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Utilizing Mock Code Simulation to Enhance Nurses' Confidence A Benchmark Project

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For NURS 5382: Capstone

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Contents

Acknowledgments

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Executive Summary

Each year, about 292,000 adult patients in the United States have an in-hospital cardiac arrest (IHCA), with substantial variance in their rate of survival (Merchant et al., 2020). Graduate nurses must be knowledgeable and prepared to respond to codes. Mock Codes or simulation-based teaching will allow nurses to practice skills, expand their knowledge, and gain self-confidence in a secure and controlled setting with no risk to patients, reducing nurses' anxiety. CPR certification is currently updated every two years, and research has shown that learned skills begin to deteriorate after three months. As a result, if simulated codes are introduced skills may be maintained, and nurses will be more competent and prepared to respond to code blues.

Implementing mock code simulation is important because nurses are often the first responders to a code. Reduction of delays requires prompt action, particularly by nurses while awaiting the arrival of the code response team. It is important for nurses to recognize deterioration in a patient because it enables clinicians to prioritize interventions that will often prove lifesaving. If resuscitation is delayed due to a lack of knowledge, skill, and competency this can result in poor patient outcomes, higher readmission rates, increase in hospital resources, and cost overall. Morita et al. (2019) found that in 2018, there were a total of 3.8 million adult hospital readmissions within 30 days, with an average readmission rate of 14 percent and an average readmission cost of $15,200. The cost of hospital readmissions is enormous, estimated to be in the vicinity of $26 billion annually. According to Gai (2019), reducing readmissions can improve patient outcomes. Readmission correlates with an increased risk of various adverse health outcomes, including increased patient stress and higher mortality rates.

Utilizing Mock Code Simulation to Enhance Nurses' Confidence

Cardiopulmonary Resuscitation (CPR) is an emergency lifesaving procedure. When performed in a timely manner, CPR can double or triple a patient's chances of survival after cardiac arrest. Performing CPR on a person whose heart has stopped beating during these vital few minutes can help to keep blood and oxygen flowing through the body to vital organs, including the brain. Delayed responses can result in increased morbidity and mortality rates (Holmberg et al., 2019). According to Ramesh et al., (2022), it was observed that there was a decrease in the knowledge and skills gained through ACLS and BLS training over a six-month period. It was determined that reinforcement was important and there was a need for an increase in the frequency of training sessions. The purpose of this paper is to determine if mock resuscitation codes for new graduate nurses throughout the first year of practice enhance greater response time in emergency situations and increase nurse confidence to ensure that nurses are confident and competent which can increase patient outcomes.

Rationale for the Project

To provide competent care to patients, it is imperative that the team of health care professionals providing care is highly competent. If cardiac arrest response times are improved, not only will more patients survive, but those who do may have fewer long-term repercussions. In the last several years, I have witnessed at my hospital on numerous occasions new nurses panicking when a patient's condition deteriorates as many of them often fail to recognize the early indication of deterioration. These nurses frequently lack confidence in their abilities and are often anxious and fearful in responding to or during a code blue. All nurses are required to

have resuscitation training; however, this is renewed every two years. I recognized a need for this inquiry to determine if the implementation of mock codes can boost nurses' confidence and skills.

The question arises in graduate nurses (P) how do mock codes (I) compared to standard CPR training (C) affect nurse competency (O) in resuscitation over a three-month period (T)? The intervention question will help identify evidence that addresses increasing nurse competency using mock codes.

Literature Synthesis

Research has shown that mock simulation improves outcomes. According to Clarke et al. (2018), training with simulated mock codes increased resuscitation teams' proficiency and their CPR success rate. Clarke et al. (2018) hypothesized that simulated training would lead to greater adherence to advanced cardiovascular life support (ACLS) guidelines among those who respond to cardiac arrest. Increased compliance with guidelines may, in turn, improve survival rates in In-Hospital Cardiac Arrest (IHCA) occurrences. Furthermore, Anderson et al. (2021) discovered that top-performing hospitals achieved effective outcomes in IHCA due to teaching and simulated scenarios. Anderson et al. (2021) concluded that mock codes are necessary for resuscitation education. Hazwani et al. (2020) also agreed that the mock code simulation program can enhance overall CPR performance by improving cardiac arrest recognition and CPR initiation time and increasing adherence to AHA guidelines.

