

## Reimagining Nursing Through Innovation and Design Thinking

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### Abstract

Recruitment and retention of nurses is a national health issue with implications for patients, nurses, and other healthcare providers. This article describes an innovative opportunity for the professional development of nurses at a local health system. This Nursing Research and Innovation Fellowship provided participating nurses with the knowledge of a design thinking framework and fostered the application in the context of complex challenges they face in their daily work. The potential impact of such programs on job satisfaction, retention, and relevance to public healthcare issues is discussed.

### Introduction

This article explores the growing nursing shortage and the need to attract and retain nurses in the setting of current challenges in the healthcare environment. It describes an innovative initiative at a local Delaware health system that engages nurses, teaching them skills that build resilience and support a problem-solving mindset. Sabine and Gibbs, in their article titled *"Unraveling Healthcare Shortages in Delaware and Charting a Course for Equity and Resilience,"* which appeared in the December 2023 issue of the Delaware Journal of Public Health (DJPH), noted the growing shortage of healthcare workers, including nurses.<sup>1</sup> The gap between the number of new nurses entering the workforce and the open positions continues to increase. There is evidence that inadequate nurse staffing has a negative impact on both patient and nursing outcomes. Dr. Aiken and colleagues reported that high patient-to-nurse ratios are associated with increased patient mortality and nurse burnout.<sup>2</sup> The public needs to be aware of this growing challenge.

A Delaware-based health system recently offered a unique professional development opportunity for nurses through the Nursing Research and Innovation Fellowship. In this year-long training, nurses learned about research, innovation, and design thinking—a solution-oriented, patient-centered approach to addressing challenges. When nurses are engaged and feel valued, health systems are more likely to retain them. Exposing nurses to unique opportunities like this fellowship may contribute to the development of a more sustainable and resilient workforce.

## Reimagining Nursing Through Innovation and Design Thinking

If someone were to ask you to describe a nurse, what would you say? Typically, people think of a woman, often in scrubs, typically in a hospital setting. Although this may have been accurate many years ago, the image of nursing is evolving. Nursing is the largest component of the healthcare workforce, with over four million nurses nationwide<sup>3</sup> and nearly 40% practicing<sup>4</sup> outside of direct bedside care. Nurses are increasingly serving in a wide range of roles – from public health to policy, education, and research. This ability to care for people in diverse settings empowers nurses to have a profound impact on all areas of the nation's health, especially when they are given the proper support and tools.

Although nurses are the largest portion of the healthcare workforce, the United States is currently facing a national nursing shortage crisis. Over 100,000 nurses left the profession during the pandemic, and data suggests that annually, the number of new nurses entering the workforce is approximately 20,000 less than anticipated openings.<sup>5</sup> Additionally, a recent survey through the National Council of State Boards of Nursing (NCSBN) found that one-fifth, equivalent to approximately 900,000 nurses in the U.S., indicated they plan to leave the nursing profession by 2027.<sup>6</sup> Inadequate nurse staffing leads to errors, increased patient morbidity and mortality, and increased nurse burnout.<sup>2</sup> Nurse turnover is not only costly to the hospital systems but also negatively impacts patient outcomes. It is essential to create an environment where nurses of all levels of expertise can grow and thrive, allowing them to develop professionally and remain successful in their positions. Changes are needed to recruit and retain these essential members of our healthcare system.

Healthcare organizations nationwide are developing and implementing various strategies to retain nurses. Last August, ChristianaCare Health System established a unique Nursing Research Fellowship in Robotics and Innovation (NRFRI), bringing the topic of innovation and research to clinical nurses at the bedside. The fellowship was part of a larger project funded by the American Nurses Foundation Reimagining Nursing Initiative examining the use of robotics in nursing care. Through this fellowship, the four fellows were not only immersed in the research process and innovation experience but also allowed to network outside their clinical area and bolster skills not typically utilized in their current nursing role. The immensely positive feedback received regarding the fellowship after such a short period reinforces nurses' desire for continued education and growth in their daily work and throughout their careers.

