

Symposium

Introduction

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The Tele-ICU: A New Frontier in Critical Care Nursing Practice

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Today, in many intensive care units (ICUs), critical care nursing practice has been altered by the presence of the tele-ICU, as demonstrated in the following scenarios:

- A nurse calls a physician at 3 AM, trying to describe the agitated patient climbing over the bed rails who is in need of immediate sedation. *Today, with a click of the button, the virtual physician can arrive in the patient's room and immediately visualize the patient to provide orders for treatment of agitation, preventing harm to the patient as well as the care provider.*
- At 5 AM, a patient is suddenly in V-tach, and the team handles the emergency but then has to wait for the physician to return the call to obtain further orders for management. *Today, the nurse pushes the alert button, and the tele-ICU team immediately enters the room to help manage the patient until the hospital code team arrives.*
- A medical resident, new to the service and uncertain about how to manage an unstable patient, tries to discern the best course of treatment. *Today, after consulting with the tele-ICU team, the resident requests that the tele-ICU physician stay to assist with decision making on this patient who is rapidly deteriorating. The tele-ICU nurse also "cameras" into the room, while reviewing the most recent patient laboratory results. She places calls at the request of the nurse at the bedside, thus allowing the nurse at the bedside to focus on the immediate needs of the patient.*
- A new nurse, just out of orientation, feels uneasy about the respiratory status of a patient but feels embarrassed about asking other nurses for help. *Today, he pushes the alert button to bring the experienced tele-ICU nurse to the bedside to help analyze and validate concerns about the patient. The tele-ICU nurse performs a virtual assessment of the patient. She mentors and reassures the ICU nurse, while providing education and decision support and notifying the tele-ICU physician that the patient is in distress and requires intervention.*

Fifteen years ago, one could only imagine the possibility of these scenarios. Today a patient's hospital room can be connected to a site miles away that allows

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audio and video interactions between clinical teams making decisions and providing treatments for critically ill patients. Currently, approximately 45 such sites exist, reaching more than 200 hospitals and 10% of all critically ill patients in the United States.¹ This advent of tele-ICU practice has changed the way we assess patient needs, communicate issues, make decisions, mentor clinical staff, and interact with patients and families. It has introduced competencies related to team integration, communication, and the importance of a systems approach in creating a care-delivery model that affects patient outcomes.

This symposium introduces various topics to inform readers of the advantages and the challenges of the tele-ICU model of care. It consists of 6 articles that discuss varied aspects of the tele-ICU experience. Golembeski et al describe perceptions of the care experience using the tele-ICU from the patient and family perspective. Few studies exist that assess the impact of this model on patients and families—a vital need for understanding the impact of the changing health care dynamics through the patient's eyes.

The introduction of the tele-ICU to critical care has created both excitement and anxiety regarding the impact of the new care model on the critical care environment. Related to this challenge, Venditti et al identify common misperceptions that accompany the use of the tele-ICU, along with providing discussion to help clarify the role of the tele-ICU in clinical practice. In addition, the authors describe the impact the tele-ICU has had on cost, quality care, and patient outcomes.

The technology used by the tele-ICU enables integration of multiple ICUs across health systems, creating a coordinated approach to evidence-based practice as described in Olff and Clark-Wadkin's article. The influence of this aligned team creates the potential to have a positive impact on patient care. The authors describe how this technology enhances the ability to integrate teams in a new way and best leverage the tele-ICU's focus on enhancing preventive care.

Based on the model of current hospital rapid response teams, Hawkins describes the use of the tele-ICU as a rapid response center in the Veterans Administration system. Driven by critical care nurses, the tele-ICU creates a link between bedside teams and medical specialists

who may be located several hundred miles apart. This model can enable specialty care for the rural veteran who presents with emergent and complex needs, regardless of location within the region.

As the reach of the tele-ICU has expanded outside the walls of the critical care unit, Mullen-Fortino et al describe both the benefits and challenges of this model when used in the long-term acute care environment. The authors describe the impact of the tele-ICU's participation in providing quality care to complex patients in long-term facilities where containing costs and preventing readmission to acute care hospitals are paramount.

With a focus on the environment where the safe care of patients is essential, Goran and Mullen-Fortino address the importance of true collaboration, skilled communication, and effective decision making when using the tele-ICU model. The principles of the American Association of Critical-Care Nurses' Healthy Work Environment standards² are highlighted as the foundational elements necessary to achieve optimal outcomes when tele-ICUs and bedside teams work together.

In 2010, the American Association of Critical-Care Nurses convened a work group to address the issues related to the nursing care provided in tele-ICUs. Subject-matter experts who practice in tele-ICUs across the country came together to explore this new care-delivery model and begin to understand its impact on patient care and on nurses who practice in the tele-ICU as well as at the bedside. We hope the diverse topics included in this symposium help illuminate the types of challenges and outcomes produced to date, as this subspecialty of critical care nursing emerges. Through this understanding by nurses on "both sides of the camera," this cutting-edge technology can be leveraged most successfully to enhance the care and safety of critically ill patients, regardless of their location.

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