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Care of the Critically Ill Nontrauma Patient: Improving Emergency Department Readiness and
Patient Care through the Implementation of a Dedicated Resuscitation Bay

UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
Beyster Institute for Nursing Research

DOCTOR OF NURSING PRACTICE PORTFOLIO

by

Martha H Buck, RN, BSN, TCRN

A portfolio presented to the

FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE: BEYSTER
INSTITUTE FOR NURSING RESEARCH
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
requirements for the degree

DOCTOR OF NURSING PRACTICE
May 2024

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Acknowledgements

I would like to express my deepest gratitude to my husband, Corbin, for his unrelenting patience, kindness, support, and sense of humor as we have navigated these last few years of insanity. I am a better version of myself because of knowing you. To my beautiful daughter Noa: you are my heart and have brought so much joy and laughter to our lives. Thank you for rolling with the punches from day one.

To my parents: thank you for encouraging and supporting me, always providing a backbone of strength and confidence in times when it felt I had none. You inspire me daily with your selfless love and sacrificial kindness.

A special thank you as well to my advisor, Dr. Joseph Burkard, for his guidance and support throughout my DNP journey. Your expertise and advice have been invaluable. I am equally grateful to my ENP program director Dr. Pedro Colio for his vast depth of knowledge of clinical concepts and his commitment to the incorporation of the NP role in the critical care and emergency medicine arena. Lastly, thank you to my clinical mentor Dr. Laura Truman: your clinical expertise as well as your friendship have been more formative than I can say.

Documentation of Mastery of DNP Program Outcomes

**Care of the Critically Ill Nontrauma Patient: Improving Emergency Department Readiness
and Patient Care through the Implementation of a Dedicated Resuscitation Bay**

Martha Buck, RN, BSN, TCRN

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University of San Diego: Hahn School of Nursing

Abstract

Current best practice among emergency departments worldwide includes the maintenance of a dedicated resuscitation space. This practice allows for team members and equipment to be ready at a moment's notice to provide care to a patient in need of lifesaving interventions. This evidence-based performance improvement project seeks to implement this standard of care in a busy, urban emergency department in Southern California.

Prior to this study, patients at this facility were placed in the next available care space, without the maintenance of a dedicated resuscitation area for critically ill patients. Survey data evaluating staff levels of perceived readiness to care for critically ill patients was collected before and after implementing a dedicated resuscitation space, and pre- and post-intervention data was collected to determine the length of time required for key resuscitation documentation within the patient chart: (1) Documentation of full set of vitals, (2) Definitive airway placement, (3) Documentation of patient weight, and (4) Documentation of end-tidal CO₂ (ETCO₂).

The use of a dedicated resuscitation space for the care of critically ill nontrauma patients improved this ED's overall staff levels of perceived readiness and reduced the amount of time required for three of the four key resuscitative measures. Further improvements in the use of the dedicated resuscitation space, including standardization of resuscitation room protocols and essential equipment maintenance, should be explored in future projects.

Keywords: *Emergency Department, Resuscitation, Critical Illness, Evidence-Based Medicine*

Improving Emergency Care with a Dedicated Resuscitation Bay

Background and Significance

The emergency department (ED) serves as the first point of contact for both high and low acuity patients seeking hospital treatment worldwide. A key aspect of effective emergency care is the ability to provide necessary, often lifesaving interventions in a timely manner with little to no advance notice. Lack of access to primary care, unavailability of inpatient beds, and lasting effects of the recent SARS-CoV-2 pandemic continue to contribute to emergency department overcrowding worldwide, and hallway beds are becoming the new normal for emergency care (Rasouli et al., 2019; Sartini et al., 2022). As physical space becomes a more precious resource, emergency departments must take measures to ensure that necessary space and equipment is available in the event of the arrival of a patient requiring immediate life-saving interventions (Hong et al., 2013).

As the emergency department of a large urban academic medical center with high patient volumes and acuity, the UC San Diego Hillcrest Emergency Department serves an average of roughly 138,000 patients a year. Approximately 25% of these patients are triaged as an Emergency Severity Index (ESI) level 1 or 2, indicating that they either need immediate life-saving interventions, are in a high-risk situation, or are experiencing extreme pain/distress requiring immediate treatment (Gilboy et al., 2011). Before this project's implementation, current practice in the UCSD Hillcrest Emergency Department was to place all patients in the next available care area without maintaining a dedicated resuscitation space for critically ill patients. This often resulted in the need to move patients quickly to create an appropriate resuscitation space when a critical patient arrived, and staff reported increased stress when forced to resuscitate patients in an ill-equipped space. Other hospitals around the world, but also within the

UC San Diego health system, utilize a dedicated resuscitation space for the care of critically ill patients, and this project aims to replicate this standard of practice at the Hillcrest campus.

Purpose

The purpose of this project is twofold: our primary aim is to improve the care of critically ill patients during their initial resuscitation upon arrival to the UCSD Hillcrest emergency department. Research shows that delays in the resuscitation of critically ill patients increases hospital mortality, both during the patient's time in the emergency department and throughout their overall hospital stay (Hong et al., 2015; Morley et al., 2018; Rasouli et al., 2019). The seemingly simple act of setting aside an appropriate physical space for the care of these patients can have profound impacts on their overall morbidity and mortality. Secondly, this project seeks to improve emergency department staff levels of perceived readiness to care for critically ill patients, which we hypothesize will consequently decrease staff stress levels and improve overall performance while at work (Wears & Perry, 2002).

Evidence-Based Practice Model

A variety of models exist to guide the implementation of evidence-based practice changes within the healthcare arena. For this project, the Iowa Model was chosen for its application-based approach and focus on quality improvement within healthcare delivery systems. This project aims to focus on barriers to safe patient flow within the emergency department and strategies to improve staff readiness to receive high acuity patients. Effective implementation of such strategies requires a practical, team-focused approach and frequent reassessment of the appropriateness of the intervention with consideration of the resources available to the department at a given point in time. The Iowa Model's step-by-step approach considers not only

current evidence for best practice but also the appropriateness of the intervention for the specific care area in which it is being implemented (Iowa Model Collaborative, 2017).

Literature Review

Emergency department resuscitations are a critical element of emergency medicine. Patients treated in resuscitation rooms worldwide represent a complex and diverse patient population, with a wide variety of presenting conditions including cardiopulmonary arrest, respiratory distress, metabolic derangements, and sepsis (Grahl et al., 2022). Information on patient history is often limited or entirely unavailable and clinicians are forced to make critical decisions quickly based on the patient's initial presentation. Indeed, in many facilities in which a shared trauma bay/resuscitation room is located within the ED, more critically ill nontrauma patients are treated in this space than trauma patients, and these patients have significantly higher mortality while in the resuscitation space (Micheal et al., 2022). While protocols exist for the initial care and treatment of trauma patients, similar guidelines for critically ill nontrauma patients are less common, and recommendations on the physical design of the resuscitation space are sparse (Grahl et al., 2022; Michael et al., 2022).

The World Health Organization recommends the use of a dedicated resuscitation space for early and appropriate care of critically ill patients in which essential resources are readily available and patients are easily visible within the department (World Health Organization [WHO], 2020). Many emergency departments, however, are forced to make use of inadequate care spaces due to poor department design or aging facilities (Wears & Perry, 2002). This "ad hoc nature" of emergency resuscitation in an insufficient working environment poses a risk of increased incidence of adverse outcomes and patient mortality while in the ED (Hong et al., 2015; Mastoras et al., 2019, p. 255). Recent literature calls for more standardized procedures for

emergency department resuscitations, and the establishment of a dedicated resuscitation space is a critical first step towards this standardization (Grahl et al., 2022; Michael et al., 2022; Mastoras et al., 2019).

Even outside of the acute resuscitation of a critically ill patient, emergency departments are known for their chaotic nature (Chartier et al, 2018). Emergency department overcrowding, inadequate staffing, and lack of easy access to necessary resources contribute to increased staff stress levels and unfavorable patient outcomes (Ahmadpour et al., 2021; Rasouli et al., 2019). Recent literature highlights a need for process improvements to enhance ED environments for both patients and staff. One case study by Wears & Perry (2002) highlights the ways in which emergency department staff “have been trained to expect that some things just do not work, and they should devise ways to work around them, rather than notifying managers to change the system” (Wears & Perry, 2002, p. 208). The authors go on to note that, while ED care spaces are often inadequate, healthcare staff members usually adapt and form creative methods of working around defective environments rather than modifying their workspace to better serve them. Additionally, they found that staff often operated on “common but informal” practices to provide optimal patient that were not reflected in institutional policies (Wears & Perry, 2002, p. 209). Research demonstrates that efforts at the institutional level aimed at improving emergency department organization and flow can both improve staff stress levels and enhance overall patient outcomes (Holden, 2011; Philipose et al., 2022; Piggot et al., 2011). This project aims to increase this facility’s ED staff’s perceived readiness to care for critically ill patients to aid in patient flow and improve the overall working environment.

Design

An anonymous survey was designed and distributed to emergency department staff prior to implementing a dedicated resuscitation space. The survey consisted of six questions using a Likert scale of one to five to evaluate staff levels of perceived readiness to care for critically ill patients. Survey questions were reviewed and validated by a panel of three experts in the field. Additional survey questions regarding staff clinical experience and training were asked for the purpose of demographics; however, this data was not included in the evaluation of this project. The same anonymous survey was distributed again after a dedicated resuscitation space had been in place for three months, with the addition of a free-text question asking for feedback on the resuscitation space and recommendations for future improvements on the process.

Additionally, a chart review was conducted pre- and post-intervention. Anonymized data from all patients categorized as an ESI level 1 in the three-month period prior to implementing the dedicated resuscitation space was collected. Metrics included in the chart review were the average length of time after patient arrival to the department until four key measures: (1) Documented full set of vitals, (2) Definitive airway placement, (3) Documented patient weight, and (4) Documented end-tidal CO₂ (ETCO₂). A second chart review collecting the same data was performed for patients treated in the dedicated resuscitation space during the first three months of its implementation.