Topics discussed during this program included survey design, abstract writing, health equity, and many other subjects. One of the most impactful topics discussed was the integration of design thinking in healthcare. Given the ever evolving and complex needs of patients, no two days at work are ever the same for nurses. Each patient presents distinct challenges that require thoughtful, individualized care. This day-to-day problem-solving fosters nurses to become natural innovators. One powerful way to support this was to introduce a framework, design thinking that aligns with the way nurses already think and work. While there are several ways to solve the same problem, there are also many ways to *think* about how to solve the same problem.

Design thinking is a problem-solving approach that originated in the 1970s in fields such as industrial and academic design, computer science, psychology, business, and engineering.<sup>7</sup> Over recent years, design thinking has been increasingly integrated into the healthcare system due to its emphasis on human-centered, practical innovation. Given the current challenges the healthcare industry is facing, this new approach is gaining popularity. In fact, a title and abstract search for "design thinking" through PubMed in 2007 yielded zero papers, but the same search 13 years later resulted in over 60 papers.<sup>7</sup> Unlike traditional approaches that focus solely on fixing the problem itself, design thinking is solution-focused and centered on the individual.<sup>8</sup> This ensures that innovations are not just new and novel but usable and meaningful to the people they are designed for, typically patients, caregivers, or staff. The framework consists of five phases – empathize, define, ideate, prototype, and test. When performing the empathize step, nurses and healthcare team members set aside their own biases, observing and interviewing patients to pinpoint the problems accurately, ensuring that the end user ultimately benefits. Once they better understand the lens of the end user, they can more clearly define the challenge, create innovative ideas, propose a process or model to address the issue, and test or measure outcomes.

While listed in chronological order, the process is designed to be iterative and flexible, allowing teams to revisit and refine ideas as they evolve.<sup>8</sup> The focus on empathy and adaptability makes it a natural fit for nursing, where these traits are foundational to clinical care. When nurses focus on the needs of those most affected by healthcare challenges, they are addressing real-life problems in a practical, sustainable, and impactful way.

Many nurses remain unfamiliar with the design thinking framework despite the increasing utilization in healthcare environments. ChristianaCare is working to change that by embracing the idea of innovation and instilling it into its organizational culture. In addition to the externally funded and internally developed Nursing Research Fellowship, two of Christiana Care's nursing leaders were selected to participate in the prestigious Johnson & Johnson Nursing Innovation Fellowship in partnership with Penn Nursing and the Wharton School. Throughout this year-long program, participants and their teams apply design thinking to address problems specific to their practice areas, ultimately creating a more effective environment where nurses and patients can thrive. With two of the system's top leaders participating in this fellowship, they exemplify nursing's innovative approach to problem-solving patient care issues. Nurses who know their patients and the health care system are well-positioned to apply design thinking and drive the change they want to see.

Nurses who are more equipped with the skills to address challenges proactively are more engaged in their work and empowered to improve the work environment. They report increased job satisfaction, reduced burnout, and improved desire to remain in their current role.<sup>9,10</sup>

## Conclusion

Christiana's Nursing Research Fellowship is one example of how offering nurses opportunities to develop new skills and embrace change and innovation can make a difference. Introducing these skills early in a nurse's career can foster a mindset that emphasizes patient-centered solutions. Even for those who eventually transition away from the bedside, these skills extend well beyond hospital walls, ultimately benefiting the nation's health. Providing nurses with the tools they need to think creatively, approach problems differently, and act proactively can lead to significant health initiatives that address some of our most challenging issues in healthcare, particularly the retention of our largest healthcare workforce and the most trusted profession.<sup>11</sup>

My exposure to the Christiana Nursing Research Fellowship and the design thinking framework has changed my image of nursing. Nursing goes far beyond the bedside. Nurses can be researchers and innovators, solving complex problems related to patients and the healthcare system. My experience through this fellowship has not only better equipped me to care for my patients, but also opened my mind to future opportunities for my ongoing professional growth.

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