Research has shown that repetition reinforces memory, but retention decreases over time. Coggins et al. (2019) concur that skills degrade without retraining and that simulation enhances retention. Knipe et al. (2020) also concur that skills do deteriorate after three months and that extensive hands-on practice, as well as strict evaluation and feedback, is required to acquire CPR proficiency.

They also discovered that continuous code practice and reinforcement are crucial for maintaining code performance skills. These findings support the American Heart Association's recommendation for practicing Cardiopulmonary resuscitation frequently.

Numerous studies show that simulation does improve nurses' competency. According to Rød et al. (2021), participating in simulation with interprofessional teams raised nurses' confidence and competence, increased adherence to guidelines, and highlighted relational collaboration during resuscitation. Rød et al. (2021) research shows that in-situ simulation with interdisciplinary teams can be an efficient method of bridging the gap between theory and practice. It contributes to the improvement of clinical practice. According to Charette et al. (2022), clinical competency can be improved through structured learning and mentoring opportunities like guided reflective practice sessions. Morton et al. (2019) also discovered that high-frequency simulations of code blue training increased self-confidence from 32.2 to 38.7 of 40 in their quasi-experimental research. Morton et al. (2019) also believed that low self-confidence can hinder cardiopulmonary resuscitation response time. Herbers and Heaser (2016) utilized in-situ simulation to increase nurses' competence in doing chest compressions and electric shocks during emergencies and discovered that participants improved their response time by 12% and their confidence in participating in code situations by 100%. This suggests that mock code training can enhance nurse confidence, eliminating barriers to high-quality CPR. Parikh et al. (2022) discovered that CPR simulation training and debriefing of participants using a CPR feedback device improved CC quality for simulated NICU CPR scenarios. In addition, simulation debriefing using a CPR feedback device significantly increased the confidence of study participants in delivering high-quality CPR.

New graduate nurses often lack confidence due to inexperience. According to Herron (2017), newly graduated registered nurses (NGRNs) are often required to care for patients who are deteriorating despite having little education and few experiences that would allow for the acquisition of skills and competence at the beginning of the nursing career. In these emergent situations, NGRNs heavily rely on the assistance of other staff members for their clinical reasoning and decision-making. Also agreeing to bridge the gap between classroom and practice, Towner et al. (2022) found that many participants reported there was a lack of appropriate experiences to prepare them for the deteriorating patient. Even though the ability to recognize the signs of patient deterioration is partly instinctual, it cannot be developed to its full potential without experience. (See Appendix A: Evidence Table)

Project Stakeholders

The stakeholders for this change project include the hospital CEO, physicians, nurses and respiratory therapists, hospital administration, risk management, and patient safety officers, patients, and relatives. The change champions are the nurse leaders, clinical nurse specialists, and quality improvement specialists. The gatekeepers include the ACLS instructors, simulation analysts, and the code team manager. The safety officer, quality improvement coordinator, and code team committee will assist in implementing this project.

It is critical that new nurses are prepared with the knowledge, skills, and attitudes required to continuously improve the quality and safety of the healthcare systems in which they work, as well as a willingness to understand and interact with people of diverse cultures, ethnicity, gender, and sexual orientation. Through the implementation of mock codes, the nurse will not only develop proficiency in practical skills but also in interpersonal skills which enables effective communication with patients and families from

all cultural backgrounds in emergency situations while respecting their right to autonomy, which will foster a trustworthy patient-nurse relationship in a real-world setting.

Implementation Plan

For this project, a total of 15 nurses will be recruited who are newly hired and recently graduated from nursing school will participate in this project. Each of the nurses must have taken Cardiopulmonary resuscitation (CPR) as required by the facility prior to participation in the project.

The setting will be a nursing unit using resuscitation scenarios, role play, and simulated manikins. In phase one, each new graduate nurse will first become certified in CPR after orientation. Then, for phase two, over the course of three months, on the second and third Fridays, participants will spend 45 minutes working on a simulated code. Month one focuses on infant CPR, month two focuses on child CPR, and month three focuses on adult CPR. The simulation will last for 30 minutes, the debriefing will take 10 minutes, and the self-evaluation will take five minutes. On the day of the mock codes, each newly graduated nurse will gather in their own units. The simulated code blue drill will be announced over the intercom, and they will have to respond immediately. Following the completion of each mock code session, debriefing and evaluation will take place. Each participant will fill out a brief evaluation detailing their feelings, about their competency level, and reflect on their performance. To evaluate the success of the implementation, or phase 3, a mock code simulation for infants, children, and adults will be arranged. The findings obtained from this final simulation would then be analyzed, compared, and evaluated.