Methods and Justification

An organizational readiness assessment was completed with ED management during this project's planning phase to evaluate realistic goals and expectations of the study. A priority in the implementation of a dedicated resuscitation space is the physical space itself. The trauma bay of UCSD Hillcrest is located on the second floor in the surgical intensive care unit (SICU),

eliminating the possibility of the dual use of the trauma bay as an ED resuscitation bay as is the custom in many other Level I emergency departments. A large room with adequate space for necessary resuscitation equipment, however, already existed as part of the ED's current floorplan, making this project easily implementable without the need for reconstruction of the department's physical space. Prior to this project this room was not maintained as a dedicated resuscitation space and was instead used to see patients of all acuity levels. This project primarily sought to modify the flow of patients in and out of this room, reserving it only for critically ill patients.

The four key resuscitative measures assessed in the patient chart review were also decided upon with ED management's input during the organizational readiness assessment. We felt the measures of time from patient arrival to a documented full set of vitals and definitive airway placement would be representative of the time needed to perform the initial assessment of the patient's condition and to address the initial component of the primary resuscitation algorithm (airway). Time to documented patient weight and documented end-tidal CO₂ (ETCO₂) would reflect the impact of having necessary equipment readily available in the resuscitation space, as weighted gurneys and ETCO₂ monitors were two pieces of equipment most often reported missing or unavailable by ED staff.

The initial staff survey was distributed via email and posted flyers from May to June of 2023. Surveys were open to all ED staff members, including physicians, nurses, respiratory therapists, and patient care technicians. All survey data was anonymous, and the survey was available for approximately one month.

ED nurses were trained on the new patient flow in June and July of 2023, with adequate time allowed for questions and clarification on the resuscitation room's use. In-depth education

was provided to charge nurses specifically, as they direct patient placement and flow within the department. Additionally, all staff (including physicians) were updated on the new process during monthly staff meetings and in-unit briefings.

The new patient flow process of maintaining a dedicated resuscitation space went live in September of 2023. A second, identical survey was re-distributed in January of 2024 after the first three months of the resuscitation space's use. The survey was again open to all ED staff members and was distributed via email and posted flyers. The survey closed in February of 2024.

Patient chart reviews began in January of 2024. A team of two clinicians collected anonymized pre-intervention data on all patients 18 years of age and older triaged as an ESI of 1 from the periods of July 1, 2023, to September 1, 2023. These patients were treated in various care spaces within the ED. Post-intervention data was collected on all patients 18 years of age and older triaged as an ESI of 1 and treated in the dedicated resuscitation space from September 25, 2023, to December 25, 2023.

Ethical Considerations

The lead author completed CITI research compliance training prior to the initiation of this project. This study was reviewed by the UCSD ACQUIRE (Aligning and Coordinating Quality Improvement, Research, and Evaluation) Committee and deemed exempt from Institutional Review Board (IRB) review or approval. Additionally, it was deemed non-research and approved by the University of San Diego's IRB committee.

Results

Staff survey results were compiled into an overall "perceived readiness score" that was compared pre- and post-intervention. Fifty-six staff responses were collected in the pre-

intervention survey and 66 in the post-intervention survey. A Shapiro-Wilk test was performed, indicating staff scores were normally distributed and met other required assumptions for a paired t-test. The paired t test showed that staff levels of perceived readiness to care for critically ill patients increased from pre-intervention ($M = 18.546$, $SD = 5.09520$) to post-intervention ($M = 21.8333$, $SD = 4.35760$); $t = -3.172$, $p = 0.003$, $d = -0.51$. This represents an increase in overall perceived readiness scores of 17.7%.

A total of 27 patient charts met inclusion criteria for pre-intervention data collection defined as an ESI 1, age ≥ 18 years, admitted between July 1, 2023, to September 1, 2023. Twenty-nine patient charts met inclusion criteria for post-intervention data collection, defined as an ESI 1, age ≥ 18 years, admitted between September 25, 2023, to December 25, 2023. All patient cases were reviewed, and two outliers were identified. One case in the preintervention cohort was found to have a definitive airway placed hours after their arrival to the ED due to an acute decompensation in their clinical status. Because this study aimed to evaluate outcomes within the initial ED resuscitation period, this chart was excluded from the preintervention data. This resulted in 26 patient charts for pre-intervention data.

One patient in the post-intervention cohort was seen in the emergency department 11 times in the 3 months before his arrival during the data collection period. As a result, a recent weight was listed in the chart before their arrival, and this value was used during their initial resuscitation rather than staff inputting a new weight. This study aimed to measure the time required to input a patient weight when there was not already a current one listed, and this chart was therefore excluded from the postintervention data. This resulted in 28 patient charts in the post-intervention cohort.

The initial time of vital sign documentation, measured from ED arrival, decreased from an average of 12 minutes pre-intervention to 10 minutes post-intervention. This represents a 16.7% decrease from pre- to post-intervention. A Mann-Whitney U test was performed to evaluate whether there were statistically significant differences in arrival to the first vital time after using a dedicated resuscitation space. The results indicated that the pre-intervention cohort did not have significantly greater arrival to the first vital time than the post-intervention cohort ($U=329$, $z=-.376$, $p=.707$).

Time from patient arrival to the placement of a definitive airway decreased from an average of 16.8 minutes pre intervention to 12.18 minutes post intervention, representing a 27.5% decrease between pre- to post-intervention cohorts. Results of a Mann-Whitney U test indicated that the pre intervention cohort did not have a significantly greater time from arrival to definitive airway placement in comparison to the post intervention cohort ($U=41.5$, $z=-.953$, $p=.341$).

Time to documented patient weight, measured from ED arrival, decreased from an average of 33.58 minutes pre-intervention to 17.5 minutes post intervention, representing a 47.9% decrease. Results of a Mann-Whitney U test again indicated that pre-intervention patients did not have a significantly greater time from arrival to documented weight than post-intervention ($U=186.5$, $z=-1.451$, $p=.147$).

Lastly, time from patient arrival to documented ET CO_2 measurement increased from an average of 32 minutes in the pre intervention cohort to 39.53 minutes in the post intervention cohort. This represents an increase of 23.5%. A Mann-Whitney U test was performed, and results indicated that the increase in time from patient arrival to documented ET CO_2 measurement was not statistically significant between pre- and post-intervention cohorts ($U=94$, $z=-.162$, $p=.872$).

Discussion

Staff survey results measuring perceived levels of readiness demonstrated a significant increase (17.7%) from pre to post-intervention. This was an expected finding considering the more readily accessible space and equipment provided by maintenance of a dedicated resuscitation space. This improved the staff's ability to accept and care for a critically ill patient at a moment's notice. Anecdotally, staff also reported improved communication about the arrival of critical patients and more efficient patient flow through the department when using the dedicated resuscitation space.

The lack of statistical significance represented by the patient chart review data is likely due in large part to the relatively small patient population studied when compared to the total number of critically ill patients treated in the UC San Diego Hillcrest emergency department annually. As a result, any changes seen in patient metrics were unlikely to be statistically significant but instead may reflect the intervention's clinical significance. The decrease in time to documented patient weight of 47.9% is of particular clinical significance at this facility, for example, as the lack of documented patient weights was consistently an area of improvement highlighted by ED management prior to this study. The decrease in time to documented weight reflects a positive impact on patient care by allowing for more accurate and efficient administration of weight-based medications including vasopressors and rapid sequence intubation (RSI) induction medications.

The length of time from patient arrival to a documented set of vitals decreased by 16.7%. Though not statistically significant, this decrease can have profound clinical significance through the early establishment of the patient's condition and stability. A readily available resuscitation space, with all necessary vital sign equipment stocked, is likely contributory to this decrease. The

length of time from patient arrival to a definitive airway placement decreased by 27.5% among pre-intervention versus post intervention patients. Again, though not statistically significant, this change is of substantial clinical significance, as the placement of a definitive airway is an extremely time-sensitive procedure in a critically ill patient.

The increase in the length of time from patient arrival to the documentation of an ETCO₂ value by 23.5% was likely due to several factors. Firstly, the use of ETCO₂ monitoring is not an established standard of care for awake, well-mentating patients requiring little or no supplemental oxygen. Many patients who met inclusion criteria for this study were awake and alert, with low levels of supplemental oxygen requirements, despite being triaged as an ESI 1. These patients had extremely prolonged times to ETCO₂ value documentation, and many never had a value documented during their entire emergency department course. Secondly, staff involved in the study noted that the ETCO₂ monitor was often removed from the resuscitation bay and was not replaced prior to the next critical patient's arrival, especially early on in the project's implementation. This would render the resuscitation space less than optimally prepared for the next patient and may have negatively affected input times for ETCO₂ values.

Study Limitations

Emergency department resuscitations are complex and fast-moving, requiring the simultaneous activation of multiple processes and personnel roles. As a result, it is challenging to design a study that can account for all potential confounding factors. Primarily, this study was not blind. All staff were aware of the study's attempt to improve patient outcomes using the dedicated resuscitation space and therefore may have unknowingly made improvements to their standard of patient care while using the space, positively skewing the results. Secondly, the short-term nature of this project allowed for a data collection period of only three months pre-

intervention and three months post-intervention. This yielded a sample size of less than 30 patients in each cohort, many of whom did not require a definitive airway placement or ETCO₂ monitoring while in the dedicated resuscitation space. This small sample size may not be reflective of the entire population of critically ill patients seen and treated within the UCSD Hillcrest Emergency Department, nor of critically ill patients treated at other facilities. Thirdly, though all patients treated during the study were triaged as an ESI level 1, this value can represent a variety of patient presentations and chief complaints. As a result, patients represented unique subsets of critically ill patients, all with specific care needs. This made it difficult to capture the full impact of our intervention. Lastly, this study was only the initial first step in creating a standardized approach to the initial ED resuscitation of critically ill patients at this facility. We focused primarily on providing the space itself, without specific guidelines concerning what equipment should be stocked and how the space should be reset after each use. This unfortunately may have resulted in a suboptimally prepared resuscitation space when it was not properly restocked after use or when multiple patients required emergent interventions at the same time.

