NK 4 EO: Describe and demonstrate nursing research studies from the past two (2) years, ongoing or completed, generated from the structure(s) and process(es) in NK 4. Provide a table including: study title, study status, principal investigator(s) names, principal investigator credential(s), role(s) of nurses in the study, study scope (internal to a single organization, multiple organizations within a system, independent organizations collaboratively), study type (replication—yes or no; qualitative, quantitative, or both). Select one completed research study and respond to (4) criteria in the EO guidelines.

Formal Dedication of the Yvonne L. Munn Center for Nursing Research (2008)

From left to right, Jeanette Ives Erickson, RN, DNP, FAAN, Senior Vice President for Patient Care and Chief Nurse; Yvonne L. Munn, RN, MS, Former Associate General Director and Director of Nursing (1984-1993); Peter Slavin, MD, MBA, President of MGH; Dorothy A. Jones, EdD, RNC, FAAN, inaugural Director of the Yvonne L. Munn Center for Nursing Research; Gaurdia Banister, RN, PhD, Executive Director of the Institute for Patient Care; and Terry Fulmer, RN, PhD, FAAN, Dean of School of Nursing, New York University.

Since 1997, when the Senior Vice President for Patient Care and Chief Nurse (CNO) first established the Munn Nursing Research Awards (MNRA), nursing research has been woven into the fabric of MGH nursing. Attachment NK 4EO.a describes and demonstrates nursing research studies that were active or completed over the past two years, generated from the structure(s) and process(es) in NK 4. (Note: The IRB approval date may not reflect the actual time period of the conduct of the research studies.) In Table 1, the categories of 84 research projects, active in the past two years, are described. Every study in attachment NK 4EO.a is nurse-driven – led by a nurse principal investigator – by nurses at all levels in the organization.
<table>
<thead>
<tr>
<th>Page(s)</th>
<th>Category</th>
</tr>
</thead>
</table>
| 1-2     | **Externally Funded Nursing Research**  
The 14 research projects in this category are externally-funded nursing research projects generated with support from the structure and processes of the Munn Core Team (NK 4). |
| 3       | **Munn Nursing Research Awards**  
The 9 research projects in this category are internally-funded nursing research projects generated with support from the structure and processes of the Munn Nursing Research Awards, an operational initiative of the Munn Center (NK 4). |
| 4       | **Munn Postdoctoral Fellowship in Nursing Research Awards**  
The 4 research projects in this category are internally-funded nursing research projects generated with support from the structure and processes of the Munn Postdoctoral Fellowship in Nursing Research Awards, an operational initiative of the Munn Center (NK 4). |
| 5       | **Performance Improvement**  
The 7 performance improvement projects in this category (unfunded or funded with departmental funds) are internal projects that are supported by a variety of structures and processes, including the Munn Core Team, the CNS Research Task Force, the Research and EBP Committee, the Treadwell Library, the Nursing Research Expo, and the Retooling for Evidence-Based Nursing Practice Grant, as well as structures outside of the Munn Center, such as Nursing Directors, Associate Chief Nurses, the Office of Quality and Safety, etc. (NK 4). |
| 6-12    | **Other Awards**  
The 53 research projects in this category include pilot studies, unfunded studies, and student research, as well as research projects conducted by or in collaboration with External Faculty Nurse Scientists, CNS Research Task Force members; some were generated with support from the structures and processes of the Munn Core Team, Appointments, and Links (NK 4). |
The Evaluation of an Educational Intervention to Enhance Nurses’ Skills, Confidence, and Attitudes of Evidence-Based Practice
(Retooling for Evidence-Based Nursing Practice Grant)
Diane Carroll, APRN, PhD, FAAN
Linda Brandt, RN, MS
Susan Lee, PhD, RN

1. Purpose and Background

The purpose of this study was to determine the extent to which a multi-modal educational intervention impacts beliefs, skills, and confidence related to evidence-based practice among nurses at MGH. This study was part of the Retooling for Evidence-Based Nursing Practice Project (REBNP) (NK 4EO.a) which has been described in NK 4.

In *Crossing the Quality Chasm*, the Committee on Quality of Health Care in America stated that, “Americans should be able to count on receiving care that meets their needs and is based on the best scientific knowledge. Yet there is strong evidence that this frequently is not the case,” The Committee identified six aims to improve the quality of health care; health care should be safe, effective, patient-centered, timely, efficient, and equitable. Furthermore, the Committee advocated fundamental changes in the preparation of the workforce in order to achieve these aims. Evidence-based practice (EBP) is a critical skill needed by registered nurses to practice in existing and emerging organized health care systems.

Evidence-based practice is defined as the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions. Evidence-based practice has been identified as a national priority for creating a quality health care system and as a core competency required for all health care professionals in the 21st century. In order for nursing to meet this professional competency, there is a need for continuing education programs that train nurses in effectively finding, critically appraising, and synthesizing evidence in order to identify and apply the best available scientific knowledge for clinical decision-making which will ensure high quality care and decrease healthcare disparities. However, little is known about how to effectively educate nurses in this area, and how to sustain the impact of education after its completion.

The goal of the educational component of the REBNP Project was to develop, implement, and evaluate a sequential, multimodal nursing continuing education program that would teach nurses the core skills of EBP through didactic classes, seminars, workshops, web-based classes and a practicum for which continuing education credit was provided.

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2. Description of Work

This was a descriptive, repeated measures study. Nurse participants in an educational program, the Clinical Inquiry Institute, were surveyed at Time 1 (baseline), Time 2 (upon completion of program), and Time 3 (4 months after the program), using a confidential, web-based survey. The study was approved by the Partners Human Research Committee; exempt status was granted.

The Clinical Inquiry Institute was a two-day course offered in May 2010 and May 2011. Marketing materials were emailed to all units and departments in PCS, although Clinical Nurse Specialists were strongly encouraged to attend.

Prior to participating in the Clinical Inquiry Institute, prerequisite self-study materials were distributed. Participants were also required to bring a clinical question, which required additional study on their part. After the Clinical Inquiry Institute, topical seminars were offered biweekly to hone their skills in specific areas. The topical seminars continued for eight months.

3. Team Membership

There were 50 participants in the Clinical Inquiry Institute (Table 2). In the first cohort, 16 nurse leaders including Clinical Nurse Specialists, Nursing Director, and Clinical Educators participated. In the second cohort, 34 nurse participants consisting of Staff Nurses, Informatics Nurses, Nurse Practitioners and Clinical Nurse Specialists participated. The majority of the participants were Masters-prepared at the time of the institute. Nurses came from a variety of different units in the hospital, including the out-patient areas. Forty-eight completed the surveys.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(n=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>49.2 ± 10.2 years</td>
</tr>
<tr>
<td>Gender</td>
<td>47 females/ 3 males</td>
</tr>
<tr>
<td>Years in Nursing</td>
<td>21 ± 12.9 years</td>
</tr>
<tr>
<td>Years at Academic Medical Center</td>
<td>19.3 ± 12.2 years</td>
</tr>
<tr>
<td>Initial Nursing Education</td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>8</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>7</td>
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<tr>
<td>Bachelor Degree</td>
<td>17</td>
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<tr>
<td>Masters Degree</td>
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<tr>
<td>Current Position</td>
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<td>Clinical Nurse Specialist</td>
<td>20</td>
</tr>
<tr>
<td>Nurse Director</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Educator</td>
<td>4</td>
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<tr>
<td>Nurse Practitioner</td>
<td>8</td>
</tr>
<tr>
<td>Staff Nurse</td>
<td>6</td>
</tr>
<tr>
<td>Informatics Nurse</td>
<td>7</td>
</tr>
<tr>
<td>Quality Assurance Nurse</td>
<td>1</td>
</tr>
</tbody>
</table>
4. Measurement

To measure participants’ beliefs about EBP, sub-scales from an instrument developed by Nagy and colleagues was used, after receiving permission from the authors. The original instrument was tested in Australia. Nagy and colleagues used qualitative interviews to identify themes from which they developed a set of questions. They distributed the 50-item questionnaire to 1250 nurses with a response of 816 (65%). Each item had a response from 1—strongly disagree to 5—strongly agree. Principal axis factor analysis was used to identify groups of questions to determine underlining factors.

To measure skills and confidence, the co-investigators used the National Consensus of Essential Competencies for Evidence-Based Practice in Nursing to identify basic EBP competencies that would be targeted in the educational program. The co-investigators developed the Skills and Confidence Sub-Scale items from these competency statements. Participants were asked to rate their skills and confidence on 10 items using a four-point Likert scale (1=not at all confident to 4=extremely confident). The Cronbach’s alpha for these scales were .83 to .87 in this evaluation.

The data were entered into the SPSS statistical package (SPSS v. 15; IBM) for data reduction and scoring to the appropriate sub-scale. The analysis proceeded with descriptive statistics on the demographic data. Cronbach’s alpha was computed on all instruments utilized in this study. A repeated measures analysis of variance (ANOVA) was used to compare mean scores between the different measurement Times 1–3. The level of significance was set at p<0.05.

The mean scores on all three Sub-Scales are displayed in Table 3. Prior to participating in the educational program, participants scored highly on the Beliefs Sub-Scale indicating that they valued the importance of EBP. These scores remained high over time; there was no change in the pre/post scores on this sub-scale. The results of the Skills Sub-Scale at Time 1 indicated that there were opportunities to enhance their skills. The educational intervention significantly enhanced their skills (p=.003). The mean scores on the Confidence Sub-Scale indicated that, prior to the Clinical Inquiry Institute, 23 (46%) participants had no confidence in being able to perform components of evidence based practice. This significantly changed after the education (p=.000).