Timetable/Flowchart

The duration of this project will be 12 weeks. On the first day of the initial month, participants will be selected based on the criterion of Basic Life Support (BLS) certification and recently graduated. On the second and third Friday of the first month, our emphasis will be on infant CPR. During the second month, our emphasis will be on pediatric cardiopulmonary resuscitation (CPR). n During the third month, our emphasis will be Adult CPR. There will be a single scenario for adults, children, and infants on the fourth Friday, where nurses can be assessed to determine the outcome of the study. (See Appendix B: Flowchart)

Data Collection Methods

The project will be evaluated by using the Mock Code Self-Efficacy Scale: MCSES Tool in Appendix C. This tool will be able to show the confidence levels of nurses as they progress through the scenarios and determine if mock code simulations improve nurses' confidence.

The data required to reflect outcomes and determine whether the change was successful would be derived from nurses' responses in the evaluation of each mock code session. Post-session surveys and a final CPR scenario will be used to compare project participants' confidence levels from the beginning of the project. Additionally, participants will discuss during the debrief how scenarios went, how they felt during scenarios, and state whether they felt as if they were listened to. They will also reflect on how they perceived the launch of the mock simulations and the mock code simulation scenarios and give suggestions for the improvement of the change project. Following project completion once implemented, participants in the project can be monitored for response time and competency. If the plan cannot be implemented as intended, it will be suggested that the CPR sequences be practiced using full-scale scenarios as part of the resuscitation quality improvement (RQI) process.

Evaluation

An evaluation would be conducted utilizing a pretest post-test methodology. Participants will undergo a pretest prior to the commencement of the project and a posttest upon the project's completion. The means will be identified using the T-test to determine the success of the intervention.

Cost/Benefit Analysis

The cost for this change project is minimal as all the resources, the manikins, simulation software, and personnel are already available at the hospital. The individuals participating in this change project are willingly volunteering to participate, hence rendering the implementation practicable. However, upon implementation of this project in the hospital, the hospital will have to pay the staff for 2 hours per month. Currently, new graduates wage at this hospital start at 25/hr. The personnel expenditures associated with their employment range from $30 to $36 per hour. If nurses are not competent in CPR, then patient readmissions will be high and nursing turnover will be high as well. As stated previously Morita et al. (2019) found that in 2018, there were a total of 3.8 million adult hospital readmissions within 30 days, with an average readmission rate of 14 percent and an average readmission cost of $15,200. The cost of hospital readmissions is estimated to be in the vicinity of $26 billion annually and the average cost of nurse turnover for an organization is between $37,700-$58,400 per nurse, with additional challenges on the horizon. The typical hospital incurs a cost of $ 4.9M-$7.6M due to turnover of bedside Registered Nurses (RNs). Furthermore, other evidence indicates that hospitals might experience yearly losses ranging from $5.2M-$8.1M. Consequently, if the mock code simulation is implemented it will result in a substantial reduction in cost for the hospital.

Discussion of Results

Unfortunately, I was unable to implement this project due to relocation. However, if implemented I believe that it would be successful in increasing nurses' confidence and competence. The successful implementation of evidence-based practices requires a carefully designed and effectively implemented change management process. Utilizing a change management framework, such as Prosci's ADKAR model, enhances the likelihood of achieving success and guarantees the long-term sustainability of change. Sustaining evidence-based practice (EBP) is an ongoing process that requires continuous effort and commitment from healthcare professionals and organizations.

Sustainability for this project can be achieved by creating a clear purpose by defining the goals of the mock code simulation program and ensuring that all stakeholders understand the goals. Creating a complete strategy that specifies the program's practicalities, such as the frequency of simulations, participant responsibilities, and the evaluation procedure. Providing training to all participants, including physicians, nurses, and other healthcare professionals, to ensure they understand the simulation process and can properly fulfill their roles. Additionally, Scheduling simulations ensure that participants are familiar with the process and can respond successfully in the event of a real-life emergency. Lastly, evaluating the program on a regular basis to identify opportunities for improvement and ensure that the objectives are met. Implementing these strategies to my research project can ensure that EBP is integrated into the nurses' daily practice and that patients receive the best possible care.