Implications for Future Research

The reservation of an adequate physical space for the initial resuscitation of critically ill nontrauma patients is a pivotal first step in creating a standard practice for and improving the care of these high acuity patients. Staff suggestions collected as part of this study called for further improvements including more explicit guidelines of how the dedicated resuscitation space should be stocked, accountability for keeping the area prepared to receive a new patient after use, and the implementation of a secondary resuscitation space in the event of multiple critical patients arriving at the same time.

Future projects should include further improvements such as standardization of resuscitation room protocols and essential equipment maintenance to ensure that the space is properly stocked for each critical patient encounter. Additionally, a secondary resuscitation space should be created so that the same standard of care can be provided if multiple patients needing immediate interventions arrive simultaneously.

Conclusions

As emergency departments worldwide continue to absorb an increasing volume of patients of all acuities, the ability to provide immediate care to critically ill patients continues to become an increasingly high priority for emergency department management and staff. Results of this study indicate that maintaining a dedicated resuscitation space can positively impact outcomes for staff and patients and may play a key role in preventing further patient harm due to emergency department overcrowding.

Table 1*Time from Patient Arrival to Key Resuscitation Measures*

Characteristic	<i>N</i>	<i>Mean Rank</i>	<i>U</i>	<i>p</i>
Ed Arrival to the First VS	53	--	329	.707
Pre	25	27.84		
Post	28	26.25		
Weight	45	--	162	.051
Pre	19	27.47		
Post	26	19.73		
ETCO ₂	28	--	94	.872
Pre	13	14.77		
Post	15	14.27		
Airway	21	--	41.5	0.341
Pre	10	12.35		
Post	11	9.77		

Note. VS, vital sign; ETCO₂, end-tidal carbon dioxide

References

- Ahmadpour, S., Bayramzadeh, S., & Aghaei, P. (2021). Efficiency and Teamwork in Emergency Departments: Perception of Staff on Design Interventions. *HERD*, 14(4), 310–323.
<https://doi-org/10.1177/19375867211023156>
- Chartier, L. B., Cheng, A. H. Y., Stang, A. S., & Vaillancourt, S. (2018). Quality improvement primer part 1: Preparing for a quality improvement project in the emergency department. *CJEM*, 20(1), 104–111. doi:10.1017/cem.2017.361
- Ehmann, M. R., Kane, E. M., Arciaga, Z., Duval-Arnould, J., & Saheed, M. (2020). Emergency Department Ergonomic Redesign Improves Team Satisfaction in Cardiopulmonary Resuscitation Delivery: A Simulation-Based Quality Improvement Approach. *The Journal for Healthcare Quality (JHQ)*, 42(6), 326.
<https://doi.org/10.1097/JHQ.0000000000000244>
- Gilboy, N., Tanabe, T., Travers, D., Rosenau, AM. (2011). *Emergency Severity Index (ESI): A Triage Tool for Emergency Department Care* (Version 4., Implementation Handbook 2012 Edition). Agency for Healthcare Research and Quality.
https://media.emscimprovement.center/documents/ESI_Handbook2125.pdf
- Grahl, C., Hartwig, T., Weidhase, L., Laudi, S., Petros, S., Gries, A., & Bernhard, M. (2022). Early in-hospital course of critically ill nontrauma patients in a resuscitation room of a German emergency department (OBSERvE2 study). *Die Anaesthesiologie*, 71(10), 774–783. <https://doi.org/10.1007/s00101-021-00962-3>

- Holden R. J. (2011). Lean Thinking in emergency departments: a critical review. *Annals of emergency medicine*, 57(3), 265–278.
<https://doi.org/10.1016/j.annemergmed.2010.08.001>
- Hong, K. J., Shin, S. D., Song, K. J., Cha, W. C., & Cho, J. S. (2013). Association between ED crowding and delay in resuscitation effort. *The American Journal of Emergency Medicine*, 31(3), 509–515. <https://doi.org/10.1016/j.ajem.2012.09.029>
- Iowa Model Collaborative. (2017). Iowa Model of Evidence-Based Practice: Revisions and Validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175–182.
<https://doi.org/10.1111/wvn.12223>
- Mastoras, G., Poulin, C., Norman, L., Weitzman, B., Pozgay, A., Frank, J. R., & Posner, G. (2019). Stress Testing the Resuscitation Room: Latent Threats to Patient Safety Identified During Interprofessional In Situ Simulation in a Canadian Academic Emergency Department. *AEM Education and Training*, 4(3), 254–261.
<https://doi.org/10.1002/aet2.10422>
- Michael, M., Biermann, H., Gröning, I., Pin, M., Kümpers, P., Kumle, B., & Bernhard, M. (2022). Development of the Interdisciplinary and Interprofessional Course Concept “Advanced Critical Illness Life Support.” *Frontiers in Medicine*, 9, 939187.
<https://doi.org/10.3389/fmed.2022.939187>
- Morley, C., Unwin, M., Peterson, G. M., Stankovich, J., & Kinsman, L. (2018). Emergency department crowding: A systematic review of causes, consequences and solutions. *PLOS ONE*, 13(8), e0203316. <https://doi.org/10.1371/journal.pone.0203316>
- Philipose, J., LaMaina, L. J., Zapke, J., Sargeant, D., Boukas, C., & Bullaro, F. (2022). Trauma Resuscitation Room Organization Using 5S Methodology: A Quality Improvement

Initiative. *Journal of Trauma Nursing*, 29(5), 272–277.

<https://doi.org/10.1097/jtn.0000000000000676>

Piggott, Z., Weldon, E., Strome, T., & Chochinov, A. (2011). Application of Lean principles to improve early cardiac care in the emergency department. *CJEM*, 13(5), 325–332.

<https://doi.org/10.2310/8000.2011.110284>

Rasouli, H. R., Aliakbar Esfahani, A., Nobakht, M., Eskandari, M., Mahmoodi, S., Goodarzi, H., & Abbasi Farajzadeh, M. (2019). Outcomes of Crowding in Emergency Departments; a Systematic Review. *Archives of Academic Emergency Medicine*, 7(1), e52.

<https://doi.org/10.22037/aaem.v7i1.332>

Sartini, M., Carbone, A., Demartini, A., Giribone, L., Oliva, M., Spagnolo, A. M., Cremonesi, P., Canale, F., & Cristina, M. L. (2022). Overcrowding in Emergency Department: Causes, Consequences, and Solutions—A Narrative Review. *Healthcare*, 10(9), Article 9.

<https://doi.org/10.3390/healthcare10091625>

Wears, R. L., & Perry, S. J. (2002). Human factors and ergonomics in the emergency department. *Annals of emergency medicine*, 40(2), 206–212.

<https://doi.org/10.1067/mem.2002.124900>

World Health Organization. (2020). *WHO Tools for Strengthening Emergency Care Systems*.

https://cdn.who.int/media/docs/default-source/emergencies-trauma-care/who-tools-for-strengthening-emergency-care-systems---feb-2020.pdf?sfvrsn=56f2ccf3_2

Yuguero, O., Vena, A., Forné, C., Lacasta, J. D., Llobet, C., & Abadías, M. J. (2018). Quality of care indicators for a resuscitation unit. *Medicine*, 97(48).

<https://doi.org/10.1097/MD.00000000000013467>

Appendix A

IRB Approval



May 9, 2023

Martha Buck
Hahn School of Nursing & Health Science

Re: Initial - IRB-2023-414 Care of the critically ill nontrauma patient: Improving emergency department readiness and patient care through the implementation of a dedicated resuscitation bay

Dear Martha Buck:

The Hahn School of Nursing & Health Science faculty representative(s), as an official part of the University of San Diego Institutional Review Board (USD IRB), have reviewed your application and rendered the decision below for IRB-2023-414: Care of the critically ill nontrauma patient: Improving emergency department readiness and patient care through the implementation of a dedicated resuscitation bay.

Decision: Non-research or Not-human subjects research. This study may start no earlier than May 9, 2023.

Findings: This application has been reviewed and certified by the corresponding unit's IRB Org Approver(s).

Research Notes: Though certified as either non-research or not-human subjects research, the project team should ensure that the activities associated with the project are conducted in compliance with applicable USD policies and ethical standards as well as local, state, and federal regulations.

Internal Notes:

This approval is based on the intended work and scope of activities outlined in the submitted proposal. If the research team makes changes to the project and/or its study protocols, the PI or their designated team member must submit a modification application for IRB's re-evaluation.

The USD IRB requires annual renewal of all active studies reviewed and approved by the IRB. Please submit an application for renewal prior to the annual anniversary date of initial study approval. If an application for renewal is not received, the study will be administratively closed.

Note: We send IRB correspondence regarding student research to the faculty advisor, who bears the ultimate responsibility for the conduct of the research. We request that the faculty advisor share this correspondence with the student researcher.

Applications for full review must be submitted at least two weeks prior to the next scheduled monthly IRB meeting; see <https://www.sandiego.edu/irb/updates/> for specific deadlines. You may submit an IRB application for expedited or exempt review at any time.

