

Symposium

Introduction

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Telehealth and Virtual Nursing: Solutions That Challenge the Status Quo

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When social distancing became a countermeasure during the COVID-19 pandemic, telehealth and virtual care modalities peaked beyond what anyone had imagined or planned for. The US Government Accountability Office reported a 15-fold increase over the prepandemic level in telehealth use among Medicaid beneficiaries. Numbers skyrocketed from 2.1 million in the year prior to the pandemic to 32.5 million in the 12 months from March 2020 to February 2021 during the pandemic.¹ But how does telehealth use impact the practice of the nurse or advanced practice nurse? The articles in this symposium will explore the impacts of telehealth on nurses through various use cases and through exploration of aspects of telehealth and virtual nursing.

Telehealth is the provision of health care services, information, and education from one site to another using advanced communication technologies.² Telehealth is not new. In 1878, physicians used a microphone attached to a telephone to transmit heart sounds.³ In 1879, a physician was able to determine whether a baby had croup over a telephone call with the child's mother.⁴ In 1910, visionaries imagined that a doctor could see patients in their homes using audio-video tools, and 5 years later remote transmission of electrocardiograms for diagnosing hypertrophy and arrhythmias occurred in New York.⁵ Radiographic images, videos, and other complex health information were transmitted in the United States in the 1950s.⁶ In the 1970s, the Lockheed Missile and Space Company, the Indian Health Services, and the Department of Health, Education, and Welfare (DHEW, now HHS) demonstrated that health care could be delivered to remote locations (eg, Alaska) using telecommunications technologies.⁷

Medical communication using the telephone, a major health care communication modality still used today, was adopted by physicians more than 100 years ago.⁸ Nurses and physicians commonly communicate over the telephone for triaging and medical management for acute and chronic illness, chronic disease case management, patient education, counseling, and communicating laboratory and imaging results. Adverse events related to telephone communication have led to significant and costly patient safety issues,⁹ yet the telephone is still a common communication mode in most hospitals and care settings. Although adding high-definition visualization capabilities to the communication process seems like a natural progression, many organizations and individual clinicians struggle with seeing the value.

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Is there a place within the practice of nursing to use telehealth tools and technology? Florence Nightingale's *Notes on Nursing: What It Is, and What It Is Not* describes practical nursing observations and interventions that are still relevant today: "There are five essential points in securing the health of houses: — 1. Pure air. 2. Pure water. 3. Efficient drainage. 4. Cleanliness. 5. Light."^{10(p11)} These observations and therapeutic interventions were not widely accepted by the medical community at the time. Since the time of Nightingale, nurses have continued to hone, develop, and pass down from generation to generation powerful holistic-based skills of observation and assessment. As nurses progress from novice to expert, these skills develop into deep insight into the minute characteristics of the patient, their environment, and the patient's individual (and unique) moment-by-moment responses to therapeutic interventions.¹¹ Patricia Benner described expert nurses as possessing the ability to not only recognize the demands and resources needed in an unstable patient situation but to identify what needs to be done (situational awareness).¹² Could this imparting of knowledge from one nurse to another be done over telecommunication tools and technologies? Can expert nurses use audio with video solutions to exercise situational awareness to assess, conduct surveillance, and provide nursing therapeutic intervention oversight and guidance? We need innovative solutions to successfully manage the impacts of the global nurse staffing shortages. The articles in this series describe how nurse knowledge and situational awareness can be leveraged across geographical boundaries in novel ways.

Tibbe and colleagues provide a brief description of the history of telehealth before taking readers through practical and real-world examples of virtual nursing. Gonzalez et al use an exemplar method to report on how tele-critical care (TCC) nurses across the country rose to support patients and frontline clinicians under the most difficult circumstances in recent memory. Swink and colleagues describe the journey of implementing a program to address the high rate of nursing turnover and the need to bolster pediatric nurse expertise in the care of patients with congenital heart disease.

Winterbottom et al focus on how roles and responsibilities of advanced practice providers

shifted to using telehealth tools during the pandemic and explore postpandemic implications for future practice. Williams, along with colleagues who include the current president of the American Association of Critical-Care Nurses (AACN) Theresa M. Davis, describe how each of AACN's critical elements of a healthy work environment are relevant to the role of TCC nurses. The authors go on to provide in-depth explanations of how TCC nurses were impacted by the pandemic and describe how healthy work environment strategies within the context of virtual care are needed to promote successful nurse and patient outcomes. I hope that this exciting series on telehealth and virtual nursing stimulates readers to step outside the boundaries of conventional thought and use out-of-box thinking to reimagine the practice of nursing.

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