Conclusions/Recommendations

It is anticipated that the implementation of the mock code simulation program will enhance the capabilities and knowledge of healthcare workers in the event of an emergency. Through participation in the program, healthcare professionals will be able to build competencies in teamwork and collaboration, both of which are essential competencies in the healthcare industry. Additionally, the training will increase the comfort and confidence of medical personnel in emergency situations. Mock codes are also important because they provide an opportunity for staff to practice their skills and identify areas for improvement. Implementing this mock code simulation for newly graduated nurses over a three-month period will help to build the confidence of nurses, increasing their knowledge and skills. Using resources such as the Laerdal resuscitation software which is already available in the hospital minimizes cost. The training provided in infant, child, and adult resuscitation will positively affect the outcomes of patients and decrease hospital costs and utilization of services. Evaluation through timed responses and feedback from participants will serve as a measure of success and if proven successful, can be used to implement a change of policy within the hospital.

The implementation of this project is substantiated by literature, which instills confidence in its potential for numerous positive outcomes. The first and most important action that follows is to execute the project. If successful, I would like to publish the findings in a publication with peer review to increase awareness of the value simulation brings to any program for onboarding new graduates in the practice. If the initiative is deemed successful, it is intended to be extended to in the Nurse Internship Program.

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Appendix A

NURS 5382 Evidence Table

	Conceptual Framework	Design / Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
Anderson et al. (2021). Best practices for education and training of resuscitation teams for in-hospital cardiac arrest. Circulation: Cardiovascular Quality and Outcomes, 14(12).	none	DQA-semistructured data obtained from in-depth site visits conducted from 2016 to 2017. 9 within AHA "Get With	129 interviews. hospital staff: nurses, chaplains, security guards, respiratory therapists, physicians, pharmacists, and administrators	Training and Education IHCA	Semi structured interviews HEROIC study team interview guide	Thematic analysis	Clear communication accomplished with debriefing, structured institutional review, and continual, frequent education for department	**Worth to Practice:** **LOE** Level IV **Strengths** • Interviews were conducted with clinicians and non-clinicians paired to reduce questioning bias • Same interview guide used. **Weaknesses** • qualitative analysis, taken from individual perceptions at single point in time. **Feasibility** Feasible **Conclusion** Identifying best practices for education and training leads to enhanced training that increases NC.

Legend:

AHA- American Heart Association; BLS-Basic Life Support; BLST- BLS team assessment; BSBI- brief simulation-based intervention ; BSNP-Bachelor of Science Nursing program; CASP Critical appraisal skills program, CI- Confidence Intervals; CG-Control Group; qualitative research (CP- clinical Practice; DQA-Descriptive Qualitative Analysis DD- Descriptive Design; DP-Deliberate Practice; PGNS transfer learning; RS-resuscitation simulation; CP-clinical practice; INACSL- International Nursing Association for Clinical Simulation and Learning; HEROIC-- Hospital Enhancement of Resuscitation Outcomes for In-Hospital Cardiac Arrest; High-Fidelity Simulation (HFS) ICC- intraclass correlation coefficients; IHCA- in-hospital cardiac arrest IG-Intervention Group; IT- interprofessional teams; Lund University Cardiac Assist System (LUCAS-3); Medical-Surgical Nurses MSU-Medical Surgical Unit; MC- manifest content; M-CPR- Mechanical Cardiopulmonary Resuscitation; MC- Mock codes; NGN- New Graduate Nurse; NCS- Nurse Competence Scale, NLN- National League of nurses NSS- Nursing Satisfaction Scale;;OS-Observational Studies PGNNS-postgraduate neonatal nursing students; QS- Qualitative ; RCT- Randomized Control Trials; SS-Standard Simulation; SDOD-systematic de-contextualization of the data;

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		The Guidelines" registry, based on IHCA survival performance (5 top-, 1 middle-, 3 low-performing) 78 hours and 29 minutes of interview time.						