Sincerely,

Hahn School of Nursing and Health Science IRB Org Approver(s)

Institutional Review Board
University of San Diego
5998 Alcalá Park, San Diego, CA 92110-2492
Phone (619) 260-4553 • Fax (619) 260-2210 • www.sandiego.edu

Appendix B

UCSD ACQUIRE Approval

Date: 5/5/2023
 To: Martha Buck and Ross Baziak
 Re: Project #766

Care of the critically ill nontrauma patient: Improving emergency department readiness and patient care through the implementation of a dedicated resuscitation bay

Dear Martha & Ross,

Your project has been reviewed by the UCSD ACQUIRE (Aligning and Coordinating Quality Improvement, Research, and Evaluation) Committee. The ACQUIRE Committee approval of this project included a determination that the project is not regulated as research involving human subjects as defined in 45 CFR 46 or 21 CFR 56 and does not require Institutional Review Board review or approval. Consistent with UCSD policy and federal regulations, the UCSD Office of IRB Administration (OIA) has delegated authority to the ACQUIRE Committee to make such determinations. The Director and/or Medical Director of the Office of IRB Administration (OIA) are members of the ACQUIRE Committee.

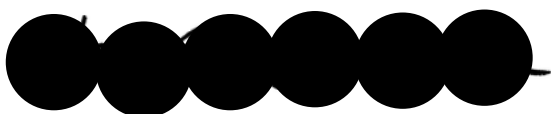
Though certified as not human subjects research, the project leader should ensure that the activities associated with the project are conducted in compliance with applicable UCSD and Rady Children's Hospital-San Diego policies and ethical standards as well as local, state, and federal regulations.

In addition, this approval is based on the intended work and scope of activities outlined in the proposal that was submitted. If the nature or scope of this activity changes substantially, then a re-evaluation by the ACQUIRE Committee would be necessary.

Also, please note the following suggestions from the reviewers: " Good use of SMART goals; however, the goals don't appear in this document to be very specific. Goal 2 states "Improved HC ED staff perceived level of readiness..." Should specify improvement by how much (e.g. 10%, 20%, etc.). Similar issue with Goal 3."

Should you have any questions, please contact the Robert El-Kareh at relkareh@health.ucsd.edu.

Sincerely,



Robert El-Kareh, MD, MS, MPH
 Chair, ACQUIRE Committee
relkareh@health.ucsd.edu

Appendix C

Poster Abstracts with Letter of Acceptance

CARE OF THE CRITICALLY ILL NONTRAUMA PATIENT: IMPROVING EMERGENCY DEPARTMENT READINESS AND PATIENT CARE THROUGH THE IMPLEMENTATION OF A DEDICATED RESUSCITATION BAY

Martha Buck, BSN, RN, TCRN, DNP FNP/ENP Student

Ross Bazaik, RN, BSN, MICN, CEN

Pooja Kumar, BSN, RN, DNP FNP/ENP Student

Dr. Joseph Burkard, DNSc, CRNA, AACN Health Policy Fellow

Background: The emergency department serves as the first point of contact for both high and low acuity patients seeking treatment. Current best practice among emergency departments worldwide includes the maintenance of a dedicated resuscitation space and process improvements to enhance communication and teamwork among interdisciplinary resuscitation teams.

Purpose: The intent of this project is to create a standardization of practice in the initial resuscitation of adult critical nontrauma patients (ESI 1; Age ≥ 18 yrs) through the implementation of a dedicated resuscitation room. Evidence supports the maintenance of a dedicated resuscitation space to allow for rapid and effective lifesaving interventions, as well as improve teamwork and communication among emergency department staff.

Evidence-Based Interventions: A pre-existing room within the emergency department will be designated as the critical patient resuscitation space. An anonymous online survey will be used to evaluate emergency department staff's perceived level of readiness to accept critical nontrauma patients both before and after intervention. Additionally, data will be collected both pre- and post-intervention to evaluate the resuscitation room's effect on the average length of time after critical patient arrival to the department until four key interventions: (1) Documentation of full set of vitals, (2) Definitive airway placement, (3) Documentation of patient weight, and (4) Documentation of end-tidal CO₂ (ETCO₂).

Results: The implementation of a dedicated resuscitation space in the emergency department of UC San Diego's Hillcrest campus resulted in an improvement in staff perceived level of readiness by 17.7%. Additionally, time from patient arrival to three of the four key interventions was reduced, with a time to vitals reduction of 16.7%, time to definitive airway placement reduction of 27.5%, and a reduction in time to documented patient weight of 47.9%. Time from patient arrival to the documentation of an ETCO₂ value increased by 23.5%.

Evaluation: The use of a dedicated resuscitation space for the care of critically ill nontrauma patients improved emergency department staff levels of perceived readiness and reduced the amount of time required for three of the four key resuscitative measures. The demonstrated increase in time from patient arrival to the documentation of an ETCO₂ value may reflect the diverse patient population treated in the resuscitation space, or could indicate a need for further development of resuscitation room protocols and equipment organization.

Implications for Practice: The implementation of a dedicated resuscitation room within the emergency department was an essential first step in creating a new patient flow process to enhance the care of critical patients within the UC San Diego Hillcrest Emergency Department.

Future projects should include further improvements to this process such as standardization of resuscitation room protocols and essential equipment maintenance.

Keywords: *Emergency Department, Resuscitation, Critical Illness, Evidence-Based Medicine*

IMPROVING EMERGENCY CARE WITH A DEDICATED RESUSCITATION BAY

Problem Statement: Current practice in the UC San Diego Hillcrest Emergency Department (ED) is to place patients in the next available care area, without the maintenance of a dedicated resuscitation space for critically ill patients. Evidence supports the maintenance of a dedicated resuscitation space to allow for rapid and effective resuscitative interventions.

EBP Model: This project uses the Iowa Model of Evidence-based Practice

PICOT Question: Among staff caring for critically ill nontrauma patients in an urban, academic center emergency department (P), does the use of a dedicated resuscitation bay (I) compared to the current practice of using the next available patient care space (C) result in increased staff perceived readiness to receive and care for high acuity adult patients (ESI 1; Age ≥ 18 yrs), and improve patient care resuscitative interventions (O) over a three month period (T)?

Description of evidence-based change: A pre-existing room within the ED will be designated as the critical patient resuscitation space. An anonymous online survey will be used to evaluate the ED staff's perceived level of readiness to accept critical nontrauma patients both before and after intervention. Additionally, data will be collected both pre- and post-intervention to evaluate the resuscitation room's effect on the average length of time after patient arrival to the department until four key measures: (1) Documented full set of vitals, (2) Definitive airway placement, (3) Documented patient weight, and (3) Documented end-tidal CO₂ (ETCO₂).

Results: The implementation of a dedicated resuscitation space in the emergency department of UC San Diego's Hillcrest campus resulted in an improvement in staff perceived level of readiness by 17.7%. Additionally, time from patient arrival to vitals, definitive airway, and documented patient weight was reduced by 16.7%, 27.5%, and 47.9%, respectively. Time from patient arrival to the documentation of an ETCO₂ value increased by 23.5%.

Significance: The use of a dedicated resuscitation space for the care of critically ill nontrauma patients improved ED staff levels of perceived readiness and reduced the amount of time required for three of the four key resuscitative measures. The demonstrated increase in time from patient arrival to the documentation of an ETCO₂ value may reflect the diverse patient population treated in the resuscitation space, or could indicate a need for further development of resuscitation room protocols and equipment organization.

Sustainability plan: The implementation of a dedicated resuscitation room within the ED was an essential first step in creating a new patient flow process to enhance the care of critical patients within the UCSD Hillcrest ED. Future projects should include further improvements to this process such as standardization of resuscitation room protocols and essential equipment maintenance.

Alignment: This project's goals align with UCSD's commitment as a Magnet-recognized institution to an exceptionally high standard of patient care as well as to the involvement of bedside nursing staff in improving their work and patient care environment.

Results

Table 1

Time (in minutes) from Patient Arrival to Key Resuscitative Measures

Variable	Pre-intervention		Post-Intervention		% Change	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Documented Full Set of Vitals	12.00	17.051	10.00	11.994	-16.7	0.707
Definitive Airway Placement	16.80	11.183	12.18	6.661	-27.5	0.341
Documented Weight	33.58	34.875	17.50	22.230	-47.9	0.051
Documented ETCO ₂	32.00	47.434	39.53	68.945	+23.5	0.872

Table 2

Level of ED Staff Perceived Readiness to Care for a Critically Ill Nontrauma Patient

	Pre-intervention		Post-Intervention		% Change	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Staff Perceived Readiness	18.5476	5.09520	21.8333	4.35760	+17.7	0.003

References

- Cowan, R., & Trzeciak, S. (2004). Clinical review: Emergency department overcrowding and the potential impact on the critically ill. *Critical Care*, 9(3), 291. <https://doi.org/10.1186/cc2981>
- Goldfrank, L., Henneman, P. L., Ling, L. J., Prescott, J. E., Rosen, C., & Sama, A. (1999). Emergency center categorization standards. *Academic Emergency Medicine*, 6(6), 638–655. <https://doi.org/10.1111/j.1553-2712.1999.tb00420.x>
- Hong, K. J., Shin, S. D., Song, K. J., Cha, W. C., & Cho, J. S. (2013). Association between ED crowding and delay in resuscitation effort. *The American Journal of Emergency Medicine*, 31(3), 509–515. <https://doi.org/10.1016/j.ajem.2012.09.029>
- Kang, J., Kim, J., Jo, Y. H., Kim, K., Lee, J. H., Kim, T., Lee, J., Hwang, J. E., & Jung, E. (2015). ED crowding and the outcomes of out-of-hospital cardiac arrest. *The American Journal of Emergency Medicine*, 33(11), 1659–1664. <https://doi.org/10.1016/j.ajem.2015.08.002>
- Michael, M., Biermann, H., Gröning, I., Pin, M., Kümpers, P., Kumle, B., & Bernhard, M. (2022). Development of the Interdisciplinary and Interprofessional Course Concept "Advanced Critical Illness Life Support". *Frontiers in medicine*, 9, Article 939187. <https://doi.org/10.3389/fmed.2022.939187>
- Morley, C., Unwin, M., Peterson, G. M., Stankovich, J., & Kinsman, L. (2018). Emergency department crowding: A systematic review of causes, consequences and solutions. *PLOS ONE*, 13(8), e0203316. <https://doi.org/10.1371/journal.pone.0203316>
- Wears, R. L., & Perry, S. J. (2002). Human factors and ergonomics in the emergency department. *Annals of emergency medicine*, 40(2), 206–212. <https://doi.org/10.1067/mem.2002.124900>
- World Health Organization. (2020). *WHO Tools for Strengthening Emergency Care Systems*. https://cdn.who.int/media/docs/default-source/emergencies-trauma-care/who-tools-for-strengthening-emergency-care-systems---feb-2020.pdf?sfvrsn=56f2ccf3_2
- Yuguero, O., Vena, A., Forné, C., Lacasta, J. D., Llobet, C., & Abadías, M. J. (2018). Quality of care indicators for a resuscitation unit. *Medicine*, 97(48). <https://doi.org/10.1097/MD.00000000000013467>

Congratulations your abstract has been selected for a podium presentation

Nethercot, Darryl <dcnethercot@health.ucsd.edu>

Fri 3/15/2024 4:48 PM

To: Nursing Research & EBP Board NREBP <ucsdnursingresearch@health.ucsd.edu>

Congratulations!

