# Implementation of an Interdisciplinary Neonatal Mock Code Team to Improve Resuscitation Skills in the NICU

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## INTRODUCTION

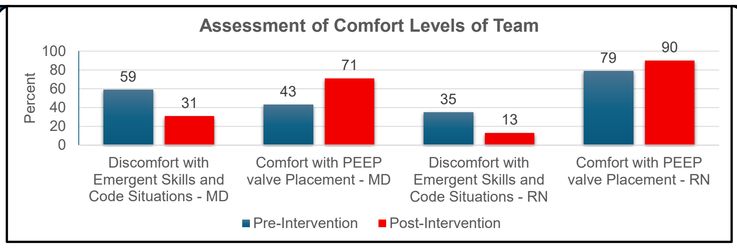
- It is an ongoing endeavor to ensure that healthcare personnel working in the Neonatal Intensive Care Unit (NICU) setting are always up-to-date in their training and experience to handle any acute clinical event.
- Fostering clinical confidence is especially important for less experienced staff, who may not have had a significant amount of firsthand experience dealing with acute events. This consideration may be particularly relevant for recent nursing graduates who may not have had much exposure working in an ICU setting as well as resident physicians who may rotate through the NICU in sporadic periods.

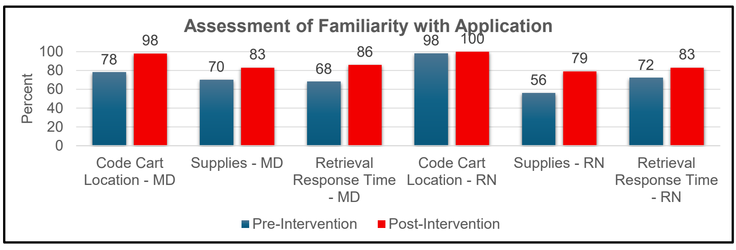
## OBJECTIVE

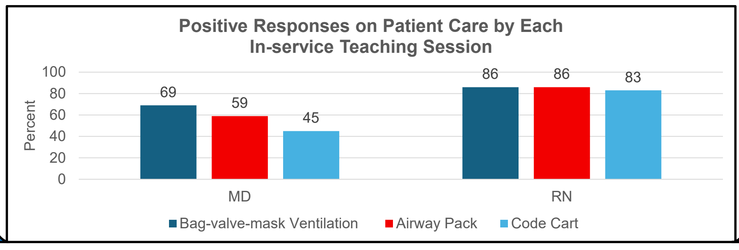
- We aim to assess the learning styles, proficiency levels, and knowledge deficiencies related to the resuscitation skills of NICU staff.
- Based on these findings, targeted educational and simulation programs were developed to abet standardization of practices and enhance patient outcomes.

## ABSTRACT

- Maintaining one's ability to address acute patient events when working in the Neonatal Intensive Care Unit (NICU) is imperative for healthcare staff of all levels of experience.
- To enhance performance and results during neonatal resuscitations, advanced resuscitation skills are essential for staff in the NICU, which is especially salient for new nursing staff as well as resident physicians
- To maintain the highest level of expertise in advanced resuscitation skills for NICU staff, an interdisciplinary team was assembled to identify knowledge gaps and determine comfort levels, ultimately implementing standardized training involving in-service teaching sessions as well as random mock code events.
- The surveys revealed significant improvements in respondents' comfort with airway management, medication administration, and various emergent procedures.
- By forming an interdisciplinary team, a diverse range of expertise can be harnessed to address the knowledge and confidence gaps, build trust, and promote effective teamwork.




## METHODS

- Pre-intervention and post-intervention surveys were conducted using Likert scales, yes/no questions, and free-response options.
  - 2 surveys independently for residents and nursing staff.
  - Surveys assessed knowledge, implementation gaps, and preferred learning styles.
- Based on the findings, high-yield educational in-service teaching sessions and simulations were developed.
- High-yield in-services focused on:
  - Bag-valve-mask ventilation (BMV) with an Ambu bag
  - Airway packs
  - Code cart utilization

## RESULTS

PRE-INTERVENTION

- The participants of the pre-intervention study included analogous surveys of both residents (MD, n=37) and nurses (RN, n=43).
- Kinesthetic learning was favored by both residents (MD 86%) and nurses (RN 65%).
- Knowledge gaps were identified by both residents (MD 46%) and nurses (RN 37%).
- Both residents and nurses expressed a strong belief (MD 81%, RN 93%) that a mock code team would improve care.

POST-INTERVENTION

- The participants of the post-intervention study included analogous surveys of both residents (MD, n=29) and nurses (RN, n=42).
- Decreased lack of comfort with emergencies and code situations was reported by both residents and nurses (MD: 59% to 31%, RN: 35% to 13%).
- Increased comfort with positive end-expiratory pressure (PEEP) valve placement after BMV in-services was reported by both residents and nurses (MD: 43% to 71%, RN: 79% to 90%).
- Both residents and nurses reported increased familiarity with the code cart location (MD 78 to 98%, RN 98% to100%), increased familiarity with supplies in the code cart (MD 70 to 83%, RN 56 to 79%), and increased belief in knowing when to grab the code cart (MD 68 to 86%, RN 72 to 83%).
- Both residents and nurses reported overwhelmingly positive feedback on in-services' impact on patient care with BMV (MD 69%, RN 86%), airway pack (MD 59%, RN 86%), and code carts (MD 45%, RN 83%)

## CONCLUSION

- The results of the post-intervention surveys showed that structured educational interventions could improve competency and comfort levels in neonatal resuscitation. The surveys revealed significant enhancements in, including but not limited to, airway management, medication administration, and various emergent procedures.
- By forming an interdisciplinary team, a diverse range of expertise can be harnessed to address the knowledge and confidence gaps, build trust, and promote effective teamwork.

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