In summary, the Clinical Inquiry Institute did not change participants’ beliefs in the value of EBP; this was highly rated both before and after the education. Nurses’ skills and confidence practicing from an evidence base significantly increased and remained so, even four months later. The findings suggest that the Clinical Inquiry Institute improved nurses’ skills and confidence. The findings also add to what is known about EBP education and will be used to structure future educational programs.

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Table 3. Results

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>Time 1 Pre-education N=48</th>
<th>Time 2 Post-education N=44</th>
<th>Time 3 4 months post-education N=37</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beliefs</td>
<td>4.60 ± .33</td>
<td>4.75 ± .29</td>
<td>4.66 ± .34</td>
<td>.67</td>
<td>.43</td>
</tr>
<tr>
<td>Skills</td>
<td>3.44 ± .33</td>
<td>3.81 ± .23</td>
<td>3.74 ± .26</td>
<td>11.9</td>
<td>.003</td>
</tr>
<tr>
<td>Confidence*</td>
<td>1.98 ± .44</td>
<td>2.64 ± .44</td>
<td>2.54 ± .46</td>
<td>21.4</td>
<td>.000</td>
</tr>
</tbody>
</table>

Belief and Skills Sub-Scales were scored from 1-5 (strongly disagree to strongly agree)
*Confidence Sub-Scale scored from 1-4 (not at all confident to totally confident)

Yvonne L. Munn Nursing Research Award Examplars

The annual Yvonne L. Munn Nursing Research Awards (MNRA) provide opportunities for nurses to conduct mentored nursing research projects that will advance nursing knowledge and improve the care of patients and families (NK 4). Research projects selected for the MNRA have received the highest ratings from confidential peer reviews and are presented below as exemplars of mentored nursing research at MGH.

The first exemplar reports on a qualitative nursing research study conducted by two masters-prepared RNs who received mentoring by a Nurse Scientist. Their research focused on the experiences with death and dying by new RN orientees who were part of MGH’s New Graduate Nurse Critical Care Residency Program. The study used a qualitative, phenomenological approach to uncover information about the nurses’ experiences with death and dying early in their practice, as well as over time. Results from this study identified important themes that inform nursing leaders about developmental needs and milestones in the life of the new graduate RN, especially around death and dying in an ICU setting. Knowledge from this investigation will impact how clinical practice environments can better assist the new graduate developmentally with these practice transitions.

Study findings suggested that becoming comfortable with death and dying for the new graduate is a process that occurs over time. More exposure to death and dying led to more confidence and comfort among new graduates. Support from leaders and mentors can assist with the process. Participants noted that addressing death and dying is a personal experience; it challenges one’s own values and beliefs about the situation. Having dialogue about the nurse’s response to the experience on a personal and professional level led to accelerated personal awareness and eased the impact of the experience. The group presented their findings at the 2012 annual nursing research day, part of Nurse Recognition Week, and will be writing a manuscript in the fall of 2012. The experience was exceptionally meaningful to the research team. It gave them new insight into the value of research. Because of this experience, one member of the research team has decided to pursue doctoral studies. In addition, the extraordinary mentorship provided to the team helped them uncover information from the data that will shape the experience for future nurses.

In the second exemplar, the investigators evaluated the effectiveness of an innovative teaching method that included the use of simulation. The PI and her team used a pre/post design to evaluate the retention of knowledge of cardiac arrhythmias following a class during RN orientation (RNO). Three months later, the PI assessed knowledge retention by using a case study method that
incorporated simulated arrhythmias. The results indicated that not only did the nurses learn the material, they retained it over time.

The team presented their research findings to the MGH community. They also published their research findings to the broader nursing community in a peer-reviewed journal. This exemplar effectively demonstrates all components of the research process: writing a proposal, seeking funding, submitting for IRB approval, collecting, entering, and analyzing the data, presenting the findings at a podium presentation, and ultimately, publication.

The third exemplar reports on a customized tailored informational digital video intervention (IDVD) that prepared patients for what they would experience during a cardiovascular procedure (CP). The effectiveness of the intervention was hypothesized by the co-investigators who were working in the interventional cardiovascular therapy center. Quite sensitive to anxiety associated with CPs, they theorized that patients may have less anxiety and more satisfaction if they viewed a video prior to the CP. The result of the randomized trial showed no difference in anxiety among patients in the intervention and control groups. However, those in the intervention group all of whom watched the video, were significantly more satisfied with the experience.

Generating knowledge from practice and knowledge for practice creates an enthusiasm for nursing research that is supported by the structures and processes in NK 4. Research is also greatly facilitated by the Partners Human Subjects Committee which has shown remarkable respect for nursing research.

Munn Nursing Research Award
Exemplar 1
The Impact of Death and Dying in the Intensive Care Unit
On New Graduate Nurses
Tara Tehan, RN, MSN, MBA
Mary Guanci, RN, MSN, CNRN
Donna Perry, RN, PhD (mentor)

1. Purpose and Background

On average, in America’s intensive care units (ICU), the mortality rate is between 20-25%, indicating that death is a regular occurrence. As the healthcare providers most present at the bedside, nurses must be comfortable providing care to dying patients and their families. Unfortunately, the new graduate nurse who begins his/her career in the ICU may not have prior experience or skills to provide the care needed by patients and grieving families. This study was designed to explore the experiences of new nurses around caring for dying patients and their families. Learning about the experience will help inform leadership practice and guide interventions the nursing leaders can implement around recruitment, education, and support for new nurses. The literature review is found in attachment NK 4EO.c.

2. Description of Work

This study sought to explore the lived experience of the new graduate nurse in the intensive care unit around death and dying through the following research questions:

1. What is the experience of the new graduate nurse as he/she cares for dying patients and their families in the ICU?
2. What impact does the death and dying experience have on the new graduate nurse in the ICU?

3. What education and support structures are needed by new graduate nurses to care for self, the patient, and the family?

This study used Benner’s Novice to Expert/Dreyfus Model of Skill Acquisition to frame the research questions. Qualitative methods using a phenomenological approach aimed to explore the lived experience of the nurses.

Participants in the 2010 Critical Care Program at MGH were recruited to participate in the study. After receiving approval by the Partners Human Subjects Committee, the participants were recruited through email. Eight nurses agreed to participate. Data collection followed.

The investigators conducted a primary interview, during the first six months of the critical care nurse residency program, using a flexible interview guide. One follow-up interview, using a similar guide, occurred at 18 – 27 months into the program. All interviews were audiotaped and transcribed. This was followed by data analysis and synthesis.

3. Team Membership

The study was a nurse-driven investigation and funded by a Munn Nursing Research Award (MNRA). All participants in the 2010 MGH New Graduate in Critical Care Program were invited to participate. The study sample was comprised of eight nurses. This number was deemed sufficient by the mentor for this qualitative study due to its nature as pilot work.

4. Measurement

A Nurse Scientist who is an expert in qualitative methods mentored the novice co-investigators (PI) in the phenomenological approach. The interview tapes were transcribed by the PIs so that they could become generally familiar with the data. The PIs read the transcripts several times to identify significant statements which illustrated the nurses’ experiences. Consistent with common phenomenological data analysis, they developed themes from the statements. The themes that emerged with corresponding supportive data are found in their presentation slide deck in attachment NK 4EO.d.

The conceptual model (Figure 1) describes the nurses’ pathways in practice related to building confidence in clinical situations involving death and dying. The model was derived from the data, with the assistance of the mentor. The nurses reported holding ideals about the “good nurse” and his/her role in achieving a “good death” for the patient and family. The nurses report that the rapid and profound transitions in patients’ conditions are disorienting for them as the focus of care quickly switched to the family who became their new patients. They realized that they were not taught these skills in school but that they were developed experientially. Furthermore, clinical experiences with death caused them to reflect on their own beliefs, leading to growth and development of self.
The implications for practice focus on better preparation for death and dying for nurses in the New Graduate Critical Care Residency Program. New nurses can be asked in their recruitment interviews about their professional experiences with death and dying in order to assess learning needs. New nurses can be provided with mentored clinical experiences during their orientation so that they care for dying patients while having their preceptors at hand to guide them and to role model. Role-playing conversations with families at end-of-life and simulating family meetings can develop communication skills and increase nurses’ confidence in these areas. Formal supports, such as peer and team de-briefings can be established in the ICUs to provide immediate support. Increasing preceptors’ awareness of these findings so that they can be present and attentive to new nurses will enhance the learning. Teaching nurses self-care strategies to improve coping may enhance resilience.

Future research is needed in this area which could be expanded to new graduates in other critical care residency programs. An instrument designed to assess new graduates’ comfort and skill in various domains of practice may be useful in uncovering areas for education. The use of simulation and role play to improve confidence is an area that needs the development of valid and reliable measures. Until that time, nursing leaders can be instrumental on their own units in attending to this very important dimension of human caring. This nursing research project was featured in an article in Caring Headlines (attachment NK 4EO.e).
1. **Purpose and Background**

Cardiac monitoring has become ubiquitous on most units in today’s academic medical centers, requiring that RNs have basic competence in arrhythmia recognition and management from day one. In Registered Nurse Orientation (RNO), a basic arrhythmia course is taught during the first week of central hospital nursing orientation held in The Norman Knight Nursing Center for Clinical & Professional Development (Knight Center). The RNO team of instructors was interested to learn the effectiveness of a basic arrhythmia course on subsequent clinical practice. They found little evidence in the literature to identify effective teaching strategies that ensure competency in cardiac arrhythmia identification, retention of knowledge related to arrhythmias, and application of this knowledge in clinical practice. Please see attachment NK 4EO.b for a review of the literature.

The purpose of this descriptive study was to evaluate RNs’ pre/post knowledge about cardiac arrhythmias, retention over time, and clinical application of basic arrhythmia knowledge. Three research questions were asked:

1) Is there a difference in pre-test and post-test scores related to cardiac arrhythmia knowledge on a basic arrhythmia test (multiple choice, anatomy, and rhythm strips) following exposure to a program on arrhythmias during central RNO?