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Charette et al. (2022). Effectiveness of transition programs on new graduate nurses' clinical competence, job satisfaction and perceptions of support: A mixed-methods study. Journal of Clinical Nursing.	Model of competency development and deployment	Longitudinal mixed-methods study. Two components: 1. observational prospective quantitative phase 2. descriptive qualitative phase.	(N = 278) NGN significance level: alpha 0.05. power-0.80	Competency Two graduate nurses program	Semi-structured interviews T1 to T4. Competency measures: conforms to the STROBE guidelines (primary outcome): NCS NSS. To measure job satisfaction (secondary outcome):NSS . Shapiro-Wilk test.	SPSS software (version 25), descriptive statistics Qualitative: Directed content analysis Codes Themes	T1-Competence increased significantly. T2, no significant differen ce in competence. T3, no significant increase in competence. T4, competence increased significantly.	**Worth to Practice:** **LOE** Level IV **Strengths:** • Clinical settings can benefit from NGNs' questioning, leading to an improvement of nursing practice **Weaknesses** • Small Sample size • COVID 19 • Interviews undertaken after questionnaire completed **Feasibility** Feasible **Conclusion** NGN lack experience and transition programs can increase competency

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Clarke et al., 2018. Effectiveness of transition programs on new graduate nurses' clinical competence, job satisfaction and	none	Prospective study mixed effects model	Teaching hospital in northern California between 23 August 2012 and 12 October	CPR Fraction	CPR fraction dividing the cumulative time of received chest compressions by the total pulseless time. Mock codes stratified into 6-	Compound symmetry covariance. Statistical analysis- SAS V.9.4	42 on MSU and 15 on Telemetry units. CPR fraction increased 2.9% per time interval on Telemetry units (p value=0.04) and 1.34% per time interval on MSU.	**Worth to Practice:** **LOE** level IV **Strengths** • Demonstrated the positive impact of mock codes on CPR fraction **Weaknesses** • Significant contribution of training resources,

Legend:

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	Conceptual Framework	Design / Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
perceptions of support: A mixed-methods study. Journal of Clinical Nursing.			Laerdal 3G human patient simulator		month time intervals by date for analysis comparison		time coded by interval 1–7.17 Pearson (interclass) correlation and ICC calculated for MC in subsamples (n=11).	• dd not control for bias from individual staff members who may have participated in multiple codes **Feasibility** feasible
Coggins et al. (2019). Randomised controlled trial of simulation-based education for mechanical cardiopulmonary resuscitation training. *Emergency Medicine*	Gather-Analyse-Summarise framework	RCT low-fidelity simulation manikin LUCAS-3 device	112 participants IG (n=60) and CG (n=52) similar demographics	CG, SS IV	CI Means	Intention-to-treat analysis IBM SPSS (V.24)	median time to M-CPR initiation was 27.0 s (IQR 22.0–31.0) in IG 1.0 s (IQR 25.6–46.0) in the CG (p=0.003). IG demonstrated fewer errors compared with CG at 6months (p<0.001)	**Worth to Practice:** **LOE** Level II **Strengths:** • Standardized measures of performance • Educational intervention brief • In-kind resources used. • Randomized • Blinded • Confounders accounted.

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	Conceptual Framework	Design / Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
Journal, *36*(5), 266–272.			Mann-Whitney rank-sum test					• Addition to previous observational studies. • Interventions achievable with low-cost simulation equipment • Small amount of faculty time. • Efficient use of faculty **Weaknesses:** • limited number of providers working • Partially blinded • Participants were aware they were being observed. • No assessment of patient outcomes or cost benefits of M-CPR **Feasibility** Feasible **Conclusion** Serial Simulation can increase knowledge retention which can increase NC
Hazwani, T. R., Alosaimi, A., Almutairi, M., Shaheen,	none	retrospective cohort study	*N=23* conducted in a tertiary academic	Resuscitation simulation	a p-value less than 0.05. Analysis was carried out using SAS version 9.3	Wilcoxon rank-sum test.	CPR initiation time (p=0.019) and electrical therapy for shockable rhythm (p=0.007)	**LOE** Level III **Strength** AHA adherence analysis **Weakness**

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N., Al Hassan, Z., & Antar, M. (2020). The impact of mock code simulation on the resuscitation practice and patient outcome for children with cardiopulmonary arrest.			center. This study had two phases: Phase 1 (pre-intervention) and Phase 2 (post-intervention)	Patient outcomes			summarized as the means, standard deviations, and corresponding p-values. Odds ratios (ORs) correspond 95% confidence intervals. a p-value less than 0.05. Fisher's exact test	small sample size **Feasibility** Feasible **Conclusion** The mock code simulation program can enhance overall CPR performance by improving cardiac arrest recognition and CPR initiation time and increasing adherence to AHA guideline.
Herbers, M. D., & Heaser, J. A. (2016). Implementing an in situ Mock Code Quality Improvement Program. American	none	Qualitative design	64 registered nurses and 19 nursing assistants, and a 33-bed thoracic surgical progressive care unit, with 60 registered nurses and 9	-NC Initiation time	Statistical analysis was performed by using JMP 11.0	observational evaluation tool x2 test	Staff response times improved 12%, time elapsed before initiating compressions improved 52%, and time to initial defibrillation improved 37%. Also,staff increase in perceived confidence levels.	**Worth to Practice:** **LOE** Level IV **Strengths** •Same interview guide used **Weaknesses** participants' performance and survey results were not matched. Mock code participant dynamics and roles varied with each scenario.