Your abstract has been accepted for **Podium** presentation at the **17th Annual UCSD EBP/Research Conference Day**, set to be held on Tuesday, June 11th, 2024, from 8 am-4.30 pm, at Liberty Station.

Please reply to this email with your acceptance of this invitation by Friday, March 22nd, 2024.

1st draft of your presentation is due Wednesday, April 17th, 2024.

Final drafts of all presentations will be due by Friday, May 10th, 2024.

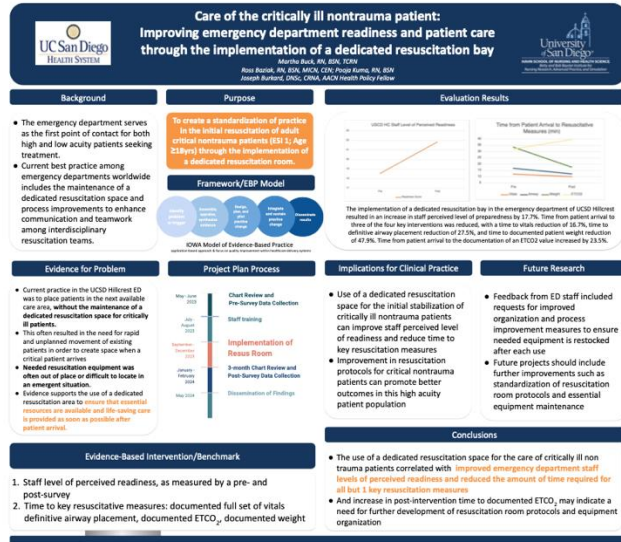
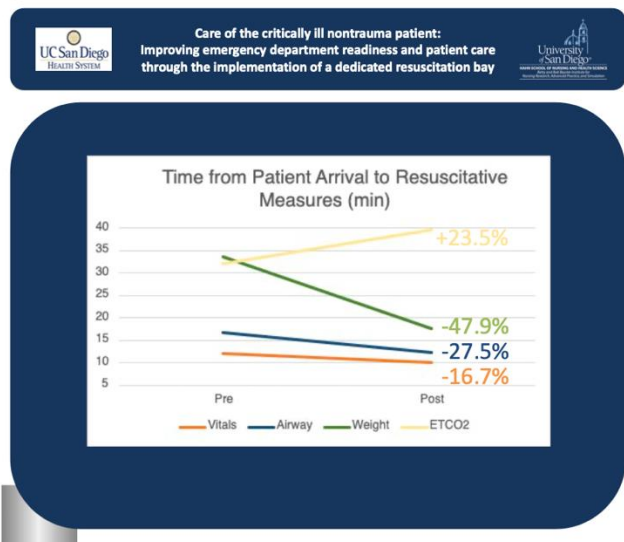
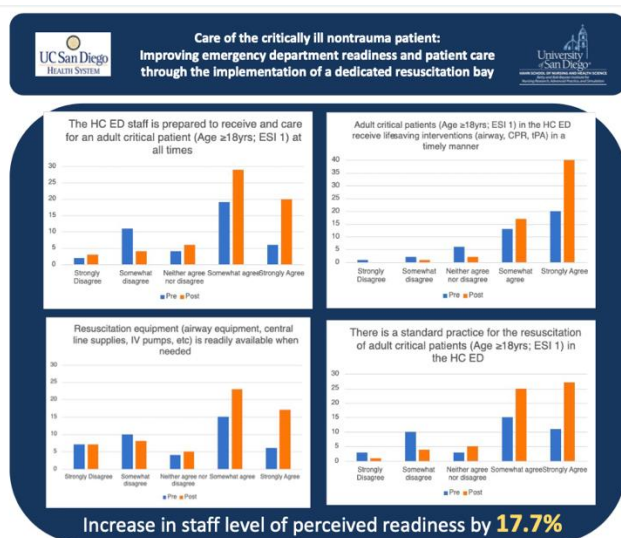
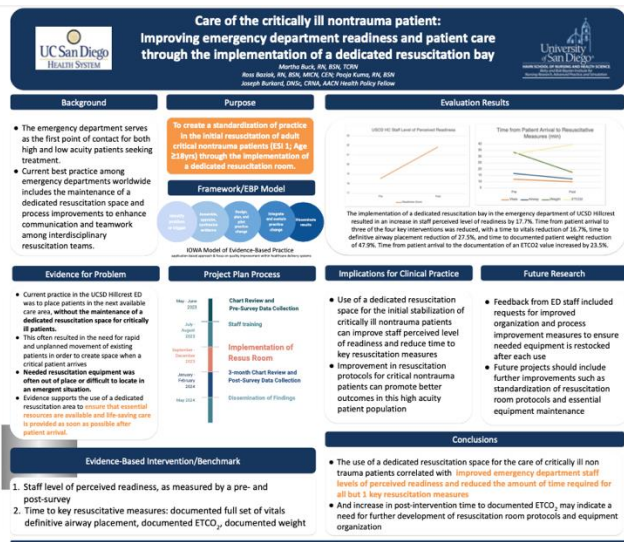
Please send your final presentations to ucsdnursingresearch@health.ucsd.edu

We are excited to announce a new presentation method called **Pecha Kucha**. Any accepted abstract for the podium must follow this format. Each presentation will be 6 minutes and 40 seconds. Please see the link below for an example.

You will receive a follow-up email next week with more information.

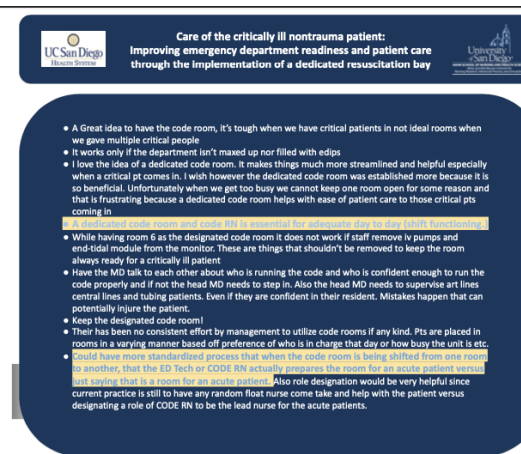
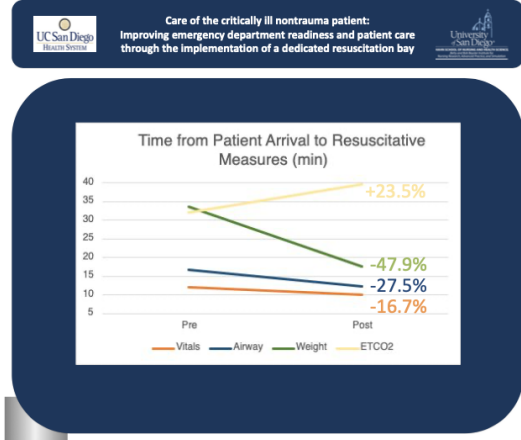
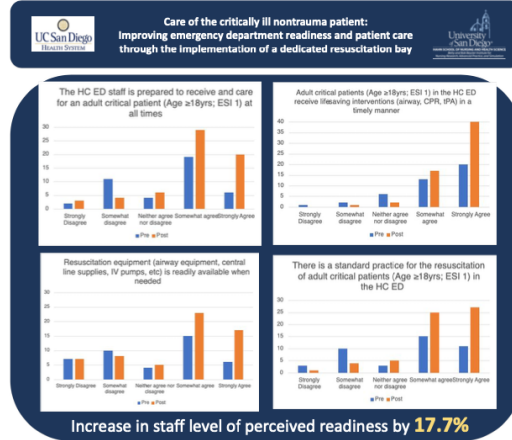
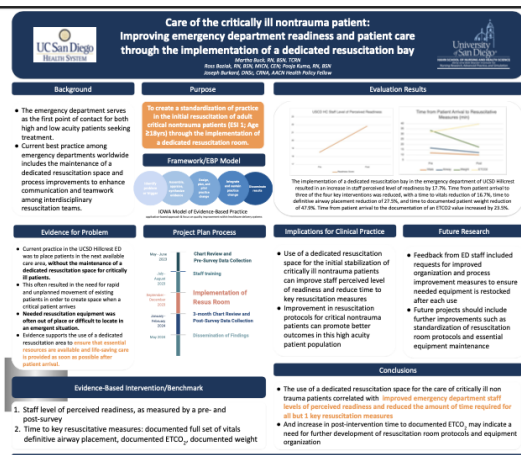
Appendix D

