

# Implementation and Evaluation of a Critical Care Fellowship Program

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# Why initiate a fellowship?

In January 2017 we recognized an opportunity to standardize our process for educating and training new ICU nurses based on the following trends:

- Nursing shortage
- Hiring new graduate RNs directly to ICU
- Increased demands of bedside staff
- Low retention of nurses due to advancement degrees (fewer nurses staying bedside)
- Utilization of less experienced preceptors
- Clear deficiencies in preceptor expertise
- Overall less experienced nurses on the unit as resources
- Inconsistency in training new nurses
- Lack of established educational offerings (2 ICU classes offered 3x a year)



# First steps...

1. Consult with other experts in the critical care division
2. Create an outline of fellowship purpose, resources needed, and outcomes
3. Present information to hospital leadership for approval
4. Create class content, complete new class paperwork, and initiate courses
5. Class revision, data collection, etc



# Fellowship Purpose

The purpose of this project was to design and implement a formalized Critical Care Nurse Fellowship Program in order to provide educational opportunities to:

- (1) improve novice nurses' critical thinking
- (2) increase preparedness in caring for critical patients
- (3) improve retention and turnover rates in the Intensive Care Unit (ICU).

Data was collected before, during, and one year after fellowship initiation to evaluate program outcomes



# Data Collection

- Prior to creating content:
  - Needs Assessment was sent to all nurses who had less than 1 year of ICU experience
- Initiation of Fellowship:
  - Pre/Post quiz for each course
  - Course evaluations (online- not mandatory)
- Post fellowship initiation:
  - Survey monkey sent to the first group that completed the ICU fellowship



# Course Development

1. We included the following data when determining course content essentials:
  1. Needs Assessment results (from nurses with < 1 year experience)
  2. Feedback from new nurses, preceptors, and educators
  3. Trends in incident reports and competency results
2. Fellowship courses were designed to be completed every 2-3 weeks in correlation with bedside orientation.
3. Courses were not created to be completed in a certain order, but educators were given flexibility in determining preference on when to put nurses in the courses



# Course Content

## 1. Care of the ICU Patient

- Lecture topics: how to complete a critical assessment, introduction to ventilators, ABCDEF bundle
- Hands on stations: arterial/CVP set up, introduction to chest tubes, ventilator review

## 2. Neuro, Cardiac, and Pulmonary Considerations in the ICU

- Lecture topics: tissue oxygenation cascade, cardiac output, neuroanatomy review,
- Simulation scenarios: tension pneumothorax, CHF exacerbation, hemorrhagic stroke

## 3. Septic Shock and Organ Failure

- Lecture topics: shock at the cellular level, sepsis, NxStage (CRRT)
- Hands on stations: level one rapid transfuser set up, sepsis case study, NxStage and Citrate NxStage management

## 4. Bedside Procedures and Medical Emergencies

- Lecture topics: moderate sedation bedside procedure, vasoactive medications, NMBAs, sedation/analgesia
- Simulation scenarios: code scenario, MD placing chest tube at bedside with bedside procedure documentation, code documentation

## 5. Complex ICU Care

- Lecture topics: ICU skin assessment/wound care, Palliative care, and ethics consult and ethical dilemmas

# Implementation

**Time Frame:** 4 months from leadership approval to first class

**Goal:** First class August 2017 to include May graduates

## **Communication:**

- **Who:** Multiple meetings with critical care leadership including: director, managers, educators
- **What:** Fellowship purpose, goals, course content, cost to units (paying nurses to attend), educator involvement (hands on stations, simulation scenarios), data collection, follow up
- **When:** All course dates and when to sign up nurses
- **How:** ICU educators to teach and facilitate classes