2) Is there a difference in arrhythmia post-test scores on a basic arrhythmia test and retention of knowledge of similar arrhythmias using scores from a simulated arrhythmia experience?

3) Is there a relationship between achievement on pre-test and post-test basic arrhythmia test scores and nurse-identified learning preferences?

2. **Description of Work**

The study used a pre-test/post-test descriptive design to evaluate basic arrhythmia knowledge retention and its clinical application. A few open-ended questions were included. Permission to conduct the study was granted by the Partners Human Research Committee at MGH. During RNO, nurses provided verbal consent after a written script was read and a study fact sheet was distributed by the co-investigators. The procedures used in the study were to administer a written pre-test and demographics form prior to the basic, four-hour arrhythmia course (Time 1), a written post-test at four weeks (Time 2) and a post-test using simulation at 3 months (Time 3). Data analysis included tests of significance and analysis of variance (ANOVA) to determine differences between groups and change within groups.
A convenience sample of 138 newly-hired full-time and part-time RNs was recruited during RNO over an 18-month period. The investigators established a conservative attrition rate of 25%, anticipating that they may not be able to obtain three data points for all subjects. To control for 25% attrition, the general power analysis program (G*Power) was used to determine the sample size; 125 subjects would provide 92% power to detect a moderate effect (0.15) with a significance of .05. To control for attrition, travel nurses were excluded from the sample.

3. Team Membership

The was a nurse-driven study conducted by four educators, all Master’s-prepared RNs, from The Norman Knight Nursing Center for Clinical & Professional Development. The team submitted a proposal for a Munn Nursing Research Award and received one of two awards granted that year. Their mentor was the Director of the Yvonne L. Munn Center for Nursing Research (Munn Center) and Senior Scientist. They received statistical assistance from a Senior Nurse Scientist and Methodologist who is also part of the Munn Core Team (NK 4).

The participants in the study were newly-hired RNs who were from various units throughout MGH. Their demographic information is provided in Table 4. The sample was predominantly female, with less than two years of RN experience, and no arrhythmia experience. Sixty-two (45%) RNs completed the entire study (pre-test, post-test, and simulation). One hundred and two (74%) RNs completed only the pre-test (Time 1) and post-test (Time 2).

<table>
<thead>
<tr>
<th>Table 4. Intervention Sample (n=138)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>129</td>
<td>93.5</td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>6.5</td>
</tr>
<tr>
<td>Nursing Experience (less than or equal to 2 yrs)</td>
<td>93</td>
<td>67.4</td>
</tr>
<tr>
<td>No arrhythmia experience</td>
<td>88</td>
<td>64.2</td>
</tr>
</tbody>
</table>

4. Measurement

Four data collection instruments were used: demographics form, a 30-item test of knowledge and anatomy, simulated scenarios using rhythm strips, and open-ended questions. The written knowledge test was administered prior to the basic arrhythmia course (Time 1) and four weeks after the course (Time 2). The simulated scenarios were administered three months later (Time 3) at which time their qualitative comments were also elicited. The co-investigators scored and entered responses in a database.

Data were managed and analyzed using the SPSS 15.0 for Windows (IBM). Missing data were managed by using mean substitution and case deletion. Descriptive statistics were used to examine differences in aggregate and paired t tests for pre-test and post-test achievement scores. Pearson’s chi-square test was computed to investigate the distribution of learner preferences and pre-test and post-test achievement scores. Means and standard deviations were reported for continuous variables and percentages and frequencies were reported for categorical variables. Statistical significance was set at p < .05. Extended responses provided by the participants about the learning experience overall offered insights into participants’ responses.
A paired samples $t$-test was conducted to evaluate the impact of the basic arrhythmia course on nurses’ knowledge scores. There was a significant increase ($p = .000$) in knowledge and anatomy scores between Time 1 (pre) and Time 2 (4 weeks) and a significant increase ($p = .000$) in arrhythmia identification between Time 1 (pre) and Time 3 (3 months) (Figures 2 and 3).

![Comparison of Pre- and Post-Test Variables: Participant Scores](attachment:Figure2.png)

**Figure 2.** Comparison of Mean Values of Pre- and Post-Test Scores (All significant [$p=.000$])

![Percent Change between Pre- and Post-Test Variable Scores](attachment:Figure3.png)

**Figure 3.** Percent Change Between Pre- and Post-Test Scores

The area of evaluation related to continuing education, as well as professional development, is not well developed. In this study, the investigators evaluated the effectiveness of an educational intervention over time. It is considered Level III evaluation according to Kirkpatrick’s Four Level Evaluation Model, after Level 1 (Reaction), and Level II (Learning) because it measures actual performance using simulated arrhythmia recognition. The findings of this study confirmed to the investigators the effectiveness of this approach. The findings also impacted the staff in the Knight Center who are encouraged to raise the level of evaluation to Level III, in practice. Finally, dissemination of findings through a peer-reviewed publication allows the spread of new knowledge to the greater nursing community (attachment NK 4EO.b).
Munn Nursing Research Award
Exemplar 3

The Effects of a Preparatory Informational Session
Prior to a Cardiovascular Procedure
Anne Gavigan, RN, BS
Carolyn Cain, BSN, RN
Diane Carroll, APRN, PhD, FAAN (mentor)

1. Purpose and Background

The co-investigators created a tailored informational digital video intervention (IDVD) that prepared patients for what they would experience during a Cardiovascular Procedure (CP). The purpose of this study was to measure and compare the effect of the IDVD to standard of care (SOC) education on patient anxiety and satisfaction with their CP experience.

Cardiovascular disease (CVD) has no geographic, gender or socio-economic boundaries. There were an estimated 1.1 million inpatient diagnostic cardiac procedures and 1.2 million percutaneous coronary interventions that were performed in 2007, the last year that there is available data. At MGH, there are an estimated 5,700 cardiovascular procedures performed annually, and of that number, an estimated 3,500 (60%) are patients presenting for a first time percutaneous cardiac procedure (CP).

Anxiety has been noted among patients who have been waiting for scheduled CP. Mental stress in cardiovascular patients can cause unwanted clinical responses such as arrhythmias and ischemia that can lead to poor patient outcomes. There is an ongoing interest in identifying interventions to reduce anxiety and increase patient satisfaction in those undergoing CPs. Providing preparatory information regarding the CP has been used to decrease patient anxiety. However, CP areas vary by institution in physical layout, personnel, and standards of care. Commercially available teaching tools do not adequately prepare patients for their experience at specific procedural locations.

2. Description of Work

This study was a randomized two-group, pre/post test design to measure the effects of an IDVD educational intervention compared to standard of care (SOC) on the outcome variables of anxiety and satisfaction in patients undergoing a CP. The study was approved by Partners Human Research Committee. Participants were recruited by study staff from a list of patients who were scheduled for a first-time CP. Participants were approached and recruited on admission to the Interventional Cardiovascular Therapy Center. A convenience sample from elective patients who agreed to participate was then randomized to either the IDVD educational intervention or standard of care (SOC).

3. Team Membership

This was a nurse-driven research study; the principal investigator and co-investigator were Staff Nurses. Two nursing students participated in data collection. The study took place in the Interventional Cardiovascular Therapy Center.
4. Measurement

Potential participants were approached and recruited by study staff upon arrival to the Interventional Cardiovascular Therapy Center. Those that verbally consented to participate were given the demographic form to complete. Participants were assigned to the IDVD or the SOC group based on a block random design by day of the week with 1 to 2 participants enrolled each day, one day IDVD and one day SOC. All participants completed the Spielberger State Trait Anxiety Index (STAI), state and trait scales, and a demographic form at baseline (Time 1) and the participants were then informed of their group assignment. Those assigned to the IDVD group, were then escorted to a quiet environment to view the IDVD. After viewing IDVD the investigators were available to answer any questions.

After the preparatory information sessions, whether the SOC or IDVD, a repeat assessment (Time 2) was completed with the STAI, state only. Participants were then admitted to the pre-procedure area. During the time in the pre-procedure area, the CP nurse provided information to all participants regarding IV insertion and assessment components, reviewed medications and documented allergies. Participants then proceeded to the procedure room for their CP. After the CP, when the participants’ recovery score was equal to 12 (awake and alert) (Time 3), participants were asked to complete the Satisfaction with Preparatory Information questionnaire. At this point, the study was completed.

Trait anxiety was measured with STAI trait scale and there was no difference between IDVD and SOC groups at Time 1 (33.5±8.4 versus 34.7±8.4, t =-.87, p = .38). State anxiety was measured at Time 1 and Time 2. There were no differences between IDVD and SOC groups for STAI-state pre and post the intervention period of the study. Using a score of greater than 35 on the STAI state scale as a threshold for anxiety, there were 55 participants (64%) in the IDVD and 45 participants (58%) in the SOC group pre CP that were anxious (p = .41). After the CP, there were 45 participants (57%) in the IDVD group and 47 participants (57%) in the SOC group post CP that were anxious (p=.97).

<table>
<thead>
<tr>
<th>Table 5. Comparison of Scores on Three Measures</th>
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<tbody>
<tr>
<td>Intervention Group</td>
</tr>
<tr>
<td>IDVD Mean/SD</td>
</tr>
<tr>
<td>t</td>
</tr>
<tr>
<td>Time 1 STAI trait scale</td>
</tr>
<tr>
<td>Time 1 STAI state scale</td>
</tr>
<tr>
<td>Time 2 STAI state scale</td>
</tr>
<tr>
<td>Time 3 Satisfaction with Preparatory Information Scale</td>
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</tbody>
</table>
Satisfaction levels with the information provided was higher in the group who received the intervention of the IDVD compared to the SOC group (54.3±5.5 vs. 50.5±6.3, t=3.8, p<.000). Participants in the IDVD group recommended that viewing the IDVD would have been more helpful if they had seen it when they were scheduled for their procedure.