Poster



Appendix E

Stakeholder Presentation



Appendix F

AACN DNP Essentials/NONPF Competencies/

USD DNP Program Outcomes Exemplars

AACN DNP Essentials & NONPF Competencies	USD DNP Program Objectives	Exemplars Provide bulleted exemplars that demonstrates achievement of each objective
<p>DNP Essential I: Scientific Underpinnings for Practice</p> <p>NONPF: Scientific Foundation Competencies</p> <p><i>The scientific foundation of nursing practice has expanded and includes a focus on both the natural and social sciences including human biology, genomics, science of therapeutics, psychosocial sciences, as well as the science of complex organizational structures. In addition, philosophical, ethical, and historical issues inherent in the development of science</i></p>	<p>2. Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> Utilized Iowa Model of research-based practice to identify problem- and knowledge-focused triggers (DNPC 611: <i>Methods of Translational Science</i>) Utilized Dorsey & Murdaugh's <i>Theory of Self-Care for Management of Vulnerable Populations</i> (2003) to analyze issue of reducing non-emergent visits to a local emergency department (DNPC 611: <i>Methods of Translational Science</i>) <p>Spring 2022</p> <ul style="list-style-type: none"> Synthesized and disseminated information concerning evidenced-based CAM use of Tea Tree Oil for minor dermatological issues (APNC 523: <i>Pharmacology</i>) <p>Summer 2022</p> <ul style="list-style-type: none"> Utilized reflective learning practices to evaluate and synthesize clinical and personal experiences in order to allow them to positively shape future practice (DNPC 610: <i>Philosophy of Reflective Practice</i>) <p>Fall 2022</p> <ul style="list-style-type: none"> Worked with a young, diverse population of college students at local student health center, requiring the use of non-judgemental and objective advice on health promotion and illness/injury prevention while encouraging independence and growth during a volatile period of development (NPTC 602: <i>Primary Care I</i>) Synthesized knowledge of advanced pathogenesis and clinical genetics as a basis for evaluation of patients with multisystem disease states. (DNPC 622: <i>Pathogenesis of Complex Disease</i>)

<p><i>create a context for the application of the natural and social sciences.</i></p>		<ul style="list-style-type: none"> • Formulated appropriate differential diagnosis from an expanded physical assessment database and correlated pathophysiology with assessment and diagnostic findings to formulate a probable diagnosis. (APNC 521: <i>Physical Assessment and Diagnosis</i>) <p>Spring 2023</p> <ul style="list-style-type: none"> • Utilized technology and systematic reviews of clinical research as a basis for evidence-based practice for adult acute conditions (NPTC 604: <i>Primary Care IIA</i>) • Synthesized evidence-based research from care systems throughout the world to create a quality improvement initiative within a local emergency department (DNPC 686: <i>Perspectives in Program Planning</i>) <p>Summer 2023</p> <ul style="list-style-type: none"> • Utilized pathophysiological concepts to develop differentials and working diagnosis in the evaluation of individuals with common chronic and acute health problems (NPTC 605: <i>Primary Care IIB</i>) • Utilize pathophysiological concepts to develop differential and working diagnoses in the evaluation of individuals with emergent complex and/or unstable acute and chronic health problems (NPTC 621: <i>FNP in Emergency Care I</i>) <p>Fall 2023</p> <ul style="list-style-type: none"> • Develop individualized plans of care utilized shared-decision-making for individuals and their families that integrate developmental, psychosocial, spiritual, and physiological needs in an inpatient trauma setting (NPTC 622)
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<p>DNP Essential II: Organizational & System Leadership for Quality Improvement & Systems Thinking</p> <p>NONPF: Leadership Competencies/Health Delivery System Competencies</p> <p><i>Advanced nursing practice includes an organizational and systems leadership component that emphasizes practice, ongoing improvement of health outcomes, and ensuring patient safety. Nurses should be prepared with sophisticated expertise in assessing issues, and facilitating organization- wide changes in practice</i></p>	<p>5. Design, implement, and evaluate ethical health care delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes.</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> Analyze and evaluate potential benefits of malaria chemoprevention in postdischarge management of severe anemia among children in Africa (DNPC 625: <i>Epidemiology</i>) <p>Spring 2022</p> <ul style="list-style-type: none"> Developed and critique strategies for promoting nursing involvement in policy development; conduct a policy analysis with recommendations for change on the topic of NP positions in emergency departments (DNPC 648: <i>Health Policy Analysis</i>) Evaluate and analyze current disparities in health delivery within the United States (DNPC 648) <p>Summer 2022</p> <ul style="list-style-type: none"> Develop a business plan for implementation of a CDS tool, including financial investment planning and ROI analysis (DNPC 653: <i>Financial Decision Making for Health Care Settings</i>) Evaluate factors influencing cost and affordability of healthcare services in vulnerable populations (DNPC 653) <p>Fall 2022</p> <ul style="list-style-type: none"> Adapted patient education on health promotion and lifestyle changes to be more accessible to college-aged students at a local campus health center, taking into account unique challenges faced by students including limited financial resources, unstable housing, and lack of health insurance. (NPTC 602) Assisted in design and implementation of new patient intake form to assess for personal and familial genetic risk factors and their implementations for patient care. (DNPC 622) <p>Spring 2023</p>
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<p><i>delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of practice quality and costs.</i></p>		<ul style="list-style-type: none"> • Developed and implemented plans of care in collaboration with individuals and families that integrated developmental, psychosocial, spiritual, and psychological needs (NPTC 604) • Utilized an ethical framework and knowledge of the legal requirements for clinical practice as an NP to provide patient-center, holistic care to geriatric adult patients in both the clinic and home setting (NPTC 604) • Utilized LEAN principles and the IOWA Model of Evidence Based practice to develop a quality initiative project to improve patient care and staff readiness within the emergency department (DNPC 686) <p>Fall 2023</p> <ul style="list-style-type: none"> • Utilized IOWA Model of Evidence Based practice to implement and analyze the implementation of a dedicated resuscitation space in an urban emergency department environment (DNPC 630: <i>Scholarly Practice</i>)
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<p>DNP Essential II: Organizational & System Leadership for Quality Improvement & Systems Thinking</p> <p>NONPF: Leadership Competencies/Health Delivery System Competencies</p> <p><i>Advanced nursing practice includes an organizational and systems leadership component that emphasizes practice, ongoing improvement of health outcomes, and ensuring patient safety. Nurses should be prepared with sophisticated expertise in assessing issues, and facilitating organization- wide changes in practice</i></p>	<p>5. Design, implement, and evaluate ethical health care delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes.</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> Analyze and evaluate potential benefits of malaria chemoprevention in postdischarge management of severe anemia among children in Africa (DNPC 625: <i>Epidemiology</i>) <p>Spring 2022</p> <ul style="list-style-type: none"> Developed and critique strategies for promoting nursing involvement in policy development; conduct a policy analysis with recommendations for change on the topic of NP positions in emergency departments (DNPC 648: <i>Health Policy Analysis</i>) Evaluate and analyze current disparities in health delivery within the United States (DNPC 648) <p>Summer 2022</p> <ul style="list-style-type: none"> Develop a business plan for implementation of a CDS tool, including financial investment planning and ROI analysis (DNPC 653: <i>Financial Decision Making for Health Care Settings</i>) Evaluate factors influencing cost and affordability of healthcare services in vulnerable populations (DNPC 653) <p>Fall 2022</p> <ul style="list-style-type: none"> Adapted patient education on health promotion and lifestyle changes to be more accessible to college-aged students at a local campus health center, taking into account unique challenges faced by students including limited financial resources, unstable housing, and lack of health insurance. (NPTC 602) Assisted in design and implementation of new patient intake form to assess for personal and familial genetic risk factors and their implementations for patient care. (DNPC 622) <p>Spring 2023</p>
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<p><i>delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of practice quality and costs.</i></p>		<ul style="list-style-type: none"> • Developed and implemented plans of care in collaboration with individuals and families that integrated developmental, psychosocial, spiritual, and psychological needs (NPTC 604) • Utilized an ethical framework and knowledge of the legal requirements for clinical practice as an NP to provide patient-center, holistic care to geriatric adult patients in both the clinic and home setting (NPTC 604) • Utilized LEAN principles and the IOWA Model of Evidence Based practice to develop a quality initiative project to improve patient care and staff readiness within the emergency department (DNPC 686) <p>Fall 2023</p> <ul style="list-style-type: none"> • Utilized IOWA Model of Evidence Based practice to implement and analyze the implementation of a dedicated resuscitation space in an urban emergency department environment (DNPC 630: <i>Scholarly Practice</i>)
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<p>DNP Essential III: Clinical Scholarship & Analytical Methods for Evidence-Based Practice</p> <p>NONPF: Quality Competence s/Practice Inquiry Competencies</p> <p><i>Scholarship and research are the hallmarks of doctoral education. Although basic research is viewed as the first and most essential form of scholarly activity, an enlarged perspective of scholarship has emerged through alternative paradigms that involve more than discovery of new knowledge. These paradigms recognize: (1) the scholarship of discovery and</i></p>	<p>4. Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines.</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> Conducted evidenced-based research to create recommendations for change to reduce non-emergent visits to local emergency department (DNPC 611) <p>Spring 2022</p> <ul style="list-style-type: none"> Analyze and present evidenced-based research concerning CAM therapy of Tea Tree Oil (APNC 523) Analyze and incorporate evidence-based research surrounding increased need for healthcare interpreters to formulate CDS project <i>Remote Interpreter Services</i> (HCIN 540: <i>Intro to Health Care Information Management</i>) <p>Summer 2022</p> <ul style="list-style-type: none"> Critically appraised and examined the contexts in which advanced nursing practice and practice inquiry develop (DNPC 610) Explored the scientific foundations and practices of mindfulness and reflective learning in order to enhance personal reflective practice as well as improve holistic patient care (DNPC 610) <p>Fall 2022</p> <ul style="list-style-type: none"> Discussed potential patient differential diagnoses and treatment options with preceptor and reviewed evidence-based resources (UpToDate, PubMed, etc) for current best-practice guidelines prior to providing patient with plan of care (NPTC 602) Evaluated subjective and objective clinical findings to formulate differential diagnosis for patients with complex disease states. (DNPC 622) Explored current therapies and investigational interventions including pharmacogenetics for complex disease states in the acutely or chronically ill individual utilizing evidence-based practice models. (DNPC 622) <p>Spring 2023</p>
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<p><i>integration “reflects the investigative and synthesizing traditions of academic life”; (2) scholars give meaning to isolated facts and make connections across disciplines through the scholarship of integration; and (3) the scholar applies knowledge to solve a problem via the scholarship of application that involves the translation of research into practice and dissemination and integration of new knowledge.</i></p>		<ul style="list-style-type: none"> • Utilized pathophysiological concepts to develop differentials and working diagnosis in the evaluation of individuals with common acute and chronic health problems (NPTC 604) • Worked alongside a physician colleague to utilize cutting-edge wound care/skin graft technology to improve patient outcomes and speed wound healing in medically fragile, bedbound geriatric patients (NPTC 604) • Applied principles of program planning to the design of an evidence-based practice project (DNPC 686) <p>Summer 2023</p> <ul style="list-style-type: none"> • Synthesized evidence-based recommendations surrounding carotid artery dissection through an anonymized case study seen in personal clinical experience. Article accepted for publication (NPTC 621) <p>Spring 2024</p> <ul style="list-style-type: none"> • Disseminated results of evidence-based practice study in both academic and clinical practice settings (DNPC 630)
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<p>DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care</p> <p>NONPF:</p> <p>Technology & Information Literacy Competencies</p> <p><i>DNP graduates are distinguished by their abilities to use information systems/technology to support and improve patient care and health care systems, and provide leadership within health care systems and/or academic settings. Knowledge and skills related to information systems/technology and patient care</i></p>	<p>7. Incorporate ethical, regulatory, and legal guidelines in the delivery of health care and the selection, use, and evaluation of information systems and patient care technology.</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> • Obtained Biomedical Research Human Certification – Basic/Refresher Course through CITI (DNPC 625) <p>Spring 2022</p> <ul style="list-style-type: none"> • Analyze and evaluate current and future healthcare delivery technologies and their potential risks vs. benefits (HCIN 540) • Incorporate evidence-based research into development of novel CDS proposal in <i>Remote Interpreter Services</i> (HCIN 540) • Applied processes, tools, and techniques of strategic planning and management to analyze the World Health Organization (DNPC 626: <i>Strategic Planning and Quality Initiatives</i>) <p>Summer 2022</p> <ul style="list-style-type: none"> • Evaluate financial feasibility and ROI analysis of evidence-based CDS tool (DNPC 653) <p>Fall 2022</p> <ul style="list-style-type: none"> • Developed proficiency in charting using <i>MediCat</i> electronic health record (NPTC 602) • Documented health assessment data in a concise, accurate, and organized manner using an appropriate SOAP format. (APNC 521) <p>Spring 2023</p> <ul style="list-style-type: none"> • Analyzed the role and economic impact of the nurse practitioner in a collaborative interdisciplinary model of care (NPTC 604) • Evaluated financial feasibility and completed and CBA/ROI analysis of my selected EBP project (DNPC 686) <p>Fall 2023</p>
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<p><i>technology prepare the DNP graduates apply new knowledge, manage individual and aggregate level information, and assess the efficacy of patient care technology appropriate to a specialized area of practice along with the design, selection, and use of information systems/technology to evaluate programs of care, outcomes of care, and care systems. Information systems/technology provide a mechanism to apply budget and productivity tools, practice information systems and decision supports, and web-based learning or intervention tools to</i></p>		<ul style="list-style-type: none"> Utilized bedside ultrasound for the diagnosis and monitoring of emergent conditions including pericardial tamponade, pulmonary edema, and retroperitoneal bleeding (NPTC 622) <p>Spring 2024</p> <ul style="list-style-type: none"> Independently utilized advanced airway adjuncts including bougie device and Glidescope to place difficult airways in OR and outpatient procedure settings (NPTC 609)
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<i>support and improve patient care.</i>		
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<p>DNP Essential V: Health Care Policy for Advocacy in Health Care</p> <p>NONPF: Policy Competencies</p> <p><i>Health care policy, whether created through governmental actions, institutional decision-making, or organizational standards, creates a framework that can facilitate or impede the delivery of health care services or the ability of the provider to engage in practice to address health care needs. Engagement in the process of policy development is central to creating a health care system that meets the needs of its constituents. Political activism and a commitment to policy development are</i></p>	<p>3. Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).</p>	<p>Spring 2022</p> <ul style="list-style-type: none"> Analyze and evaluate Health Care Improvement Act of 2021 (DNPC 648) Synthesized current data concerning, and developed a policy proposal for <i>Training and Utilization of Nurse Practitioners within the Emergency Department</i> (DNPC 648)
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<p><i>central elements of DNP practice.</i></p>		
<p>DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes</p> <p>NONPF: Leadership Competencies</p>	<p>1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> Analyzed relevant findings of diagnostic or other evaluative studies as they relate to pathophysiological processes of Plantar Fasciitis (APNC 520) <p>Spring 2022</p> <ul style="list-style-type: none"> Developed health policy paper outlining recommendations for improvement on the use of Emergency Nurse Practitioners in higher acuity emergency departments (DNPC 648) <p>Summer 2022</p>

