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The Medical Student Collaborative: An Innovative Model to Improve Interprofessional Collaboration, Communication, and Patient Care

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Introduction

The World Health Organization (WHO) supports interprofessional collaboration and education (ICE) to strengthen efficiency and performance of healthcare teams resulting in improved outcomes for patients, team members, and organizations (2010). This recommendation has been validated by studies demonstrating the benefits of ICE including improved role definition, identification of factors influencing the team environment, improved attitudes of team members, and improved communication (Aase, Hansen, & Aase, 2014; Park, Hawkins, Hamlin, & Hawkins, 2014; Shafran, Richardson, & Bonita, 2015). The Medical Student Collaborative began in 2016 after medical faculty approached the hospital's critical care outreach team with a desire to expose fourth year medical students to high acuity situations. Initial feedback from medical students participating in the Collaborative indicated benefits extending beyond the program's intent. These incidental observations reflected the value of ICE as identified by the WHO and the studies cited. Consequently, the Collaborative has evolved to encompass both the care of high acuity patients and phenomena pertaining to interdisciplinary teamwork.

Project Description & Goals

The critical care outreach team is composed of highly skilled, experienced critical care nurses who possess keen operational knowledge and are empowered to practice to the full extent of their license. They provide critical care consultation, emergency response, staff education, and advocacy to 14 acute care units in a 697 bed academic medical center. This dynamic environment requires the critical care outreach nurse to autonomously triage and expedite multiple requests during a given shift. The nurses' breadth and depth of critical care experience, accompanied by their operational expertise and exuberance for teaching, rendered them opportune partners in this Collaborative.

Fourth year medical students are scheduled to work with a critical care outreach nurse for a single seven hour shift from 1700 to 0000 when the team receives its highest volume of calls. Collaborative objectives are clearly written and shared among all participants to provide direction and justification for the experience (Woermann, Weltsch, Kunz, Stricker, & Guttormsen, 2016). Revised objectives based on feedback from early participants include: enhance critical thinking and confidence in the recognition and management of decompensating patients; collaborate in interdisciplinary planning and facilitation of patient care; engage in interdisciplinary opportunities for teaching/learning to improve patient and nurse outcomes; gain experience obtaining arterial blood specimens and establishing intravenous access in patients with compromised vasculature utilizing ultrasound guidance as needed.

The vision for this Collaborative is to provide an exemplar framework for healthcare and education systems to work together in actualizing ICE thus addressing the WHO's call to action (WHO, 2010).

Process

The medical student performs proactive rounding and surveillance with the critical care outreach nurse and responds to all emergencies and requests for consultation, procedural assistance, and staff education needs. Throughout the shift, the medical student and nurse engage in purposeful debriefing regarding the patients they encounter and discuss interdisciplinary experiences pertaining to communication, flow of patient care, and role clarification. Students have the opportunity to ask numerous questions ranging from patient management during a crisis situation to educational preparation of an acute care bedside nurse. The Collaborative experience further affords medical students the opportunity to establish intravenous access and obtain arterial blood specimens utilizing ultrasound guidance. During periods of downtime, the critical care outreach nurse reviews evidence-based unfolding case studies with the student that address interdisciplinary management of unstable, decompensating patients.

Following their experience with the critical care outreach nurse, medical students are asked to complete an electronic, anonymous survey. Questions are answered using a numerical rating scale and with open response. Data collection began in May, 2017 and is ongoing with each monthly cohort of medical students. Since the Medical Student Collaborative began in 2016, critical care outreach nurses and medical students have shared over 500 hours of ICE.

Outcomes

Preliminary survey results indicate working with the critical care outreach nurse increases medical students' confidence in the recognition and management of decompensating patients while offering a better understanding of interdisciplinary communication as it pertains to the continuum of care. Medical students report the experience was worth their time and it improved their understanding of how collaborative teaching/learning experiences impact nurse and patient outcomes. They further indicate the experience increased their knowledge in establishing intravenous access and obtaining arterial blood specimens. Individual comments include, "it helped me understand the responsibilities of nurses and the functions of different ancillary staff in the hospital. I think it was a tremendous experience in fostering interdisciplinary understanding;" "...it made me feel less timid to ask RNs about various thoughts/questions I have in the future. Specifically, I found it encouraging that my interest in learning how to gain IV access, perform blood draws, learn how to care for port sites, learn how the monitors work in the room, and learn how to position the bed for a code would be well-received;" and "I wish there were more sessions/opportunities for medical students to be involved with learning about the day-to-day lives/activities of RNs. It would be helpful to see exactly what happens when we place orders in [the computer] and then things are 'magically' completed (e.g. blood draws, accessing a port, initiating tube feeds, initiating IVF, etc.)"

Conclusion

The outcomes of the Medical Student Collaborative demonstrate alignment with the core competencies defined by the Interprofessional Education Collaborative (2016). Students speak of experiencing a respectful environment that facilitates interdisciplinary understanding and delivery of patient-centered care. Through increased understanding of the nurse's role, students identify how their communication and actions directly affect patient care. Although the original intent of the Collaborative involved managing patients in high acuity situations, the findings of this Collaborative thus far suggest that ICE facilitates effective clinical care in high acuity situations by establishing a trusting environment that allows for open communication and interdisciplinary understanding. As the Collaborative continues to evolve it is necessary to identify objective measures pertaining to short and long-term effects of ICE on patient, nurse, and medical student outcomes.

