Improving Clinical Competency using a Cross-Training Bootcamp: A Pilot Project

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Background

- The Cardiovascular Intensive Care Unit (CVICU) is a 24-bed adult ICU that provides care to patients with complex medical conditions including open heart surgery that require very specialized training.
- Currently, about 90% of the nurses hired are new graduates with limited experience.
- Prior to this project, no didactic or simulation training was offered as part of the orientation process for recovering open-heart surgery patients.
- The purpose of this CNL capstone project was to create an evidence-based practice (EBP) training bootcamp for Cardiovascular Intensive Care Unit (CVICU) nurses being cross trained to recover open heart surgery patients.
- The Iowa Model for EBP was used to design and implement the training program.

Synthesis of Evidence

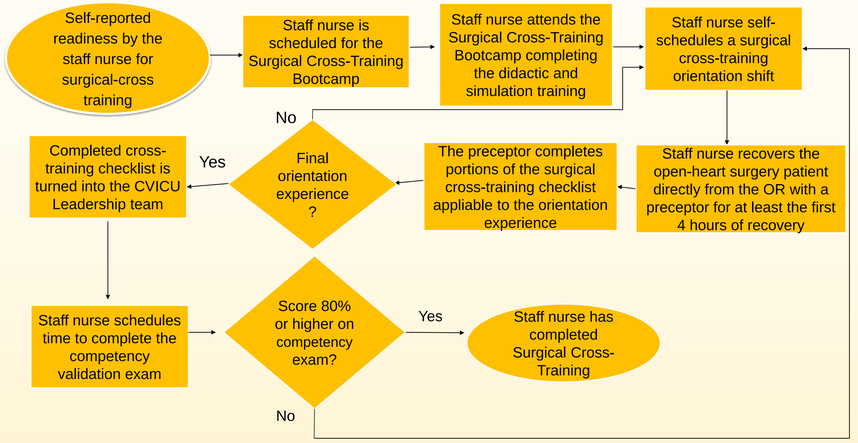
- Orientation and validating competency help to define the knowledge and skills that are deemed essential and help to form the foundation for clinical practice. [2]
- Validating clinical competency should occur through clinical observation and by creating opportunities to practice decision-making and critical thinking in high-risk scenarios without the risk of harm. [4]
- Simulation is a proven effective method for helping to apply concepts learned from didactic experiences while anticipating and managing the unpredictable. [1]
- When evaluating the transition from novice to competent, developing evidence-based education was reported to enhance clinical knowledge, skills, and confidence and was a key component to increasing competency. [7]
- The overall competence of adult ICU nurses specifically new graduates improve by gaining experience through learning opportunities that allowed them to build their confidence and to improve their intuition. [2]
- Clinical competency is directly linked to the quality of care provided and can impact mortality and a patient's prognosis. [5, 6]

Theme and Aims

- To determine if CVICU nurses have increased clinical competency to recover open heart surgery patients during the immediate post-operative phase after attending a specializing training bootcamp in addition to the bedside orientation when compared to those nurses who only completed the three bedside orientation shifts. Project aims included:
  - Increase clinical knowledge related to caring for open-heart surgery patients during the initial post-operative phase by evaluating each nurse's knowledge level through a written assessment before and after attending the surgical cross-training bootcamp.
  - Increase self confidence in caring for open-heart surgery patients during the initial post-operative phase by assessing each nurse's perceived self confidence level with specific skills and situations through the completion of a confidence self-evaluation assessment before and after attending the surgical cross-training bootcamp.
  - Create a process to validate competency through return demonstration utilizing a standardized hands-on orientation checklist and through the completion of a competency validation exam in which the nurse must achieve an 80% or higher.