<p><i>Today's complex, multi-tiered health care environment depends on the contributions of highly skilled and knowledgeable individuals from multiple professions. In order to accomplish the IOM mandate for safe, timely, effective, efficient, equitable, and patient-centered care in this environment, health care professionals must function as highly collaborative teams. DNP's have advanced preparation in the interprofessional dimension of health care that enable them to facilitate collaborative team functioning and overcome impediments to interprofessional practice. DNP</i></p>	<p>based, culturally competent therapeutic interventions for individuals or aggregates.</p> <p>3. Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).</p>	<ul style="list-style-type: none"> Utilized skills of reflective learning and understanding of knowledge development in order to act as a more cohesive and inclusive member of health care delivery team (DNPC 610) <p>Fall 2022</p> <ul style="list-style-type: none"> Independently organized and conducted staff training for StopTheBleed hemorrhage care course at Mesa College Student Health Center. Assisted in training additional course instructors as part of campus-wide initiative to place hemorrhage control kits in every building. (NPTC 602) Assisted in conducting a lecture on sexual health and contraception options for first year college students, providing primary and preventative care outside of the clinic setting and demonstrating the value that increased knowledge can add to an individual's overall health and wellbeing. (NPTC 602) <p>Spring 2023</p> <ul style="list-style-type: none"> Collaborated with emergency department management to create specific, measurable, and attainable goals for the use of a resuscitation bay within the emergency department (DNPC 686) Formulated a plan for effective dissemination of evaluation results of an EBP to appropriate stakeholders (DNPC 686) <p>Summer 2023</p> <ul style="list-style-type: none"> Differentiated non-emergent from emergent/urgent conditions and initiated interprofessional treatment, consultation, and referral in the urgent care setting (NPTC 605) <p>Spring 2024</p> <ul style="list-style-type: none"> Coordinated interdepartmental consultation for emergency department patients requiring surgery and/or hospital admission (NPTC 609)
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<i>graduates have preparation in methods of effective team leadership and are prepared to play a central role in establishing interprofessional teams, participating in the work of the team, and assuming leadership of the team when appropriate.</i>		
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<p>DNP Essential VII: Clinical Prevention & Population Health for Improving Nation's Health</p> <p>NONPF: Leadership Competencies</p> <p><i>Consistent with national calls for action and with the longstanding focus on health promotion and disease prevention in nursing, the DNP graduate has a foundation in clinical prevention and population health. This foundation enables DNP graduates to analyze epidemiological, biostatistical, occupational, and environmental data in the development,</i></p>	<p>6. Employ a population health focus in the design, implementation, and evaluation of health care delivery systems that address primary, secondary, and tertiary levels of prevention.</p>	<p>Fall 2021</p> <ul style="list-style-type: none"> Developed and presented a secondary screening program for Type II Diabetes (DNPC 625) Analyzed epidemiological, biostatistical, and environmental data at the local, national, and international level (DNPC 625) <p>Spring 2022</p> <ul style="list-style-type: none"> Analyzed and presented strategic priorities of the World Health Organization as part of their goals to expand health coverage worldwide (DNPC 626) <p>Summer 2022</p> <ul style="list-style-type: none"> Examined and evaluated factors influencing population health and healthcare access in various communities within the United States (DNPC 610) Synthesized information brought forth in <i>The Future of Nursing 2020-2030</i> to determine key barriers to health equity and determine specific roles of the APRN in correcting these disparities (DNPC 610) <p>Fall 2022</p> <ul style="list-style-type: none"> Provided patient education on primary prevention measures at each student health visit including the need to use protection during intercourse, currently available contraception options, and realistic lifestyle modifications to improve diet/exercise. (NPTC 602) Independently completed an accurate comprehensive and/or problem-focused history, modifying interview techniques as appropriate based on age, development, culture, and cognitive ability. (APNC 521) <p>Spring 2023</p> <ul style="list-style-type: none"> Differentiated non-emergent from emergent/urgent conditions and initiated interprofessional treatment, consultation, and referral (NPTC 604)
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<i>implementation, and evaluation of clinical prevention and population.</i>		<ul style="list-style-type: none">• Monitored patient care outcomes within the geriatric primary care setting to foster continuous quality improvements (NPTC 604) <p>Fall 2023</p> <ul style="list-style-type: none">• Assessed individual educational and healthcare needs of females age 18 - 65+ during annual well woman exams (NPTC 608) <p>Spring 2024</p> <ul style="list-style-type: none">• Utilized appropriate preventative care patient education methods based on patient age and literacy level while in a busy urban emergency department (NPTC 609)
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<p>DNP Essential VIII: Advanced Nursing Practice</p> <p>NONPF: Independent Practice/Ethics Competencies</p> <p><i>The increased knowledge and sophistication of health care has resulted in the growth of specialization in nursing in order to ensure competence in these highly complex areas of practice. The reality of the growth of specialization in nursing practice is that no individual can master all advanced roles and the requisite knowledge for enacting these roles. DNP programs provide preparation within distinct specialties that require expertise, advanced knowledge,</i></p>	<p>1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.</p>	<p>Fall 2022</p> <ul style="list-style-type: none"> Independently interviewed and assessed patients presenting for both well and problem-focused visits at local student health center. Discussed patient cases with preceptor and developed plan of care, provided patient education and follow up information. (NPTC 602) <p>Spring 2023</p> <ul style="list-style-type: none"> Provided culturally competent care in the setting of home and end-of-life care for geriatric patients and their families (NPTC 604) <p>Summer 2023</p> <ul style="list-style-type: none"> Evaluated relevant developmental, behavioral and sociocultural concepts in assessing the health care needs of individuals and their families in the urgent care setting (NPTC 605) <p>Fall 2023</p> <ul style="list-style-type: none"> Provided culturally competent care to a primarily Spanish-speaking population in El Centro, CA (NPTC 608)
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<p><i>and mastery in one area of nursing practice. A DNP graduate is prepared to practice in an area of specialization within the larger domain of nursing.</i></p>		
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Appendix G

