

Nursing Innovation

Empowering nurses to solve workplace challenges using design thinking.

In 1967, Anita Dorr, RN, spearheaded the creation of the first emergency nursing crisis cart to address inefficient mobilization. As the supervisor of an ED, Dorr was concerned by the amount of time it took nurses to gather the necessary equipment and supplies, which they often stuffed in their pockets, when a patient was critically ill. In consultation with her nursing staff, Dorr identified which items were necessary during an emergency. Then she and her husband constructed a wooden prototype in their basement, painting the cart bright red and attaching wheels that allowed it to be easily moved to the bedside.

Dorr's crisis cart improved workflow and patient care. It was popular in her institution and a precursor of the modern crash cart. Although Dorr's cart wasn't the only one developed in the late 1960s—she didn't patent her creation because she was incorrectly told she couldn't, according to her daughter, who was quoted in a 1996 article in the *Journal of Emergency Nursing*—her innovation highlights the importance of nurses' involvement in design efforts. Yet, despite being the largest group of health care professionals—about 4 million nurses are currently licensed in the United States—RNs often lack the necessary training and encouragement to take part in “design thinking,” which refers to the creative and practical processes involved in finding solutions to workplace problems.

DESIGN THINKING IN HEALTH CARE

The concept of design thinking was originally applied to new product development in the business world. In health care, design thinking is often employed in the development of new products and facilities. Nemours Children's Health System, for instance, hired a design team that sought input and inspiration from a wide range of sources when creating a new children's hospital in Orlando, Florida, several years ago. The designers visited museums, schools, toy stores, and zoos and conducted interviews with nurses, patients, families, physicians, and support staff who could offer insight into what might improve the patient's experience while in the hospital. The result is a state-of-the-art

facility that has garnered awards for its design while also creating a family-centric environment.

Design thinking can also be helpful when addressing daily challenges in the workplace. Creating environments that are patient centered, improve communication, and make the workflow more effective and efficient requires an innovative approach. Nurses already employ design thinking when they use work-arounds, for instance, or devise on-the-spot solutions to urgent health care problems. Sometimes these innovations involve putting together a prototype, as Dorr did to improve critical care delivery. Other times, it can be as simple as donning an orange vest. This simple innovation was created by an ED nurse in Toronto, according to a 2017 article in the *New York Times*, following poor communication and coordination among a health care team conducting a gunshot trauma simulation exercise. The nurse came up with the idea of clearly identifying the team leader, who wears the orange vest. This small innovation has helped strengthen communication and clarify the leader of trauma response teams.

A NEW COURSE DEVELOPS NURSE INNOVATORS

Most nurses receive little or no design training that could help them to more effectively address daily workplace challenges. A new online course is designed to address this by helping nurses to become innovators. The multimodule platform, Design Thinking for Health, offers nurses a framework and tools they can use when tackling complex challenges in the workplace (see <https://designthinkingforhealth.org/the-course>). Developed by the University of Pennsylvania School of Nursing (Penn Nursing) and the Rita and Alex Hillman Foundation, the course aims to ensure that a nurse's experience level and location are not barriers to design training.

Therese S. Richmond, PhD, RN, CRNP, FAAN, the Andrea B. Laporte Professor of Nursing and associate dean for research and innovation at Penn Nursing, emphasizes the importance of innovation in nursing. “It's an untapped resource, as nurses have not been traditionally viewed as innovators, even though nurses innovate every single day,” she

says. “This is where this platform fits in—how can we help the nursing community really learn rigorous approaches to solving problems?”

According to Marion Leary, MPH, MSN, RN, FAHA, director of innovation research at Penn Nursing, “We created this program because we really wanted to help nurses learn about this innovative methodology of design thinking and how they can use it where they practice.” She adds, “Whether that’s at the bedside or out in the community, or if they’re teaching in classrooms or doing research—we wanted to give nurses the platform to move their ideas forward.”

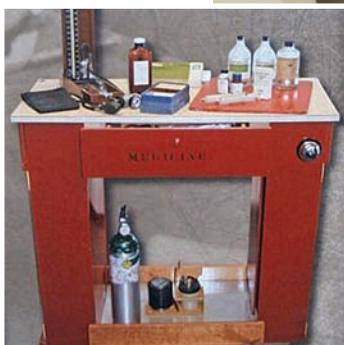
“What we’re hoping . . . is that not only will individual nurses use it, but that universities, organizations, and communities will use it,” Richmond says. “That they will either take the entire curriculum and create a course around it or take out components from it and add it to existing classes and workshops. Anyone who wants to learn this methodology will have access to this free open access program.”

The curriculum is readily available and free of charge. It consists of five modules, each of which represents a part of the design thinking process: (1) Empathy, immersing oneself in the community being served in order to gain insight; (2) Define, defining the problem from the point of view of stakeholders and developing a problem statement; (3) Ideate, using brainstorming activities to generate ideas for tackling a problem; (4) Prototype, building real-life, low-fidelity models of a solution; and (5) Test, an iterative process of quick and inexpensive tests to gain feedback and refine a solution. It’s recommended that learners take the course modules of this interactive program in order, as they build on one another.

OTHER DESIGN INITIATIVES

The creators of this course aren’t the only ones calling for nurses to become more involved in innovation. Johnson and Johnson is supporting nurse-led innovation through three programs that are focused on building skills and developing nursing leaders (see <https://nursing.jnj.com/innovate-with-us>). One of these, a two-year fellowship offered to 12 nurses, provides recipients with individualized mentoring and helps them to build their leadership and entrepreneurial skills.

The American Nurses Association (ANA) is also focused on nurse innovation. It has developed an initiative that encourages nurse innovators, gives nurses the opportunity to share their ideas, and celebrates nursing



Anita Dorr's 1967 crisis cart (inset) and a current hospital crash cart. Inset photo courtesy of Working Nurse and the Bellevue Center for Nursing History at the Foundation of NYS Nurses; modern crash cart photo by Chris Bjornberg / Science Source.

innovation by rewarding it (see www.nursingworld.org/practice-policy/innovation-in-nursing). As to how the initiative will be implemented, Oriana Beaudet, DNP, RN, PHN, vice president of nursing innovation for ANA Enterprise (the organization comprising the ANA, the American Nurses Credentialing Center, and the American Nurses Foundation), explains, “Ultimately, I envision building a collaborative network across ANA and beyond, to develop a strategic national framework for nursing innovation.” She points out that “nurses use the principles of design every day—we’ll be using those same principles to create next steps. It’s not about being perfect and more about getting started to create a first prototype. Nurses are constantly iterating and designing.”

The goal, Beaudet says, is to build nurses’ agency, so nurses can effect positive change for the populations and communities they serve. “Very simply, nursing practice and nursing innovation can no longer be invisible.”—Roxanne Nelson ▼