# Why NICU Nurses Love Simulation Center Training

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**Abstract:** ***Objective*****:** The main objective of this survey was to assess the efficiency of a comprehensive simulation program in Mock Code training among neonatal intensive care unit (NICU) nurses.

***Methods*****:** A survey consisting of five questions on the topic Mock Code training was conducted in a simulation center. To gather feedback from trainees we asked 47 NICU nurses to participate in the study and grade their satisfaction from 1 (strongly disagree) to 5 (strongly agree).

***Results*****:** The summary of responses was: A. Compared with previous training, training received at the simulation center for Mock Codes provided a better learning experience? Evaluation grade/responses: 1(0%), 2 (4.2%), 3 (10.6%); 4 (21. 3%); 5 (63.8%). B. Did having a "patient" with "vital signs" such as "breath sounds" and a "heart beat" enhance the learning experience? Evaluation grade/responses: 1(0%), 2(4.2%), 3 (6.3%), 4 (25.5%); 5 (63.8%). C. Was there enough time to practice skills? Evaluation grade/responses: 1(0%), 2 (0%), 3 (2.1%), 4 (40.4%); 5 (57.4%). D. Was all the equipment needed for Mock Code training available? Evaluation grade/responses: 1(0%), 2 (0%), 3 (8.5%); 4 (40.4%); 5 (51.0%). E. Was orientation/training adequate for you to function in the NICU? Evaluation grade/ responses: 1 (0%), 2 (0%), 3 (2.1%), 4 (40.4%); 5 (57.4%).

***Conclusion*****:** From this survey, a comprehensive simulation program was found to be effective and well received by NICU nurses for Mock Code training.

**Keywords:** Simulation, Mock Code training, NICU, Nurse training, Likert-scale.

## INTRODUCTION

Simulation as a powerful educational tool has gained popularity in training nurses and physicians [1]. In the 1980s, simulation-based training was introduced in the medical field to manage critically ill patients in the operating theater [2]. Traditional training consists of reading literature related to the disease conditions, observing skilled and experienced workers in the field, and performing hands-on clinical experience under supervision before starting to practice the skill independently [3]. At present, learner expectations to achieve competency in this environment with advanced technology have changed. Research in medical education has shown that a person can learn faster and receive a deeper understanding in an interactive setting [2]. The purpose of simulation in the health care education system is to imitate complex, critical clinical situations that will allow trainees to learn and to manage those situations without causing any harm or stress to a patient [4]. Mock Code is a form of clinical and practical training that offers a simulated experience of emergency situations with the intention of developing critical thinking, clinical knowledge, technical skills, and the teamwork needed for neonatal health care providers. The main goal of the study was to assess the efficiency of a comprehensive simulation program in Mock Code training for nurses working in the NICU.

## METHODS

A survey consisting of five questions on the topic Mock Code was conducted in a simulation center after IRB approval. The designed survey was distributed in a paper format to nurses working in the NICU at Northwest Texas Healthcare System, Amarillo, TX. Forty-seven NICU nurses voluntarily participated in the survey. Five-level Likert scales were used to grade their learning experience (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree).

## RESULTS

The results of the questionnaire analysis are presented in Table **1**.

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**Table 1: The Results of the Questionnaire Analysis**

| Survey Questions | [1]Likert Scale to Grade Learning Experience | | | | |
|---|---|---|---|---|---|
| | 1 (Strongly Disagree) | 2 (Disagree) | 3 (Neutral) | 4 (Agree) | 5 (Strongly Agree) |
| Compared with previous training, training received at the simulation center for Mock Codes provided a better learning experience? | 0 % | 4.2 % | 10.6 % | 21.3 % | 63.8 % |
| Does having a patient with vital signs enhance the learning experience? | 0 % | 4.2% | 6.3 % | 25.5 % | 63.8 % |
| Was there enough time to practice skills? | 0 % | 0% | 2.1 % | 40.4 % | 57.4 % |
| Was all the equipment needed for Mock Codes training available? | 0 % | 0 % | 8.5 % | 40.4 % | 51.0 % |
| Was orientation/training at simulation center adequate for you to function in the NICU? | 0 % | 0 % | 2.1 % | 40.4 % | 57.4 % |

[1]Five-level Likert scales was used to grade participants learning experience (1 strongly disagree to 5 strongly agree).

## DISCUSSION

Simulation as an educational tool is a well-known strategy in the military, nuclear, and aviation fields [5]. In the 1960s, Denson and Abrahamson developed the first computer-controlled, mannequin-based simulation system [6]. Today, simulation-based training is popular in nursing and medical education [1]. The present survey showed that 97.8% of the participants graded the orientation/training at a simulation center adequate to prepare them to function in the NICU under similar circumstances. One of the primary motivations behind the promotion of simulation in health care is to support the improvement of patient care and safety. Traditionally, simulation training has occurred at off-site simulation centers that offer an uninterrupted risk-free educational experience, where mistakes are permitted and clinical scenarios are discussed and repeated to improve performance [7]. This survey showed a very high level of satisfaction with the training and its organization. Over 97% of the participants reported that there was enough time to practice skills and 91.4% reported that all required equipment for the Mock Code training was provided.

Simulators vary according to the technology employed to train health care professionals. Low-fidelity simulation, part task trainers, and high fidelity simulations are used [8]. High fidelity simulation uses sophisticated computer-driven electronic and pneumatic mannequins with the ability to imitate many physiological parameters such as pulse, heart sounds, breathing, and blinking [9]. In our center, high fidelity human patient simulators were used and 89.3% of the participants reported that simulators with vital signs enhanced the learning experience. It allowed learners to integrate and apply knowledge for clinical decision making in a safe and controlled environment without putting patients at risk [9]. It also provided an opportunity to observe other team members, and receive performance feedback during debriefing sessions [9].

The key element of success in a simulation center is to advance a multi-event model where care can flow naturally, enhancing team work, and allowing for important transitions in care. The whole process can be viewed from a central observation room [7]. From this survey, 85.1% of the participants were satisfied with the training process. Following are some of the comments from the participants: 1) Loved the idea of going to the SIM Lab; 2) A wonderful and very informational program; 3) SIM Lab was superior to the regular Mock Code training; 4) The feedback provided by the debriefing video was highly useful.

## CONCLUSION

Comprehensive simulation programs are a great teaching strategy for nurses working in the NICU. From the survey at our center, the simulation program was very informative and well received by NICU nurses for Mock Code training.

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