For most patients, a CP is a new, foreign, and uncertain experience causing anxiety and distress. Providing procedural information enables patients to form accurate expectations rather than anticipating the experience as a threat. Nurses have the ability to not only care for patients but to educate them as well. It is understood that anxiety in patients may be present due to a variety of factors. Nurses need to focus on cues from patients that support the need for more preparatory information. Nurses need to define the standard of care and intervene when appropriate to help reduce fear and anxiety levels. Providing preparatory information to the patient at least one week prior to the procedure can help improve the patient’s experience.

Tailored education can meet the needs of patients who arrive for a CP with variable information they gathered from external sources. Using an IDVD can assist in correcting misinterpretations patients may have, and define expectations about their unique experience, including sensory perceptions. Providing patients with accurate sensory perceptions can potentially reduce anxiety and increase patient satisfaction with the CP experience. As of August 2012, a manuscript has been submitted to Clinical Nursing Research.
<table>
<thead>
<tr>
<th>Study Title</th>
<th>Study Status</th>
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<th>Role(s) of Organization's Nurse(s) in the Study</th>
<th>Study Scope</th>
<th>Study Types</th>
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<tbody>
<tr>
<td>Retooling for Evidence-Based Nursing Practice</td>
<td>Completed</td>
<td>10/28/2009</td>
<td>Susan Lee</td>
<td>RN, PhD</td>
<td>Nurse Scientist</td>
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<td>Qualitative</td>
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<tr>
<td>Equipment to Enhance Training for Health Professionals</td>
<td>Completed</td>
<td>N/A</td>
<td>Susan Lee</td>
<td>RN, PhD</td>
<td>Nurse Scientist</td>
<td>×</td>
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<tr>
<td>HRSA RN Residency: Transitioning to Geriatrics and Palliative Care</td>
<td>Completed</td>
<td>12/12/2010</td>
<td>Susan Lee</td>
<td>RN, PhD</td>
<td>Nurse Scientist</td>
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<tr>
<td>AARP/Munn AgeWise</td>
<td>Active</td>
<td>12/12/2010</td>
<td>Susan Lee</td>
<td>RN, PhD</td>
<td>Nurse Scientist</td>
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<td>Qualitative</td>
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<tr>
<td>Clinical Ethics Residency for Nurses</td>
<td>Active</td>
<td>11/8/2010</td>
<td>Ellen Robinson</td>
<td>RN, PhD</td>
<td>CNS</td>
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<td>Qualitative</td>
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<tr>
<td>Executive Nurse Fellowship Program</td>
<td>Completed</td>
<td>N/A</td>
<td>Deborah Washington</td>
<td>RN, PhD</td>
<td>Nursing Director Diversity</td>
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<tr>
<td>Student Assignment via a Simulation Model</td>
<td>Completed</td>
<td>N/A</td>
<td>Dorothy Jones</td>
<td>RN, EdD</td>
<td>Director of Nursing Research</td>
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<td>Qualitative</td>
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<tr>
<td>Electronic Bedside Communication Center (eBCC) Prototype to Support Patient-Centered Care</td>
<td>Completed</td>
<td>8/28/2009</td>
<td>Diane L. Carroll</td>
<td>RN, PhD</td>
<td>Nurse Researcher</td>
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<tr>
<td>Connell Scholars Program</td>
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<td>N/A</td>
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<td>Director of Nursing Research</td>
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<th>Study Types</th>
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<tbody>
<tr>
<td>Presencing Through Equus: A Pilot Study</td>
<td>Completed</td>
<td>5/7/2010</td>
<td>Barbara Blakeney</td>
<td>RN, MSN</td>
<td>Innovations Specialist</td>
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<tr>
<td>Always Responsive</td>
<td>Completed</td>
<td>1/23/2012</td>
<td>Gaurdia Banister</td>
<td>RN, PhD</td>
<td>Executive Director of Institute for Patient Care</td>
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<tr>
<td>Accent Reduction Pilot</td>
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<td>N/A</td>
<td>Barbara Blakeney</td>
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<td>Innovations Specialist</td>
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<tr>
<td>Innovation Advisor Program (CMS)</td>
<td>Active</td>
<td>N/A</td>
<td>Barbara Blakeney</td>
<td>RN, MSN</td>
<td>Innovations Specialist</td>
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<tr>
<td>Sedation Management in Pediatric Patients with Acute Respiratory Failure</td>
<td>Active</td>
<td>Exempt</td>
<td>Kathryn Beauchamp</td>
<td>RN, MSN</td>
<td>CNS</td>
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### Research Studies- Munn Research Awards

**Yvonne L. Munn Center for Nursing Research**

**2009-2012**

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<tr>
<th>Study Title</th>
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<th>Date Approved by IRB</th>
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<th>Principal Investigator Credentials</th>
<th>Role(s) of Organization's Nurse(s) in the Study</th>
<th>Study Scope</th>
<th>Study Types</th>
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<tbody>
<tr>
<td>Impact of Epidermal Growth Factor Inhibitor-related Rash on Quality of Life for Cancer Patients</td>
<td>Completed</td>
<td>9/17/2009</td>
<td>Michelle Knowles, Tracey Lafferty</td>
<td>RN, MS RN, MS</td>
<td>CNS CNS</td>
<td>x</td>
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<tr>
<td>Storybook versus Traditional Education for Children and their Families</td>
<td>Completed</td>
<td>10/2/2009</td>
<td>Brenda Miller, Kathryn Beauchamp</td>
<td>RN, MS RN, MS</td>
<td>Nursing Director CNS</td>
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<tr>
<td>Family Members’ Perception of Most Helpful Interventions During End-of-Life Care of Loved One</td>
<td>Completed</td>
<td>12/1/2010</td>
<td>Julie Cronin</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
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<tr>
<td>Improving Compliance with Non-Invasive Mechanical Modalities for Venous Thromboembolism (VTE) Prophylaxis in the Surgical Intensive Care Unit</td>
<td>Completed</td>
<td>9/17/2009</td>
<td>Paula Restrepo, Deborah Jameson</td>
<td>RN, BSN RN, MS</td>
<td>Staff Nurse Librarian</td>
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<tr>
<td>The Impact of Death and Dying in the Intensive Care Unit on New Graduate Nurses</td>
<td>Completed</td>
<td>7/26/2010</td>
<td>Tara Tehan, Mary Guanci</td>
<td>RN, MS RN, MS</td>
<td>Nursing Director CNS</td>
<td>x</td>
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<tr>
<td>Exploratory Study to Understand Autologous Hematopoietic Stem Cell Transplant Patients’ Experiences of Hatha Yoga</td>
<td>Active</td>
<td>2/13/2012</td>
<td>Jennifer Brock</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
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<tr>
<td>Examination of the Incidence and Prevalence of Constipation Among Hospitalized Older Adults</td>
<td>Active</td>
<td>12/15/2011</td>
<td>Andrea Thurler, Leiba Savitt</td>
<td>RN, MSN RN, MSN</td>
<td>Nurse Practitioner Nurse Practitioner</td>
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<tr>
<td>Comparison of Temporal Artery to Pulmonary Artery Thermistor Temperatures in Hypothermic Patients</td>
<td>Active</td>
<td>Pending</td>
<td>Cynthia Finn</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
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<tr>
<td>Decreasing Falls on In-Patient Psychiatry Through a Tailored Fall Risk Assessment, Plan of Care and Efficient Patient Care Workflow</td>
<td>Active</td>
<td>Pending</td>
<td>Constance Cruz</td>
<td>MSN CNS</td>
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</table>

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## Postdoctoral Fellowships

Yvonne L. Munn Center for Nursing Research

2009-2012

<table>
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<tr>
<th>Study Title</th>
<th>Study Status</th>
<th>Date Approved by IRB</th>
<th>Principal Investigator Name(s)</th>
<th>Principal Investigator Credentials</th>
<th>Role(s) of Organization's Nurse(s) in the Study</th>
<th>Study Scope</th>
<th>Study Types</th>
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<tbody>
<tr>
<td>Exploring the Basis of Surrogate Requests for Life-Sustaining Treatment When the Patient is at End-Of-Life</td>
<td>Active</td>
<td>N/A</td>
<td>Ellen Robinson</td>
<td>RN, PhD</td>
<td>Nurse Researcher</td>
<td>Internal to a Single Organization</td>
<td>Qualitative</td>
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<tr>
<td>Humanitarian Global Health Care Practice as a Transformational Experience</td>
<td>Completed</td>
<td>1/28/2009</td>
<td>Donna Perry</td>
<td>RN, PhD</td>
<td>Nurse Researcher</td>
<td>Independent Organizations within a System</td>
<td>Qualitative</td>
</tr>
<tr>
<td>Analysis and Dissemination of the Massachusetts NICU Nurses' Ethical Involvement Survey</td>
<td>Active</td>
<td>Pending</td>
<td>Peggy Doyle Settle</td>
<td>RN, PhD</td>
<td>Nursing Director</td>
<td>Independent Organizations within a System</td>
<td>Qualitative</td>
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<tr>
<td>Secondary Analysis of the Pain Assessment Instrument: Pain Assessment and Care for the Extremely Low Gestational Age Infant Focused Instrument (PACEFI) Data Set</td>
<td>Active</td>
<td>Pending</td>
<td>Kim Francis</td>
<td>RN, PhD</td>
<td>CNS</td>
<td>Independent Organizations within a System</td>
<td>Qualitative</td>
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</table>

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Research Studies - Performance Improvement  
Yvonne L. Munn Center for Nursing Research  
2009-2012