UCSD ED Charge Nurse Training

ED Resus Room Project

Martha Buck, RN, BSN
Student, USD DNP FNP/ENP Program
University of San Diego

Ross Baziak, RN, BSN, MICN, CEN
Assistant Nurse Manager
Hillcrest Emergency Department
University of California San Diego

Background

- The emergency department serves as the first point of contact for both high and low acuity patients seeking treatment.
- Increasing patient volumes and lack of inpatient beds has led to ED overcrowding and the creation of hallway/chair beds to facilitate seeing more patients



Best practice among emergency departments worldwide includes the maintenance of a dedicated resuscitation space to provide life-saving interventions to critical patients in a timely manner

Driving Forces Within UCSD

- Current practice: place patients in the next available care area
- No maintenance of a dedicated resuscitation space for critically ill patients.
- Often results in the need for rapid and unplanned movement of existing patients in order to create space when a critical patient is en route or arrives through triage
- Needed resuscitation equipment is often out of place or difficult to locate in an emergent situation
- Leads to increased levels of stress among staff, complicates interdisciplinary communication, and impedes efficient patient flow through the department



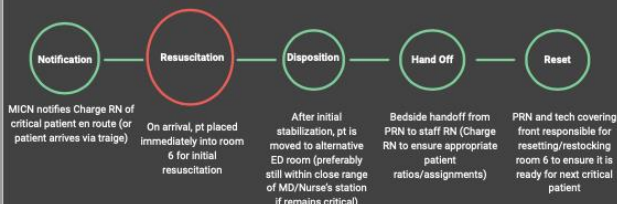
Unit Pre-Survey Results

- MDs
 - Only **31%** of UCSD HC physicians surveyed felt they *strongly agreed* with the statement:
 - "Communication with staff RNs is clear and effective during the resuscitation of adult critical patients (Age ≥18yrs; ESI ≤ 2)"
 - Only **15%** *strongly agreed* with the statement:
 - "I am notified when there is an adult critical patient (Age ≥18yrs; ESI ≤ 2) en route to the HC ED"

Unit Pre-Survey Results

- RNs
 - 43%** of UCSD HC charge RNs surveyed felt they *strongly agreed* with the statement:
 - "Finding an appropriate room for an adult critical patient (Age ≥18yrs; ESI ≤ 2) increases my stress level while in the charge role"
- All Staff Results
 - 81%** *strongly agreed or somewhat agreed* with the statement:
 - "I often have to leave the bedside (or send another staff member) during the acute resuscitation of an adult critical patient (Age ≥18yrs; ESI ≤ 2) in order to retrieve necessary equipment"

Proposed Plan: Maintenance of room 6 as HC ED dedicated resuscitation bay



Which patients will be seen in the resuscitation bay?

- ESI 1 and some ESI 2s
- Patients in cardiac arrest or acute respiratory distress
- Trauma alerts
- Charge RN discretion



How long should patients remain in the bay?

- Ideally, patients will only remain in the resuscitation bay during the **acute resuscitation phase** of their care
- If pt is transferred to imaging, they should not return to bed 6
- If no imaging ordered, pt should be transferred when stable enough for room change



Goals of Initiative

- Increased preparedness of ED staff, improved communication
- Improved resuscitation and care of critical patients
- Improved times to key interventions
- Smoother handoffs after initial resuscitation



Questions?

Appendix H

CITI Certification

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2 COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Martha Buck (ID: 10612648)
- **Institution Affiliation:** University of San Diego (ID: 1652)
- **Institution Email:** mbuck@san Diego.edu
- **Institution Unit:** Hahn School of Nursing

- **Curriculum Group:** Human Subjects Research - Biomed
- **Course Learner Group:** Biomedical Research - Basic/Refresher
- **Stage:** Stage 1 - Basic Course
- **Description:** Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in biomedical research with human subjects.

- **Record ID:** 45640333
- **Completion Date:** 13-Oct-2021
- **Expiration Date:** 12-Oct-2024
- **Minimum Passing:** 80
- **Reported Score*:** 86

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and Its Principles (ID: 1127)	13-Oct-2021	3/3 (100%)
History and Ethics of Human Subjects Research (ID: 498)	13-Oct-2021	4/5 (80%)
Basic Institutional Review Board (IRB) Regulations and Review Process (ID: 2)	13-Oct-2021	4/5 (80%)
Informed Consent (ID: 3)	13-Oct-2021	5/5 (100%)
Records-Based Research (ID: 5)	13-Oct-2021	2/3 (67%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/?k2144e8d7-3d95-4435-a682-7c705aa6b367-45640333

Collaborative Institutional Training Initiative (CITI Program)

Email: support@citiprogram.org

Phone: 888-529-5929

Web: <https://www.citiprogram.org>

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 2 OF 2 COURSEWORK TRANSCRIPT**

** NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Martha Buck (ID: 10612648)
- **Institution Affiliation:** University of San Diego (ID: 1652)
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- **Stage:** Stage 1 - Basic Course
- **Description:** Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in biomedical research with human subjects.
- **Record ID:** 45640333
- **Report Date:** 13-Oct-2021
- **Current Score**:** 85

REQUIRED, ELECTIVE, AND SUPPLEMENTAL MODULES	MOST RECENT	SCORE
Basic Institutional Review Board (IRB) Regulations and Review Process (ID: 2)	13-Oct-2021	4/5 (80%)
Informed Consent (ID: 3)	13-Oct-2021	5/5 (100%)
Belmont Report and Its Principles (ID: 1127)	13-Oct-2021	3/3 (100%)
Records-Based Research (ID: 5)	13-Oct-2021	2/3 (67%)
History and Ethics of Human Subjects Research (ID: 498)	13-Oct-2021	4/5 (80%)
Conflicts of Interest in Human Subjects Research (ID: 17464)	13-Oct-2021	4/5 (80%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

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COMPLETION REPORT - PART 1 OF 2 COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Martha Buck (ID: 10612648)
- **Institution Affiliation:** University of San Diego (ID: 1652)
- **Institution Email:** mbuck@san Diego.edu
- **Institution Unit:** Hahn School of Nursing
- **Curriculum Group:** Human Subjects Research - SBR
- **Course Learner Group:** Social & Behavioral Research - Basic/Refresher
- **Stage:** Stage 1 - Basic Course
- **Description:** Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social/Behavioral Research with human subjects.
- **Record ID:** 45639024
- **Completion Date:** 13-Oct-2021
- **Expiration Date:** 12-Oct-2024
- **Minimum Passing:** 80
- **Reported Score*:** 82

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and Its Principles (ID: 1127)	13-Oct-2021	3/3 (100%)
Conflicts of Interest in Human Subjects Research (ID: 17464)	13-Oct-2021	4/5 (80%)
Students in Research (ID: 1321)	13-Oct-2021	5/5 (100%)
History and Ethics of Human Subjects Research (ID: 498)	13-Oct-2021	4/5 (80%)
Defining Research with Human Subjects - SBE (ID: 491)	13-Oct-2021	4/5 (80%)
Informed Consent - SBE (ID: 504)	13-Oct-2021	4/5 (80%)
Privacy and Confidentiality - SBE (ID: 505)	13-Oct-2021	3/5 (60%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

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COMPLETION REPORT - PART 2 OF 2 COURSEWORK TRANSCRIPT**

** NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Martha Buck (ID: 10612648)
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- **Curriculum Group:** Human Subjects Research - SBR
- **Course Learner Group:** Social & Behavioral Research - Basic/Refresher
- **Stage:** Stage 1 - Basic Course
- **Description:** Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social/Behavioral Research with human subjects.

- **Record ID:** 45639024
- **Report Date:** 13-Oct-2021
- **Current Score**:** 83

REQUIRED, ELECTIVE, AND SUPPLEMENTAL MODULES	MOST RECENT	SCORE
Basic Institutional Review Board (IRB) Regulations and Review Process (ID: 2)	13-Oct-2021	4/5 (80%)
Students in Research (ID: 1321)	13-Oct-2021	5/5 (100%)
Informed Consent (ID: 3)	13-Oct-2021	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	13-Oct-2021	4/5 (80%)
Belmont Report and Its Principles (ID: 1127)	13-Oct-2021	3/3 (100%)
Records-Based Research (ID: 5)	13-Oct-2021	2/3 (67%)
Informed Consent - SBE (ID: 504)	13-Oct-2021	4/5 (80%)
Privacy and Confidentiality - SBE (ID: 505)	13-Oct-2021	3/5 (60%)
History and Ethics of Human Subjects Research (ID: 498)	13-Oct-2021	4/5 (80%)
Conflicts of Interest in Human Subjects Research (ID: 17464)	13-Oct-2021	4/5 (80%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/2kec8093cc-cfac-45c6-9a71-6652da417c90-45639024

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