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Journal of Critical Care, 25(5), 393–399.			nursing assistants.					Multiple mock code scenarios **Feasibility** Feasible **Conclusion** improve response times and increase staff confidence levels.
Herron, E. K. (2017). New Graduate Nurses' preparation for recognition and prevention of failure to rescue: A qualitative study. Journal of Clinical Nursing, 27	None	descriptive phenomenological design Individual one-on-one interviews audio Recordings with	14 NGN graduated from an accredited nursing programme within the last eighteen months and employed as a registered nurse	recognition prevention.	One-on-one interviews	Phenomenological analysis Giorgi's methods for data analysis consolidated (COREQ) guidelines.	five main themes were discerned in the data: clinical preparation in school; experience with emergent situations; development of clinical reasoning; low confidence as a new graduate; and responding to emergencies.	**LOE:** Level IV **Strengths:** Same interview guidelines used. **Weakness:** The researcher was an instructor in the nursing programme from which the participants graduated and had directly supervised many of the participants in either didactic or clinical courses. **Feasibility** feasible **Conclusion** The participants' words supported the need for experiential learning and a focus on situations in which they might encounter deterioration in a patient's condition.

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		transcription						
Knipe et al. (2020) Deliberate practice in simulation: Evaluation of repetitive code training on nursing students' BLS team skills. Clinical Simulation in	none	Descriptive exploratory study Laerdal SimMan 3G manikin	students enrolled in senior simulation course in a BSNP in 2016 (spring, fall) (n ¼ 77). BLS	CPR DP impact	simulation/ACLS expert (BLSTA), based on the AHA guidelines code team choreography company	B-line SimCapture Data analyzed using R, version 3.6.1 (R Core Team, 2019). A paired Test	Students attained effective BLS team performance after three hours of DP and sustained these skills over the semester with recurrent code practice	**Worth to Practice:** **LOE** Level IV **Strengths** • Same interview guide used **Weaknesses** • The small sample lacked diversity and limited generalizability of findings. • The intervention and data collection occurred in a 1-day time period. • Data was not collected to determine if the HFS mock code intervention resulted in long-term changes.

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	Conceptual Framework	Design / Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
Nursing, 48, 8–14.		Code scenarios						**Feasibility** Feasible **Conclusion** Participants' self-confidence and resuscitation performance in the simulated patient care setting
Morton et.al (2019). The effect of high-fidelity simulation on medical-surgical nurses' mock code performance and self-	none	quasi-experimental design	37 MSN. < 5 years The study site : HFS suite configured like the facility's medical-surgical patient rooms;	-self confidence -defibrillation time	Pretest Post test On the NLN instrument	Mock Code Evaluation Tool	time to defibrillation improved significantly (p=0.001). Changes in participant self-confidence (p=0.002) statistically significant.	**Worth to Practice:** **LOE** Level IV **Strengths** •Same interview guide used **Weaknesses** •The small sample lacked diversity and limited generalizability of findings. • The intervention and data collection occurred in a 1-day time.

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confidence. Clinical Simulation in Nursing, 35, 1-7.			high-fidelity manikin portray the simulated patient					•Data was not collected to determine if the HFS mock code intervention resulted in long-term changes. **Feasibility** Feasible **Conclusion** Participants' self-confidence and resuscitation performance in the simulated patient care setting
Parikh, P., Samraj, R., Ogbeifun, H., Sumbel, L., Brimager, K., Alhendy, M., McElroy, J., Whitt, D., Henderson, C., & Bhalala, U. (2022).	none	prospective, observational	(n=62) NICU NRP	Simulation, Debriefing NC	GraphPad Prism	χ 2 test , $p < 0.05$	There was a significant improvement in CC depth ($p = 0.034$) and CCF (0.0014) after structured debriefing.	**LOE** **Level IV** **Strength** • each mock scenario was sufficiently long to allow team members to perform CCs both before and after debriefing. **Weakness** • small group of participants from a single medical center