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<tr>
<th>Study Title</th>
<th>Study Status</th>
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<th>Principal Investigator Credentials</th>
<th>Role(s) of Organization's Nurse(s) in the Study</th>
<th>Study Scope</th>
<th>Study Types</th>
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<tbody>
<tr>
<td>Establishing a Best Practice of Central Venous Catheter Maintenance in Patients with Prostanoid Therapy</td>
<td>Completed</td>
<td>N/A</td>
<td>Arlene Schiro</td>
<td>RN, NP</td>
<td>Nurse Practitioner</td>
<td>Internal to a Single Organization</td>
<td>Replication</td>
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<tr>
<td>Improving Patient Placement: Clinical Nursing Supervisors in the Triage General Care Rule</td>
<td>Completed</td>
<td>N/A</td>
<td>Brenda Morano</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
<td>Multiple Organizations within a System</td>
<td>Replication</td>
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<tr>
<td>In-Time Review of PBSC Collection Results with Apheresis Operators Improves the Quality of the Final Product</td>
<td>Completed</td>
<td>N/A</td>
<td>Irina Dobrusin</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
<td>Independent Organizations Collaboratively</td>
<td>Replication</td>
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<tr>
<td>Innovative Collaborative Practice: Improving Length of Stay, Operational Efficiency and Staff Satisfaction</td>
<td>Completed</td>
<td>N/A</td>
<td>Karen Pickell</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
<td>Internal to a Single Organization</td>
<td>Replication</td>
</tr>
<tr>
<td>Phillips 22 Pain Assessment Quality Improvement Project</td>
<td>Completed</td>
<td>N/A</td>
<td>Claire Paras</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
<td>Multiple Organizations within a System</td>
<td>Replication</td>
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<tr>
<td>Thinking Outside the Box: Psychosocially Complex Medical Patients: A Case Manager's Challenge</td>
<td>Completed</td>
<td>N/A</td>
<td>Laurene Dynan</td>
<td>RN, BSN</td>
<td>Staff Nurse</td>
<td>Independent Organizations Collaboratively</td>
<td>Replication</td>
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<tr>
<td>Nursing Rounds: Moving Research to Practice</td>
<td>Completed</td>
<td>N/A</td>
<td>Susan Wood</td>
<td>RN, MSN</td>
<td>CNS</td>
<td>Internal to a Single Organization</td>
<td>Replication</td>
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<th>Study Scope</th>
<th>Study Types</th>
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<tbody>
<tr>
<td>A Study Examining Why Students Choose Nursing</td>
<td>Completed</td>
<td>4/8/2008</td>
<td>Laura M. Naismith</td>
<td>RN, MSN</td>
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<tr>
<td>Development and Testing of the Nurse and Assistant Self-Efficacy for Preventing Falls Scale</td>
<td>Completed</td>
<td>8/30/2007</td>
<td>Diane L. Carroll</td>
<td>RN, PhD</td>
<td>Nurse Researcher</td>
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<tr>
<td>Disparity in Management of Coronary Heart Disease Risk Factors by Sex in Type 1 Diabetes</td>
<td>Completed</td>
<td>1/18/2009</td>
<td>Mary E. Larkin</td>
<td>RN, MS</td>
<td>CNS</td>
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<tr>
<td>Effects of Sensory Interventions on an Inpatient Psychiatric Unit: A Pilot Study</td>
<td>Completed</td>
<td>7/29/2008</td>
<td>Christina Stone</td>
<td>RN, MSN</td>
<td>Nursing Director</td>
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<tr>
<td>Endocrine Sensitive Early Stage Breast Cancer: Preliminary Findings of Patient Experience of Adherence to Endocrine-based Oral Chemotherapy</td>
<td>Completed</td>
<td>4/9/2008</td>
<td>Loren Winters</td>
<td>RN, MSN</td>
<td>Nurse Practitioner</td>
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<tr>
<td>Feasibility of Family Participation in a Delirium Prevention Program for the Older Hospitalized Adult</td>
<td>Completed</td>
<td>7/20/2007</td>
<td>Deborah Rosenbloom-Brunton</td>
<td>RN, PhD(c)</td>
<td>CNS</td>
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<tr>
<td>Mind Body Nursing Strategies to Strengthen Resilience Among New Nurses</td>
<td>Completed</td>
<td>7/29/2008</td>
<td>Patricia Martin Arcari</td>
<td>RN, PhD</td>
<td>CNS</td>
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<tr>
<td>Predictors of Change in Metabolic Control from 1996 to 2006 among Adults with Type 2 Diabetes: A Longitudinal Cohort Study</td>
<td>Completed</td>
<td>5/16/2007</td>
<td>Mary E. Larkin</td>
<td>RN, MS</td>
<td>CNS</td>
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### Research Studies - Other

Yvonne L. Munn Center for Nursing Research

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<th>Principal Investigator Credentials</th>
<th>Role(s) of Organization's Nurse(s) in the Study</th>
<th>Study Scope</th>
<th>Study Types</th>
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<tbody>
<tr>
<td>Validation of the Adams Influence Model (AIM)</td>
<td>Completed</td>
<td>IRB via Boston College</td>
<td>Jeffrey M. Adams</td>
<td>RN, PhD</td>
<td>Nurse Scientist</td>
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<tr>
<td>A Feasibility Study of Low-Cost Self-Administered Skin Care Intervention in Head &amp; Neck Cancer Patients Receiving Chemoradiation</td>
<td>Completed</td>
<td>11/14/2007</td>
<td>Catherine M. Mannix</td>
<td>RN, MSN</td>
<td>Nursing Director</td>
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<tr>
<td>A Randomized Controlled Trial of a Discharge Nursing Intervention to Promote Self-Regulation of Care for Early Discharge Interventional Cardiology Patients</td>
<td>Completed</td>
<td>1/16/2008</td>
<td>Catherine Ahem Gould</td>
<td>RN, PhD</td>
<td>Nurse Practitioner</td>
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<tr>
<td>Acute Hospital to Skilled Home Care: Identifying the Gap in Communication for Our Heart Failure Patients</td>
<td>Completed</td>
<td>7/23/2009</td>
<td>Janice Tully</td>
<td>RN, BSN</td>
<td>Case Manager</td>
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<td>x x</td>
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<tr>
<td>Aiding Transitions from Home to Acute Care: Nurse/Family Caregiver Partnership</td>
<td>Completed</td>
<td>IRB via IHP</td>
<td>Deborah Rosenbloom</td>
<td>RN, PhD</td>
<td>Faculty</td>
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<td>An Exploration of Factors that Facilitate the Integration of Therapeutic Touch in Nursing Practice on an Inpatient Cardiology Unit</td>
<td>Completed</td>
<td>11/6/2007</td>
<td>Chelby Cierpial</td>
<td>RN, MSN</td>
<td>CNS</td>
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<tr>
<td>Faith and Mental Health in an Oncology Population</td>
<td>Completed</td>
<td>IRB via IHP</td>
<td>Janice Bell Meisenheimer</td>
<td>RN, DNSC</td>
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<tr>
<td>Fall TIPS (Tailoring Interventions for Patient Safety): Validation of Icons to Communicate Fall Risk Status and Tailored Intervention to Prevent Patient Falls</td>
<td>Completed</td>
<td>8/30/2007</td>
<td>Diane L. Carroll</td>
<td>RN, PhD</td>
<td>Nurse Researcher</td>
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<tbody>
<tr>
<td>Family Presence in the Cardiac Intensive Care Unit (CICU) During Invasive Procedures and Resuscitation</td>
<td>Completed</td>
<td>3/29/2009</td>
<td>Lisa Davies, RN, BSN</td>
<td>Staff Nurse</td>
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<tr>
<td>From Nursing Simulation to the Engineering Lab: Experiential Training Aiding Robotic Design</td>
<td>Completed IRB via IHP</td>
<td>Diane Feeney Mahoney, RN, PhD</td>
<td>Nurse Researcher</td>
<td>X</td>
<td>Qualitative</td>
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<tr>
<td>Promoting Rest Using Quiet Packs On A Busy Medical Unit</td>
<td>Completed</td>
<td>2/10/2009</td>
<td>Susan Wood, RN, MSN, CNS</td>
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<td>Qualitative</td>
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<tr>
<td>Registered Nurses', Patients', Parents', and Significant Others' Perception around Standard Uniforms Versus Individual Uniforms</td>
<td>Completed</td>
<td>6/10/2010</td>
<td>Kim Francis, RN, PhD, CNS</td>
<td>X</td>
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<tr>
<td>Relation of Health Insurance to Weight Status in 19-26 Year Olds: A Social Ecological Perspective</td>
<td>Completed IRB via Umass Boston</td>
<td>Jean Bernhardt, RN, PhD</td>
<td>Nurse Researcher</td>
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<tr>
<td>Research Utilization in Nursing Practice at MGH: A Comparative Study of Barriers and Facilitators</td>
<td>Completed</td>
<td>3/16/2009</td>
<td>Chelby Cierpial, RN, MSN, CNS</td>
<td>X</td>
<td>Qualitative</td>
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<tr>
<td>Symptom Prevalence, Burden and Clusters in Pulmonary Arterial Hypertension: A Pilot Study</td>
<td>Completed</td>
<td>2/15/2009</td>
<td>Diane L. Carroll, RN, PhD</td>
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Evaluation of Basic Arrhythmia Knowledge Retention and Clinical Application by Registered Nurses

Laura Sumner, MSN, MEd, MBA, ANP-BC, ONC
Lin-Ti Chang, MSN, RN-BC, ANP-BC, CCRN
Dorothy A. Jones, EdD, RNC, FAAN
Sheila M. Burke, MSN, CCRN
Mary McAdams, MEd, RN-BC

The purpose of this descriptive study was to evaluate knowledge retention over time and clinical application of basic arrhythmia knowledge following exposure to an orientation program. Data showed significant differences in knowledge retention at 4 weeks and clinical application in rhythm identification using simulation at 3 months.

