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Innovation Collaboration:

Harnessing the Power of Nurse Scientist and Bedside Nurse Partnerships

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Abstract

The nursing profession is deeply rooted in the life and behavioral sciences, having evolved from the historical image of white dresses and caps to modern scrubs and lab coats. Despite its strong foundation in scientific processes, nursing is not yet recognized as a STEM profession. Nurses trained in research and PhD-prepared nurse scientists are paving the way for academia and healthcare to acknowledge the contributions of nursing to science through research, promotion of evidence-based practice, and dissemination of curated knowledge. Nurse scientists play a crucial role in involving more clinical nurses in research efforts. However, clinical nurses face several challenges in participating in research. To address these challenges, ChristianaCare launched the Nursing Fellowship in Robotics and Innovation in 2024. This fellowship provides clinical nurses with research opportunities and mentorship from nurse scientists. It successfully bridges the gap between clinical practice and research, fostering a future where nurses are integral contributors to scientific advancement.

Background

Close your eyes and envision a nurse during their shift. What comes to mind? For some, it may be the classic white, crisp dress and cap, emblematic of the deep-rooted history of nursing. For others, it may be more modern scrubs, possibly in a fashionable style, reflective of the agility and forward progress in nursing. Or perhaps it's the iconic pandemic nurses, depicted with capes as 'healthcare heroes.'[1] But what about wearing a lab coat?

Clinical nurses utilize assessment skills, deductive reasoning, and pharmacokinetic knowledge, while consistently leveraging evidence-based practices in their daily work. Despite nursing being deeply rooted in sciences such as biology, chemistry, physics, behavioral psychology, pharmacology, and pathophysiology, it is not traditionally classified as a science or considered a STEM (science, technology, engineering, and mathematics) profession. Nurses are regularly engaged in a scientific process that mirrors that of researchers; however, they are not typically viewed as a profession made up of scientists.[2,3]

The discipline of nursing science emerged during the era of Florence Nightingale and has progressively evolved throughout the 20th century to the present day. Today, nurse scientists are integral to academia, hospitals, and joint academic-practice roles.[4] These professionals are nurses who have completed a PhD in nursing science. Their roles encompass conducting original research, building and fostering a culture of inquisitive scholars, and championing knowledge uptake and application to drive innovation and enhance practice.[5]

Nurse scientists play a pivotal role in enhancing healthcare and the role of clinical nurses. They strengthen the visibility and value of PhD-prepared nurses, foster inquiry, and promote scholarly activities within the nursing profession.[6] As the role of nurse scientists continues to evolve,

institutions are increasingly able to leverage their expertise to further advance nursing practice and research.[7]

Despite the expanding field of nursing science and the increasing presence of nurse scientists within healthcare systems, clinical nurses face various barriers to participating in research. These barriers include insufficient knowledge and skills, lack of mentorship, and inadequate protected time for research activities.[8]

ChristianaCare's Nursing Fellowship in Robotics and Innovation

To address these challenges, ChristianaCare established a new Nursing Fellowship in Robotics and Innovation. This fellowship aims to enable clinical nurses to engage in technology-based research and acquire essential knowledge and skills that are often inaccessible to those nurses working at the bedside or in the clinic. Launched in mid-2024, the fellowship consists of a weekly four-hour commitment dedicated to asynchronous learning, lectures, and robust discussions. The fellows also participate in ongoing robotics research, including an IRB-approved study examining the value of a co-bot within the hospital.

To enhance their learning experience, the fellowship is led by a nurse scientist within the hospital system, with a second PhD-prepared clinical nurse scientist assisting. These nurse scientists provide a more enriching mentorship experience. They offer greater guidance in the research process, career advice, and networking opportunities, further exposing fellows to the world of health researchers.

The pioneering cohort of the fellowship is comprised of four diverse nurses from various practice areas with differing lengths of bedside careers. All fellows entered the program with at least a baccalaureate degree, with one currently enrolled in a Doctor of Nursing Practice program, and minimal hands-on research experience or knowledge.

A key feature of the program is its flexibility, designed to accommodate the fluid schedules of clinical nurses. The time commitment is financially compensated through prestigious external funding from a national nursing foundation. This protected time enables fellows to engage in data collection and analysis, as well as literature exploration, thereby pursuing academic opportunities. Without such protected time, nurses often face the dilemma of sacrificing self-care to engage in research and professional advancement.[9]

Conclusion

The ChristianaCare Nursing Fellowship has further illuminated the need to fill the fountain of nursing knowledge, especially if we want more people to drink from it. If we do not create a stronger pipeline where bedside nurses can expose themselves to research with the mentorship of nurse scientists, eventually, the fountain will run dry. We must focus on creating a future in which, when the average person considers what does it means to be a nurse, they no longer see the white, crisp uniform of yesterday, but instead, the white, crisp lab coat driving the science of nursing forward.

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