down. That's me, wow it's over. It's that whole feeling of what you feel like during a code. Your physical feeling is different then being in the sim lab. Life or death

*Feelings are different in sim than real life*

**APPENDIX F**

FIGURE I

COLLAPSING THEMES



**APPENDIX G**



# University of New Hampshire

Research Conduct and Compliance Services, Office of Sponsored Research  
Service Building, 51 College Road, Durham, NH 03824-3585  
Fax: 603-862-3564

10-Jun-2008

Britt, Karen  
Nursing, Hewitt Hall  
47 Indian Rock Road  
Merrimack, NH 03054

**IRB #: 4317**

**Study:** New Graduate Nurses' Experiences with Simulation Training During the Orientation Process

**Approval Date:** 06-Jun-2008

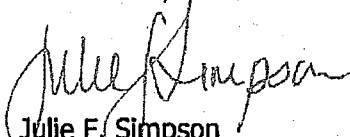
The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Expedited as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 110.

**Approval is granted to conduct your study as described in your protocol for one year from the approval date above.** At the end of the approval period, you will be asked to submit a report with regard to the involvement of human subjects in this study. If your study is still active, you may request an extension of IRB approval.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, *Responsibilities of Directors of Research Studies Involving Human Subjects*. (This document is also available at <http://www.unh.edu/osr/compliance/irb.html>.) Please read this document carefully before commencing your work involving human subjects.

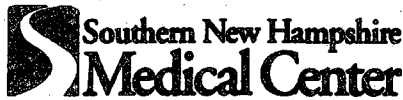
If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or [Julie.simpson@unh.edu](mailto:Julie.simpson@unh.edu). Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,

  
Julie F. Simpson  
Manager

cc: File  
Fetzer, Susan

**APPENDIX H**



8 PROSPECT STREET P.O. BOX 2014 NASHUA NH 03061 (603) 577-2000

June 11, 2008

Karen Britt BSN, RNBC  
47 Indian Rock Road  
Merrimack, NH 03054

**IRB Action: Full Study Approval granted June 11, 2008**  
**Approval Expires: June 10, 2009**

**RE: Expedited Review: Graduate Training**  
**Response to IRB letter of May 22, 2008**

**Principal Investigator:** Karen Britt  
**Sponsor:** SNHMC Nursing  
**Study #:** 2008-01  
**Type of Study:** Training  
**Title:** New Graduate Nurses Experiences with Simulation Training During the Orientation Process  
**Investigational Drug:** NA

Dear Ms. Britt,

The Institutional Review Board of Southern New Hampshire Medical Center reviewed your request to conduct this simulated training using the expedited review process. Your request was approved. The consent form was also approved. You have full approval to begin the study.

Material submitted in support of this study:

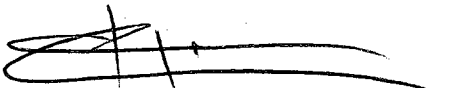
- Memo dated May 22, 2008 from Karen Britt requesting approval to conduct this research
- IRB Expedited Review Application signed 5/20/08
- Individual Investigator Agreement signed 5/22/08
- Resume for Karen S. Britt BSN, RN, BC
- Completion Certificate for Karen Britt dated 11/26/07
- Informed consent form
- Research Proposal
- Consent Letter dated July 2008

The SNHMC IRB must approve, prior to study initiation, any revision to the protocol or the consent form. All SERIOUS and UNEXPECTED adverse events must be reported to the SNHMC IRB. All FDA and sponsor reporting requirements must also be followed. Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to the SNHMC IRB office.

This study requires Continuing Review by the SNHMC IRB on an annual basis. Your study will need to be reviewed prior to the one year anniversary of the initial review date. Application for renewal is required 2 weeks before the IRB meeting. The IRB meeting schedule is available at [www.snhmc.org](http://www.snhmc.org).

If you have any questions, please contact Lisa Bonneau at [Lisa.Bonneau@snhmc.org](mailto:Lisa.Bonneau@snhmc.org) or at 603 577-2963.

Sincerely,



Christian Rodriguez, M.D., Chairman  
Institutional Review Board

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