Little evidence exists to support innovative teaching strategies that ensure competency in cardiac rhythm identification, retention of knowledge related to arrhythmias, and application of this knowledge in clinical practice. Nonetheless, registered nurses (RNs) must be skilled and competent in identifying both basic and lethal arrhythmias and addressing these changes by either initiating resuscitation or notifying the physician. A basic arrhythmia program taught during the first week of central hospital nursing orientation provides nurses with critical information essential to patient safety and quality care. However, no studies have documented RNs’ knowledge retention or clinical application of the arrhythmia content over a specific period. The purpose of this study was to measure knowledge retention over time and clinical application of basic arrhythmia knowledge using simulation after exposure to an orientation program on basic arrhythmias.

REVIEW OF LITERATURE
A literature review was conducted using CINAHL (Cumulative Index to Nursing and Allied Health Literature, 1982 to December 2010), MEDLINE, and the following keywords: learning outcomes, summative evaluation, knowledge retention, arrhythmia knowledge, nurses’ knowledge, and skill retention. Articles included in the review were studies identifying clinical knowledge and outcomes after education or continuing education, arrhythmia knowledge, simulation use, and/or interpretation of electrocardiograms (ECGs).

Knowledge for Practice
Clinical knowledge refers to knowledge embedded in the practice of nursing (Benner & Wrubel, 1982). Proficiency in ECG/arrhythmia interpretation requires a combination of knowledge, skill, and practical clinical experience (Salerno, Alguire, & Waxman, 2003). In 2003, The American College of Physicians identified competency evaluation of ECG training as critical and noted that there is little evidence available on the training needed to maintain skill levels (Salerno, Alguire, & Waxman, 2003). ECG interpretation is a fundamental part of emergency resident training, yet programs use a variety of methods to determine competency. Twenty-five percent of the programs use formal testing, 41% use informal testing with a combination of formal testing, and clinical observation deemed the best way to determine competency (Pines, Perina, & Brady, 2004). Keller and Raines designed a qualitative study of arrhythmia knowledge with a two-fold objective: to identify and describe critical care nurses’ perception of arrhythmia knowledge and develop levels of arrhythmia competency (Keller & Raines, 2005). The study found a deficit in the nurse’s ability to identify specific arrhythmias. However, there is little information about critical care nurses’ competency in ECG interpretation and a paucity of literature with evidence to support content taught or the impact of nurses’ knowledge of rhythm strip...
interpretation on patient outcomes (Keller & Raines, 2005). In 2009, Kaakinen and Arwood conducted a systematic analysis of nursing simulation literature (Kaakinen & Arwood, 2009). Their search verified the need for more research to investigate efficacy of simulation for improving student learning.

Knowledge Retention
Knowledge and skill retention after cardiopulmonary resuscitation training is well established in the literature. Hamilton (2005) conducted an integrative literature review and meta-analysis examining factors that enhance retention of knowledge and skills during and after resuscitation training and found that skills and knowledge decline over time and training should occur frequently and reflect potential situations nurses may face in practice to maintain skills. Broomfield (1996) described a quasi-experimental study to investigate retention of basic cardiopulmonary resuscitation skill and knowledge by qualified nurses following a course in professional development. Broomfield's study validated other research that concluded that knowledge and skill deteriorate in a period as short as 10 weeks if not used or updated regularly.

Evaluating Clinical Application of Knowledge
In April 2003, the Institute of Medicine released a report that described areas in need of change in the education of health professionals (Institute of Medicine, Committee on Quality of Health Care in America, 2003). Improved education systems should provide updated curriculum, evaluation, and student competencies in both nursing and medical education programs (Epstein & Hundert, 2002; Hand, 2006; Klein, 2006; Lenburg, 1999). An assessment validating ongoing nursing competency to meet regulatory standards is well documented in the literature (Arcand & Neumann, 2005; Bradley & Huseman, 2003; Landry, Oberleitner, & Borazjani, 2006). However, no clear consensus exists on what constitutes continuing competence or how to measure that competence (Landry et al., 2006). As patient needs and care environments become more complex, nurses need to attain requisite competencies to deliver high-quality care (Institute of Medicine, 2010).

Professional Development—Arrhythmia
Continuing education has been the method required by state boards of nursing for recertification and licensure renewal; however, there is a growing belief that mandatory continuing of professional education does not guarantee competence (Whittaker, Carson, & Smolenzki, 2000). In 1992, Abruzzese developed an evaluation model describing four levels of continuing education evaluation (Underwood, Dahlen-Hartfield, & Mogle, 2004). The first two levels describe the learner’s satisfaction with the program and achievement of objectives. These assess the individual’s attitude or perception of learning, the “happiness index” (Dickerson, 2000). Levels 1 and 2 are the most common methods of evaluation for continuing education. Although these have a place in continuing education, neither addresses the goal of increasing the ability of the nurse to provide quality care (Dickerson, 2000). The American Society for Training and Development found that less than 20% of all organizations conduct evaluations at the application level (Level 3) or higher because of the resources and time involved (Horton, 2001).

Performance Evaluation
The third level, outcome evaluation, focuses on change in performance behavior, which continues after the program. Brunt designed a study to assess the effect of a workshop on behavioral change. Seventy participants completed a questionnaire on perceived expertise before the workshop, immediately after the workshop, and 3 months after the workshop (Brunt, 2000). There were significant findings when each of four variables influencing behavior change was correlated with actions and expertise 3 months after the workshop (Brunt, 2000). Self-reporting was a limitation in this study.

The fourth level is impact evaluation. This level focuses on an operational result, increased quality of care, and cost reduction. There is little research demonstrating the higher levels of evaluation of education on clinical care and patient outcomes in a healthcare setting.

PURPOSE OF THE STUDY
The purpose of this study was to evaluate RNs’ knowledge retention over time and clinical application of basic arrhythmia knowledge using simulation after exposure to an orientation program on basic arrhythmias.

RESEARCH QUESTIONS
The study’s specific research questions were as follows:
1. Is there a difference in pretest and posttest scores related to cardiac arrhythmia knowledge on a basic arrhythmia test (multiple choices, anatomy, and rhythm strips) following exposure to a program on arrhythmias during central hospital orientation?
2. Is there a difference in arrhythmia posttest scores on a basic arrhythmia test and retention of knowledge of
similar arrhythmias using scores from a simulated arrhythmia experience?

3. Is there a relationship between achievement on pretest and posttest basic arrhythmia test scores and nurse-identified learning preferences?

METHODS

Permission to conduct the study was granted by the Partners Human Research Committee Internal Review Board at the Massachusetts General Hospital. During the central department orientation, a written script was read to participants and a study fact sheet was given to all nurses by the principal and/or coinvestigators. The RNs who consented to take part in the study completed a demographic information sheet.

Design

The study used a pretest/posttest descriptive design to evaluate basic arrhythmia knowledge retention and its clinical application. Data collection both before and after intervention are appropriate for measuring change and can determine differences between groups and change within groups (Polit & Beck, 2008).

Sample

A convenience sample of 138 newly hired full-time and part-time RNs were recruited during central hospital orientation over a 18-month period. To control for 25% attrition rate, general power analysis program (GPower) was used to determine the sample size; 125 subjects provide 92% power to detect a moderate effect (0.15) with a significance of .05 (Erdfelder, Faul, & Buchner, 1996). To maintain the eligibility criteria, pediatric and travel nurses were excluded from the sample. Sixty-two (45%) RNs completed only the pretest and posttest. Seventy-three percent had a bachelor of science degree in nursing. Table 1 presents demographic information on the study sample.

Procedure

At Massachusetts General Hospital, all RNs are required to pass a basic arrhythmia examination with a score of 80% or greater by the end of orientation. A time series approach was used for this study: (1) Newly hired RNs consenting to participate in the study completed a demographic information sheet. They completed a written 30-item multiple-choice instrument (pretest) 1 day before the arrhythmia program. (2) Study participants received the intervention by attending a 4-hour basic arrhythmia program on the second day of nursing orientation. (3) All study participants were notified by e-mail and a written memo to return 4 weeks after the arrhythmia program for completion of the posttest, a 30-item multiple-choice instrument, limited to 1-hour maximum. (4) Study participants were notified by e-mail and a written memo to return 3 months after the original arrhythmia program for completion of a posttest using simulated arrhythmias. Eight scenarios were presented, each with simulated rhythms of over 20 minutes. The nurses viewed, identified, and recorded the rhythms. At the completion of the study, participants were given a survey to describe their experience with the study and caring for monitored patients, identify resources reviewed during the study period, and provide any qualitative comments.

Instruments

Four instruments were used in this study to evaluate competence and knowledge: (1) a demographic information sheet that included age, gender, language, nursing education, nursing experience, arrhythmia experience, and self-identified learning preferences and (2) a pretest/posttest that consists 30-item multiple-choice, heart rate/interval calculation, fill-in the blank, and rhythm identification. The arrhythmia assessment tool was pilot tested using a sample of 15 newly hired RNs to determine the clarity of questions, effectiveness of test instructions, completeness of response sets, time required to complete the examination, and success of data collection techniques. Revision of the assessment tool and procedures were made based on written feedback received from the newly hired RNs and data from the pilot study (Burns & Grove, 2001). The revised test was given pre- and post-intervention; (3) the simulation session included identification of eight scenarios with simulated rhythms and (4) open-ended comments post-simulation survey on resources used, frequency of caring for patients with arrhythmias, and feedback on the study. Scores were calculated by correct/incorrect responses. Four orientation coordinators assessed face and content validity of the basic arrhythmia program (Burns & Grove, 2001). All study investigators contributed to the development and taught the basic arrhythmia content in central hospital nursing orientation.