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	Conceptual Framework	Design / Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
Simulation-based training in high-quality cardiopulmonary resuscitation among neonatal intensive care unit providers. Frontiers in Pediatrics, 10. https://doi.org/10.3389/fped.2022.808992								• Hawthorne effect **Feasibility** feasible **Conclusion** CPR simulation training and debriefing of participants using a CPR feedback device improved CC quality for simulated NICU CPR scenario
Rød et al.(2021) From simulation room to clinical practice: Postgraduate	INACSL, Gibbs' six-step	QS DD	18 PGNNS with interprofessional team	CPR	Content analysis individual, semi-structured interviews	Graneheim and Lundman's qualitative content analysis	simulation with IT as a learning method may bridge the gap between theory and practice. improving CP	**Worth to Practice:** **LOE: Level VI** **Strengths:** Authors took part in the analysis of the interviews, individually and together. Interviews were conducted by a project collaborator to limit potential bias.

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Neonatal Nursing Students' transfer of learning from in-situ resuscitation simulation with interprofessional team to clinical practice. Nurse Education in Practice, 52, 102994.	reflective cycle					SDOD manifest and latent analysis	Three descriptive categories identified: MC: Non-technical skills, Task management, Learning through reflection. The interviewees highlighted a deeper understanding of the collaboration and mutual dependency in the team after in-situ simulation.	**Weaknesses:** Small number of informants Potentially limited generalizability. **Feasibility:** Feasible **Conclusion:** Shows that mock Simulations can increase NC.

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Towner et al. (2022). The experiences of new graduate nurses caring for the deteriorating patient in rural areas: An integrative review. Collegian, 29(2), 245–251.	Preferred reporting	Qualitative study	integrative review methodology Literature search done between July and August in 2020. Literature critically appraised against the Critical Appraisal Skills Program qualitative studies checklist.	Eight qualitative studies were reviewed resulting in the three themes of preparedness to care for the deteriorating patient, experiencing the deteriorating patient, and new graduate support for safe patient care.	ID NGN IDV: recognizing deteriorating patients	(CASP) qualitative studies checklist Thematic analysis	Three major themes were identified within the literature; "preparedness for caring for the deteriorating patient," "experiencing the deteriorating patient," and "new graduate support for safe patient care."	**LOC** Level IV **Strengths** • All studies had an appropriate recruitment strategy and had data collection methods that were consistent with the research aim. **Weakness** • . No specific studies were found on NGRNs caring for the deteriorating patient in rural areas **Feasibility** Feasible **Conclusion :** NGRNs experience stress and anxiety around situations involving the deteriorating patient and are unprepared to manage these.