Flowchart

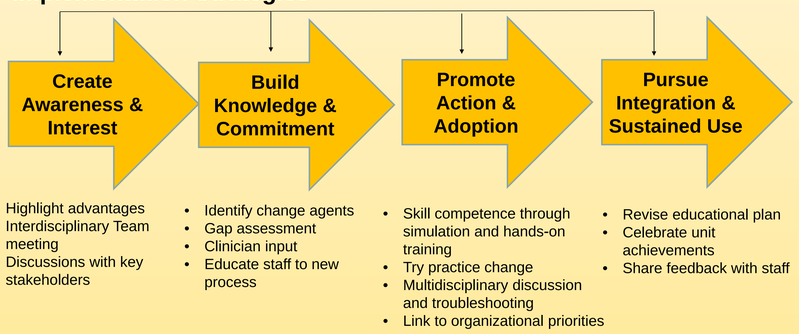
- Illustration of the new process for a staff nurse in the CVICU to complete his or her surgical cross-training.



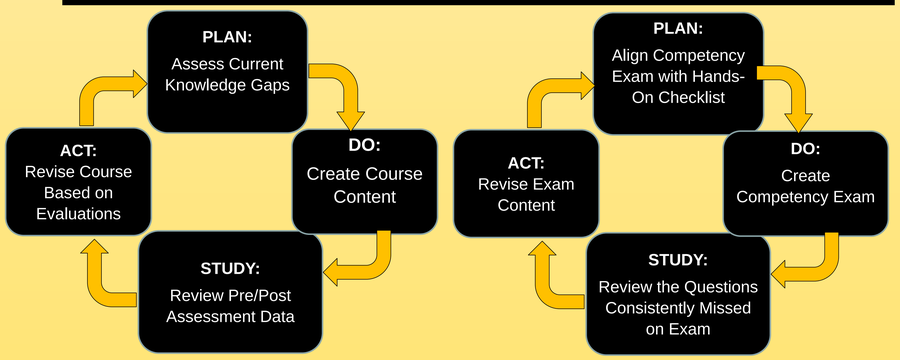
Implementation Plan

- This project was deemed not human subject research.

Implementation Strategies

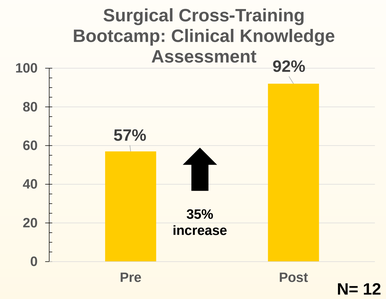


PDSA Ramps



- The knowledge and confidence assessment and course evaluation will allow for gaps to be identified with the training and revisions to be made.
- Nurses that have already completed the cross-training process assisted with creating a competency exam that tested for the level of competency needed to provide high-quality safe patient care.

Results



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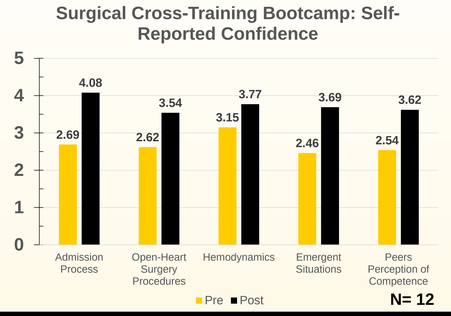

N= 12

Evaluation

Outcome #1 : Participant knowledge assessment scores increased from 57% prior to attending the bootcamp to 92% after attending bootcamp (N=12)

Outcome #2: Self-reported confidence level scores increased on average by 1.05 points and increased for every participant (N=12) in all 5 categories

Outcome #3: Average score on the competency evaluation exam was 83.4% (N=3/N=9 pending)

Perceptions current program versus pilot program

- Participants rated the content for every topic covered including the simulations as very helpful (average 4.82)
- *"Did not realize how much I did not know prior to attending bootcamp." - participant*
- *"Despite a small number of participants, the impact of adding bootcamp to the cross-training process has already been significant." – CVICU Nurse Manager*
- Limitations : 3 participants terminated their nursing position prior to completing the full cross-training process; the number of participants were limited due to COVID-19 social distancing requirements

Lessons Learned

- Bootcamp allowed for the application of learning versus trying to learn and apply the knowledge simultaneously.
- Consistent method to communicate the nursing expectations related to quality metrics for open-heart surgery patients that are routinely tracked and reported to the Society of Thoracic Surgery.
- Focus of hands-orientation transitioned to reinforcing key concepts and further developing critical thinking skills
- CNL competencies utilized: team manager, educator, and clinician

Acknowledgement

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References

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