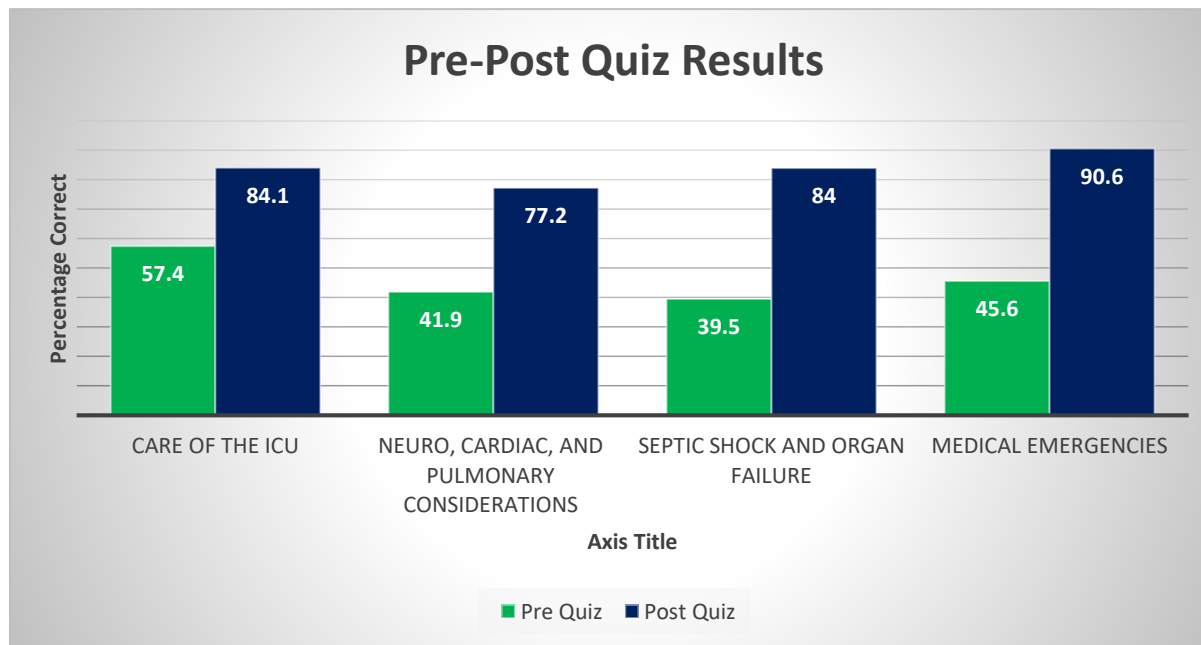
# Evaluation/Outcomes

In 1 year, 66 nurses completed the program.

## Pre-Post Test results from all courses were summarized.

- Pre-test Mean[SD]: 46.3[17.7]
- Post-test Mean[SD]: 84.1[12.9]

A Wilcoxon Signed-Ranks Test indicated that post-tests scores were statistically significantly higher than pre-tests scores ( $Z = 14.18, p < .000$ ).



# Evaluation/Outcomes

## Course Evaluations

All participants were given course evaluations which included 11 questions scored on a 5-point Likert scale (1-strongly disagree; 5-strongly agree) assessing topics like teaching strategies, presentation quality, and applicability to bedside practice.

Approximately 50% of participants completed the 11 question course evaluations. The average item score was 4.4 out of 5 signifying nurses felt content was beneficial and applicable to practice.

## Qualitative Responses

Indicated that nurses felt confident coming off orientation and adequately prepared to care for critical patients.

## Quotes from course evaluations:

*“I really enjoyed going through the real scenarios because it gave me more confidence for real life situations and I really enjoyed interacting with a physician during the practice bedside procedure”*

*“Very helpful class, enjoyed being so hands on and the fact that the scenarios were pertinent to any patient we could encounter”*

*“Great class! Very relevant information.”*



## Quote from one of the first nurses to go through fellowship program:

*“The ICU fellowship was the most useful tool for me as a new graduate nurse in the ICU. The fellowship focused on in-depth information that was specific to critical care and allowed us to learn in a setting that was less overwhelming than learning at the bedside alone. The fellowship was broken up into several sessions, each session focused on a particular body system or concept. This was immensely helpful when it came to learning the crucial things every ICU nurse should know. Aside from the learning that took place during the fellowship, we were able to form friendships and relationships with other new nurses in the ICU. Having built relationships with some of my peers not only in my ICU, but other ICUs in the organization, I felt less alone and intimidated by the concerns I was having because I could share my concerns with others in a similar situation. Overall I am very glad to have been lucky enough to have been in our first ICU fellowship group.”*





**Code Simulation Station**



**First fellowship group**



**iWall**



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# What we learned and what we would change

- Make more attempts to contact other facilities with critical care nurse fellowship programs
- Clear communication on who can attend the fellowship program
- Increase pre and intra fellowship data collection
- Paper evaluations at the end of each course for first year of fellowship



# Future Goals

- Add 6<sup>th</sup> course
  - Simulation course to evaluate nurses competency in caring for high acuity patient
- Standardize bedside orientation
  - Organized process for every unit based on new hire experience
- Offer yearly education opportunities to experienced nurses
- Educate and train preceptors in separate ICU preceptor course
  - Help preceptors understand fellowship content
  - Equip preceptors with resources that can be used while training ICU nurses



# Questions?

This content will be presented with a poster at America Association of Critical-Care Nurses (AACN) National Teaching Institute (NTI) conference in Orlando Florida in May.







# Nebraska Medicine

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