Data Entry

A time series data collection was used, and data entry was completed by principal and coinvestigators. Each item of the instrument was coded numerically so it could
be traced back for data analysis. All data were verified with a second study investigator.

Data Analysis
Data were managed and analyzed using the SPSS for Windows (Version 15.0, SPSS, Inc., Chicago, IL). Missing data were managed by mean substitution and case deletion. Written comments provided insights into participant responses. Descriptive statistics were used to examine differences in aggregate and paired t tests for pretest and posttest achievement scores. Pearson’s chi-square test was computed to investigate the distribution of learner preferences and pretest and posttest achievement scores. Means and standard deviations were reported in continuous variables and percentages of frequencies for categorical variables. Statistical significance was set at \( p < .05 \).

RESULTS
The study showed a significant difference in learning \((p < .01)\) in aggregate pretest and posttest scores when compared using a t test. Comparison of pretest and posttest variables (multiple choice, anatomy, and rhythms) in achievement test scores showed a significant difference \((p < .01)\) in paired t test results (see Table 2). The study findings support (Research Question 1) knowledge retention of basic arrhythmia content was achieved 4 weeks following exposure to a program on basic arrhythmias during central hospital orientation. Scores and overall improvement in posttest scores on the basic arrhythmia test and scores from a simulated arrhythmia experience (Research Question 2) showed no significant difference at 3 months. Nurses retained the knowledge learned in the basic arrhythmia class. Data showed knowledge retention and clinical application in rhythm identification between posttest score and clinical application in simulation testing at 3 months (see Table 3). Demographic data revealed learning preferences of RNs as kinesthetic (51%) and visual (43%). Auditory learners self-identified at only 5% of the sample. Research Question 3 addressed the relationship between achievement of test scores and nurse-identified learning preferences. Data showed significant differences in paired two-tailed t test in visual and kinesthetic learners but not in auditory learners. Pretest and posttest scores between visual and kinesthetic learners showed no significant difference in achievement scores. Qualitative study comments overwhelmingly support simulation and scenarios in learning, which bring together learning and clinical experience.

DISCUSSION
The study showed a significant difference in knowledge retention pre- and post-program. Three months following exposure to the arrhythmia, program data showed preservation of retained knowledge and transference of knowledge in clinical practice shown in simulation sessions.

LIMITATIONS
The results of this study may be limited by several factors. Sample size was smaller than desired because of nurses’ inability to schedule posttest sessions. Additional reading or study prior to completing the posttest sessions may have influenced nurses’ responses. Five percent (auditory learners) of the participants may not have had their learning preferences met during the study. Some nurses had more clinical experience with arrhythmia identification on clinical units prior to completing simulation.

IMPlications
It is important for academic nursing programs and hospital educators to include more in-depth basic arrhythmia content in academic and hospital orientation programs. To meet different learning styles and the needs of diverse age groups, emphasis should be on designing an adaptable learning environment using a variety of methodologies (Clark, 2000). Incorporation of clinical simulation as a

| TABLE 2 | Statistical Analysis: Paired t Test Results for Pretest and Posttest Difference \( (n = 102) \) |
|---|---|---|
| Variables | Mean | Standard Deviation | Paired t test | Significance |
| Pretest multiple choice | 11.14 | 2.04 | | |
| Posttest multiple choice | 13.32 | 1.64 | -11.87 | \( p = .000 \) |
| Pretest anatomy | 3.66 | 1.82 | | |
| Posttest anatomy | 5.45 | 1.09 | -10.91 | \( p = .000 \) |
| Pretest rhythm | 6.38 | 3.06 | | |
| Posttest rhythm | 9.92 | 2.37 | -12.97 | \( p = .000 \) |

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learning experience in a basic arrhythmia program is crucial in nursing curricula and hospital orientation programs to enhance practice and ensure the delivery of safe and high-quality care.

This study measured the proficiency in basic arrhythmia interpretation both pre- and post-basic program and at 3 months using clinical simulation. Results have refocused attention on the basic arrhythmia program in nursing orientation and provide a basis to integrate learning methods used in this study to improve the current program and support learning preferences of nurses. Updated course content is provided in an online method with a 2-hour follow-up review session integrating clinical scenarios and simulation to enhance and reinforce learning during the third week of nursing orientation. Study findings contribute to the body of nursing knowledge and evaluation of clinical practice needed to ensure cost-effective, patient-centered, high-quality care.

ACKNOWLEDGMENT

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References


Whitaker, S., Cason, W., & Smolenski, M. C. (2000). Assuring continued attachment NK 4 EO.b continued
The Impact of Death and Dying in the Intensive Care Unit
On New Graduate Nurses
Munn Nursing Research Award
Tara Tehan, RN, MSN, MBA
Mary Guanci, RN, MSN, CNRN
Donna Perry, RN, PhD (mentor)

Literature Review Excerpted from Tehan’s and Guanci’s MNRA Application

While the experience of new nurses is well described in the literature, there is little research describing the experience of the new graduate nurse in the ICU and his/her experience around death and dying. Therefore, a literature search was conducted on new graduate nurses in non-specialty areas and death and dying related to moral distress, burnout and turnover.

Brisley and Wood (2004) interviewed a group of new graduate nurses and reported the following themes; feelings of fear and anxiety around death, lack of undergraduate preparation, and the need for support. Casey et al found similar results in a study with 270 new graduate nurses, some of which were critical care nurses. 37% of this sample reported they were uncomfortable caring for dying patients.

Moral distress is defined by Jamestown as a “painful feeling or psychological disequilibrium that occurs in situations in which the ethically right course of action is known but cannot be acted upon.” Moral distress is well described in the literature and the impact on nurses has been documented. In 2004, Mary Corley described a model in which moral distress, moral suffering, and moral residue impacts the patient, nurse and organization. The impact on the patient includes increased patient discomfort. Resignation, burnout, and leaving the profession may result when the nurse experiences moral distress. Finally, turnover, decreased quality, and decreased patient satisfaction may be an organizational result. McClendon and Buckner state, “It seemed that nurses experience a high level of moral distress at the beginning of their career, which decreased to a moderate level over time and eventually declined to a low level over a number of years.” In this same study involving intensive care and cardiac care nurses, the most frequently encountered situation involved families wishing to continue aggressive treatment when it would not benefit the patient. Meltzer, described this same phenomenon and concluded that care perceived as futile or non-beneficial resulted in emotional exhaustion for the nurse. As technology has advanced, these situations that create moral distress occur more frequently and will be encountered by the new graduate nurse starting his or her career in the ICU. A necessary step in developing interventions to support the nurse is to learn what the experience is like.

Over three decades ago, Benner described the development of the new nurses in From Novice to Expert (Benner, 1984). Benner describes the novice nurse as one who “has no experience in the situations in which they are expected to perform.” Gradually the nurse moves through five stages: novice, advanced beginner, competent, proficient, and expert. In her 1992 article, From Beginner to Expert: Gaining a Differentiated Clinical World in Critical Care Nurse, Benner states that nurses at different levels of practice differ not only in skill but also in their sense of agency. The advanced beginner questions their own sense of agency and feels an overwhelming sense to perform and responsibility for the patient, “At this point, their responsible action or agency does not often
include determining what to do or even how to do it, but rather following what has been designed and structured by others.” Unfortunately the death and dying process cannot be designed or structured, but is determined by each patient and family. Benner’s theory will guide the investigators.

This study will add to the knowledge of how graduate nurses who begin their career in the Intensive Care Unit experience care for dying patients. It will also provide information on the gaps that exist in the current orientation and support infrastructure. Developing programs and interventions that assist the nurse in being comfortable and competent in this context will benefit patients and families cared for by new graduate nurses.

REFERENCES


The Impact of Death and Dying in the Intensive Care Unit on New Graduate Nurses

Mary McKenna Guanci, RN, MS, CNRN
Tara Tehan, RN, MSN, MBA, NE-BC
Mentor: Donna Perry, RN, PhD

Objectives

• To describe the experience and emerging practice of the new graduate nurse as she or he cares for dying patients in the ICU.
• To describe potential education and support structures to support the new nurse.

Background

• An estimated 500,000 Americans die each year in intensive care units.
• The Robert Wood Johnson Foundation Critical Care End-of-Life Peer Group has outlined 7 quality domains in end-of-life care in the intensive care unit.
• Critical Care Nurses are instrumental in the care of the dying patient and families.
• The effects of moral distress & the personal toll this work takes on the nurse is well documented in the literature

Thank You

• The New Graduates in the Critical Care Program
• The Nursing Staff of the Neuroscience Intensive Care Unit
• Donna Perry, RN, PhD
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Background

• Dr. Patricia Benner has described the stages nurses move through in their career including: novice, advanced beginner, competent, proficient & expert.
• New graduate nurses begin their careers as advanced beginners.
  – Focus is on protocols and rules with little experience to base decisions on.
• Caring for the dying patient is a complex process. The complexity of this human experience is not rule-bound and lent to guidelines.

Literature Review

A literature search was performed in the MEDLINE databases using Medical Subject Headings and the following keywords:
  – New Graduate Nurse & Death
  – New Graduate Nurse Programs
  – New Graduates in Critical Care
  – Moral Distress
  – Patricia Benner
  – Transitions
Purpose and Research Questions

This study sought to explore the lived experience of the new graduate nurse in the intensive care unit around death and dying through the following questions:
1. What is the experience of the new graduate nurse as she cares for dying patients in the ICU?
2. What impact does the death and dying experience have on the graduate nurse in the Intensive Care Unit?
3. What are the education and support structures that are needed by new graduate nurses to care for:
   • Him/herself
   • Patient
   • Family

Study Design

• Research Method
  – Qualitative study using a phenomenological approach

• Theoretical framework: Dr. Patricia Benner’s Model of Skill Acquisition

• Sample Selection: All participants in the 2010 MGH New Graduate in Critical Care Program were invited to participate
  – N = 8

Procedure

• Approval by Partners Human Subjects Research Committee
• Recruitment email
• Study explanation/Informed consent
• Primary Interview using flexible interview guide
  – 6 months into the program
• Follow Up Interview
  – 18 – 27 months into the program
• Tape transcription
• Analysis

Ideal Images

“I think that it’s one of my greatest jobs as a nurse on a critical care unit.. is to help people go in whatever way they would want to.”