Title:

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Keywords:

Interprofessional collaboration, Interprofessional education and Patient and student outcomes

References:

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Abstract Summary:

This evidence-based project demonstrates the power of interprofessional collaboration and education in facilitating effective patient-centered care. The Medical Student Collaborative affords medical students the opportunity to work alongside an experienced critical care outreach nurse. Students describe the Collaborative as a valuable experience reporting improved confidence, communication, and understanding of roles.

Content Outline:

1. Introduction
 1. World Health Organization recommendations for interprofessional collaboration and education
 2. Evidence-based support for interprofessional collaboration and education
 3. Early evolution of the Medical Student Collaborative
2. Body
 1. Project Description
 1. Role and characteristics of critical care outreach RN
 2. Project objectives
 2. Process
 1. The student experience during collaboration
 1. Opportunities for open communication
 2. Meaningful debriefing following management of decompensating patients
 3. Provision of hands-on patient care in cooperation with experienced critical care nurse
 4. Active participation in interprofessional education
 5. Real time opportunities to gain operational insight while expediting patient care
 2. Data collection through electronic survey
 3. Outcomes
 1. Improved confidence in identification and management of high acuity patients
 2. Improved understanding of interdisciplinary roles and communication
 3. Improved understanding of the effects of interprofessional teaching and learning on patient outcomes
 4. Improved comfort with psychomotor skills in establishing intravenous access and obtaining arterial specimens
1. Conclusion
 1. Outcomes of Collaborative closely align Interprofessional Education Collaborative core competencies
 2. Findings suggest interprofessional collaboration and education facilitate effective patient-centered care
 3. As the Collaborative evolves, recommend identification of objective measures to assess short and long-term effects of interprofessional collaboration and education on patient, nurse, and student outcomes

First Primary Presenting Author

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Professional Experience: Masters prepared, dual certified critical care RN with 19 years of hospital clinical and leadership experience. 2012-present critical care faculty in traditional baccalaureate program. Professional poster presentation at American Association of Critical Care Nurses National Teaching Institute, May, 2017

Author Summary: Holly Losurdo is an experienced critical care nurse who works in the acute care and academic settings. She currently serves as co-lead of a critical care outreach team serving a 697 bed academic medical center. Holly teaches critical didactic and leadership courses at the pre-licensure

baccalaureate level. She is returning to school herself this fall to begin her PhD studies. Holly is passionate about studying the effects of nurse-sensitive indicators on patient outcomes.

Second Author

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Professional Experience: Critical care nurse with 12 years progressive leadership and clinical experience. Currently practicing as team lead of the STAT Acuity RNs in critical care outreach within a larger academic medical center. Certifications in both critical care and stroke care allows for broad scope of clinical deterioration, and passion for education fosters strong interdisciplinary relationships.

Author Summary: Heather practices as a critical care outreach RN with certifications in critical care and stroke care. Through actively building positive relationships with attending physicians, an idea for unique collaboration was created. This partnership specifically highlights the experiences in pairing expert nurses and medical students as they are emerged into the acute hospital setting as novices physicians.

Third Author

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Author Summary: Dr. Michelle Sweet is the Internal Medicine Subinternship Codirector, M4 Work Group Chair of the Curriculum Committee, Fourth Year Interview Course Director and is involved in numerous aspects of fourth year medical student education.

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Professional Experience: - Attending Physician and Assistant Professor - I work as a physician on the general medicine wards and supervise residents, interns, and medical students and have been in this role for 4 years - I am co-director for the medical student M4 subinternship rotation at Rush for the last 2 years - I also serve as a medical student faculty advisor, on the Rush Medical College admissions committee, and will be leading our non-resident hospital services next year

Author Summary: Dr. Tsai is an attending hospitalist who splits time between clinical service with residents and advanced practice providers (NP/PAs) and administrative roles including the internal medicine subinternship at Rush and directing the non-resident inpatient hospitalist service. She collaborates with the critical care outreach nurses at Rush to create this educational opportunity for our subinterns to learn more about acute events and the nursing role in a patient's care.

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Professional Experience: 4 years neuro surgical intensive care unit experience 1 year critical care outreach experience Medical Student Collaborative Mentor Holds national certification in critical care nursing

Author Summary: Brittany Wells has four years neurosurgical ICU experience and has been working as a critical care outreach nurse for one year. She serves as a nurse mentor for the Medical Student Collaborative Mentor and has authored several evidence-based unfolding case studies for the Collaborative.

Sixth Author
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Professional Experience: Nationally certified critical care nurse with five years of experience in open heart recovery, ventricular assist devices, transplantation, and extracorporeal membrane oxygenation. Current member of a critical care outreach team in a large urban medical center that responds to inpatient emergency responses, conducts proactive rounding on patients recently discharged from intensive care, and provides direct bedside critical care nursing consultations.

Author Summary: Jonathan Shipley's experience in healthcare ranges from a level one trauma background to intensive care nursing in some of the highest recognized critical care specialties. He currently practices as a critical care outreach nurse in a large urban medical center, and a key component the outreach program is strong interdisciplinary communication between nursing and physicians.

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