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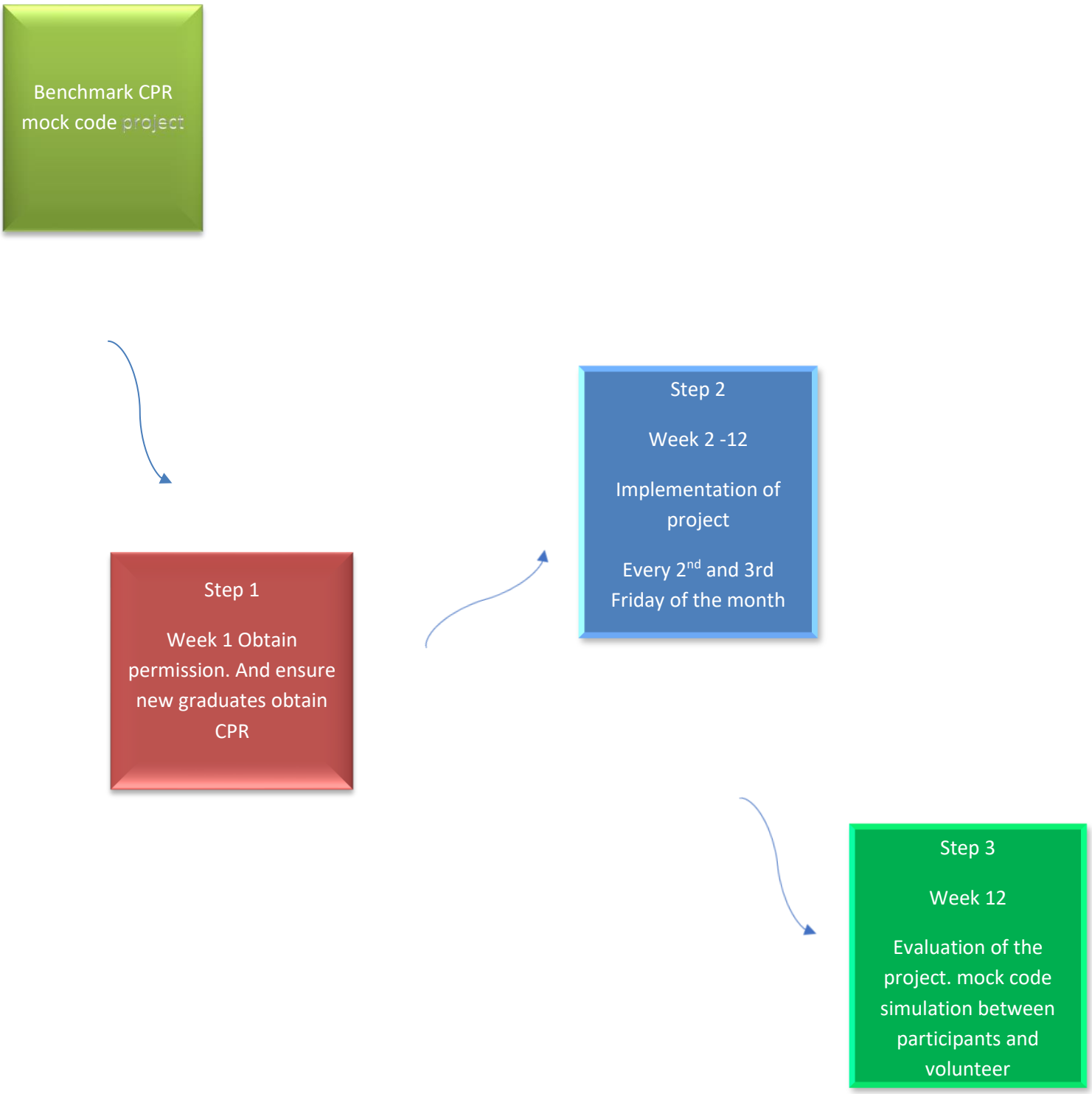
Appendix B

Flowchart or Timetable



Appendix C

Instrument

Mock Code Self-Efficacy Scale: MCSES Tool

For the following questions, please rate your confidence by circling the designated number on a scale from 0 to 10 with 0 being “No Confidence” and 10 being “Total Confidence”.

1. How confident are you at assessing and identifying a patient in respiratory failure?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

2. How confident are you at assessing and identifying a patient with no pulse?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

3. How confident are you at providing rescue breathing for a client with a pocket mask or resuscitation bag?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

4. How confident are you at initiating chest compressions for a client without a pulse?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

5. How confident are you at recognizing bradycardia on the cardiac monitor?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

6. How confident are you at recognizing tachycardia on the cardiac monitor?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

7. How confident are you at recognizing asystole on the cardiac monitor?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

8. How confident are you at recognizing ventricular fibrillation on the cardiac monitor?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

9. How confident are you at recognizing pulseless ventricular tachycardia on the cardiac monitor?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

10. How confident are you at identifying which dysrhythmias would require an unsynchronized shock (defibrillation) in cardiopulmonary arrest?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

11**. How confident are you at naming the first medication given to a client in cardiopulmonary arrest during a code blue situation?**

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

12. How confident do you feel functioning as part of the team in a code blue situation for a client in cardiopulmonary arrest?

0 1 2 3 4 5 6 7 8 9 10

No Confidence Total Confidence

Email address: Sblack@walsh.edu

Dear Dr. Sharon L Oetker- Black RN,

I am writing to request permission to use:

The Mock Code Self-Efficacy Scale, as in your article Psychometric Evaluation of the Mock Code Self-Efficacy Scale, citation: Oetker-Black, S. L., & Davis, K. K. (2017). *Psychometric evaluation of the mock code self-efficacy scale*. Journal of Nursing Education and Practice, 7(10), 1-9

I am a graduate student at The University of Texas at Tyler School of Nursing.

I am requesting the use of your instrument for a Capstone Benchmark Project paper.

The Capstone project paper will be published in the university's repository, Scholar Works.

Thank you,

Denecia Mark

The University of Texas at Tyler

dmark@patriots.uttyler.edu