Ideals: Good Nurse

“The nurse was able to bring a lot of peace and show that their loved one was very comfortable and there’s not really anything else we can do, but they’re happy now and so, the families really appreciate it.”
Ideals: Good Death

“And we gave them time to say their good-byes and felt that this is sad that this happened, but it happened in a controlled way and a dignified way. So I felt that we gave them a good end to their loved one’s life.”

Conflict: When Ideals aren’t achieved

“I just didn’t think that was right. We’re interrupting this family’s last moments with their loved one…So I think that could have been handled better.”

Experiential Learning

“Nothing is the same as experiencing death and experiencing the family members sobbing and trying to comfort them.”

Experiential Learning: Learned not taught

“You have three CMO patients in a row and you learn. Just from like the first one to now, you develop your own way of speaking. You develop little things that you feel are helpful and you try different things and you see what works and what doesn’t work.”

Experiential Learning: Learning from the experience of others

“So I guess I stole a line. So in that case, it’s all from watching people, from taking from people that are more experienced than me.”

Experiential Learning: Collaborative Reflection

“So maybe just not even a lecture, but just kind of more time to talk about experiences with it and how someone else felt with a situation and just kind of more reflection time with each other. There’s nothing you can really teach about it.”
Transitions

- Rapid
- Profound: passing from life to death
- Care focus from patient to family

Transitions: Patient to Family

“…… the family kind of becomes the patient and you’re taking care of the family as much as you are the patient.”

“The gray area … he wasn’t CMO. But he was in a couple hours, he was going to be a CMO. How do you make that transition from full care to CMO and how do you do that with the patient care and with the family care, and how you talk them through it at the same time?”

Transitions: Profound

“Trying to walk the family who had a perfectly healthy wife and mother just days before, through ok now, were trying to treat her very aggressively to now we don’t think we can do anything to ok, she’s passed. But can we donate her organs?”

Developing Self

- Self Perception
  - “Feeling like a Novice”
  - Validation
- Past Experiences
- Gaining the knowledge and skills to care for dying patients
- Empowerment
- Finding the words*
- Managing Conflict
- Self–Reflective Practice
- Coping
- Self–Reflective Loss *
- Therapeutic Use of Self
Developing Self: Finding the Words

Finding words to express empathy

“I am a loss for words. And I know there’s no right words to say in a situation like that. And it’s definitely individualized what, you know, can be said. But I mean, somebody’s loved one is dying. And you know, you wouldn’t wish that on your worst enemy. And so it’s sometimes hard to find the words. But I think that with experience that will come.”

Developing Self: Finding the Words

Finding the words to shepherd the decision

“I think one of the hardest parts for me about that was knowing what to tell the family when I myself, still felt so new at that point, and knowing what is ok to say. What do they need to hear right now?”

Developing Self: Finding the Words

Finding the words to advocate

“And I’ll do most of the talking before and talking after the meeting. And I guess I don’t feel like I have enough of a voice to speak during those times… I do a lot of head nodding.”

Developing Self: Self Reflective Loss

The nurse’s interior experience and personal response to caring for dying patients

- Therapeutic use of self
- Personal coping
- Imagined personal loss

Personal Coping Domain

Application of coping strategies to help with personal affective response after loss of patient.

Possible Mediators:
- Death – expected vs. tragic?
- Attitudes towards death
- Past experiences with death/grieving
- Perception of care given (“criteria for ideal” death)
- Support of preceptor/ friends/colleagues etc.

Self- Reflective Loss

Imagined personal loss

Imagined circumstances happening to own loved one

Therapeutic Use of Self

Domain

Use of self reflective memories or imagining to care of patient and family

- Talking with preceptor, peers, friends, family
- Journaling
- Modify assignment

AFFECTIVE RESPONSE:

Memories of sadness and personal needs – Apply knowledge from past personal experience to current care

Imagined family suffering (empathy)

Feelings of sadness

Feelings of dread and distress

Mutuality of Human Connection:

- Knowing and being known
- Being cared for and caring for
- Human Presence

- Importance of the preceptor-orientee relationship is evident.
- Skills acquisition
- Family/Team Communication
- Emotional Support
- Role Modeling/validation of practice
Relationships: Human Presence

“I would say I was more of a silent, like a nurturing hand, just like, a body there, just listening to whatever they need to say.”

Follow Up Interviews

• Second interviews were conducted 18–27 months into practice.
• Four themes are emerging:
  – Experiential Learning
  – Learning to cope with loss and learning to care for themselves
  – Increased agency
    • Recognizing personal responsibility
    • Participants had developed their voice
  – Ethical Dilemmas

Experiential Learning: Learned not taught

First Interview

“You have three CMO patients in a row and you learn. Just from like the first one to the next, you develop your own way of speaking. You develop little things that you feel are helpful and you try different things and you see what works and what doesn’t work.”

Second interview

“But looking back on my experiences now, I don’t think anything teaches you how to handle this. It’s just something that you really need to get a feel for on your own... There’s really no way to teach... because when it starts to sound cookie-cutterish it doesn’t have the empathy and compassion that nursing is all about.”

Follow Up Interviews

Participants were also asked, using a scale of 1 to 7, to rate their confidence caring for dying patients.
– The same question was asked during both interviews.
– There was no significant difference in self-reported confidence.

Learning to Cope with Loss

“The patient's daughter was just about my age, was just about to graduate from college... I was trying to figure out should I really try to identify with her so I can give the give the best care and empathize with her the most? Can I let myself get that vulnerable?”

“I felt like a good nurse. And I still feel like I have emotional involvement, but to a level that I'm comfortable with. I still am sad when somebody dies. I'm never not sad when somebody dies, and I think I would be upset if I lost that...because I think that's part of being a good nurse.”
The Nurse as an Agent: Recognizing Personal Responsibility/Ethics

“Any time you went near her, he was always terrified we were going to kill her, that I was going to give her some medicine and then a second later, she was going to be dead. I was terrified that that was going to happen, too, that I was going to give her Dilaudid and it was going to happen to be the moment she like gasped her last breath. But that didn’t happen.”

Developing Self: Teaching the Words

“I’m like a big seed planter. If I get a feeling things aren’t going to go well… I advocate for the team to sit down and talk with the family and then we use specific wording…some of them are great and don’t need guidance, but if there are some residents that I think may need a little bit more guidance in wording…”

Ethical Dilemmas: When ideals aren’t achieved

“I just didn’t think that was right. We’re interrupting this family’s last moments with their loved one…So I think that could have been handled better.”

Study Limitations

- Limited representation of critical care units
  - 3 out of 6 adult ICUs represented
- Second interviews were obtained 18-27 months into practice
- Single center study

Conclusions

- The care of dying patients is based in experiential learning
- The orientee-preceptor relationship is the foundation of relationship based care.
- Communication skills were identified as the most challenging aspect of caring for dying patient
- Knowing your patient
  - The family as a proxy in critical care

Implications for Practice/Recommendations

- Recruitment
  - Interview for personal or professional experience
- Death & dying as an orientation objective
  - Ensure orientees have the experience of caring for dying patients in orientation
- Simulation
  - Role playing end-of-life discussions to develop communication skills
  - Simulated family meetings
**Implications for Practice/Recommendations**

- Build in formal support mechanisms
  - Opportunities for peer and team debriefings
- Support the orientee – preceptor relationships
- Teach and support self-care strategies
  - Effective coping

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**Further Research**

- Further expand research by interviewing new graduates in other critical care programs.
- Develop a tool to assess new graduates comfort and skill in various domains of practice.
- Evaluation of simulation and role-playing in assisting new graduates develop communication skills for end-of-life situations.
- Evaluate effective methods for teaching coping methods

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**Thank you!**
The impact of death and dying in the ICU on new graduate nurses

In their study, “The impact of death and dying in the ICU on new graduate nurses,” investigators, Mary McKenna Guansi, RN, and Tara Tehan, RN, sought to describe the emerging practice of new graduate nurses as they care for dying patients in the ICU, and identify potential educational interventions and resources to support these new nurses. Under the mentorship of Donna Perry, RN, Tehan and Guansi conducted a qualitative study using a phenomenological approach. All participants in the 2010 MGH New Graduate in Critical Care Program were invited to participate, and the study ultimately included eight new-graduate nurses. Nurses were interviewed using a flexible interview guide six months after completing the Critical Care Program, and follow-up interviews were conducted 18–27 months into the study. Tehan and Guansi found that conflicting feelings emerged when there was a perceived divergence in what is considered being a ‘good nurse’ and presiding over a ‘good death.’ They shared a number of quotes from participants that spoke to experiential learning.

During follow-up interviews, four themes emerged, including:

• Experiential learning
• Learning to cope with loss and learning to care for themselves
• Increased agency
  • recognizing personal responsibility
  • participants had developed their voice
• Ethical dilemmas

Tehan and Guansi concluded that:

• the care of dying patients is based in experiential learning
• the orientee-preceptor relationship is the foundation of relationship-based care
• communication skills are the most challenging aspect of caring for dying patients
• knowing your patient is paramount

Tehan and Guansi feel that opportunities for further research exist in:

• interviewing new graduates in other critical care programs
• developing tools to assess new graduates’ comfort and skill in various domains of practice
• exploring simulation and role-playing in assisting new graduates to develop communication skills for end-of-life situations
• evaluating effective methods for teaching coping skills