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NURSES WEEK SPECIAL

Nurses transforming systems of care: The bicentennial of Florence Nightingale's legacy

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In 1854, Florence Nightingale led a group of nurses into war facing unprecedented hardships. Through Nightingale's efforts, survival rates for wounded soldiers improved. Today's nurses don't face the same fundamental challenges, yet we continuously encounter complex system problems. With advanced knowledge, nurses are poised to solve problems using unique professional development opportunities.

Past triumphs

On October 12, 1854, the *London Times* printed a shocking article on the atrocious care of the sick and wounded British soldiers who were fighting in the Crimean War. The journalist wrote, "Not only are there no wound dressers and nurses ... but what will be said when it is known that there is not even linen to make bandages for the wounded?"¹ Florence Nightingale, living in London at the time, read this article with horror, and the story prompted her to begin making plans to visit the war zone in Crimea to set up a proper hospital.¹

Nightingale applied her influence and political connections to support her goal. Secretary of War Sidney Herbert commissioned her to gather a group of 40 nurses to improve conditions for soldiers at the Barrack Hospital at Scutari (now the Üsküdar district of Istanbul). Herbert wrote, "There is but one person in England [who] I know of who would be capable of organizing and superintending such a scheme as Florence Nightingale."¹ Herbert's confidence in Nightingale is evident in his statements. Deploying nurses to





● Nurses transforming systems of care

British military hospitals had never been done before, and Nightingale had only days to find the 40 nurses to accompany her to Scutari. Her previous experience studying nursing and organizational skills in Germany, France, and England in mostly Catholic facilities had prepared her to discern the type of women required for not only the journey to the war zone, but also for the work ahead.

Up to this point, nurses were thought of as women of questionable character at best. Exposure of women to the harsh brutalities of war, plague, and death in Victorian England was viewed by the general public as undignified.

medical officer Dr. John Hall made up his mind that they wouldn't be of any help.¹ Dr. Hall was known to oppose patient care changes even if beneficial. He was confident that these nurses were going to be ignorant and of questionable character. This less-than-warm reception didn't deter the women from organizing, cleaning, and preparing the hospital for the wounded.¹

On October 25, 1854, the British and their allies fought the Russians in the Battle of Balaklava and 11 days later, another battle ensued.¹ The vast number of wounded soldiers coming to Scutari after these battles quickly

They stitched sacks together and stuffed them with straw to make mattresses for men lying on the floor. They cooked hot kettles of broth for the soldiers and relentlessly mopped and swept, opening windows that had been boarded up to let in fresh air.¹

Following the war, Nightingale's data collection and reports were submitted to a Royal Commission. Her statistical findings indicated that most deaths were due to overcrowding, poor sanitation, and improper ventilation.² The accomplishments of Nightingale and her nurses in Scutari were transformational, strongly impacting the value of evidence-informed nursing practices and



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Nightingale aimed to change this negative stigma. The advertisement for nurses went out and letters of interest began pouring into a makeshift headquarters in London. Nightingale hired 38 women, some of whom were Anglican nursing sisters and Catholic nuns.¹ To Nightingale, it was essential to include Catholic nuns because one-third of the British forces were Irish Catholic. In the end, she gathered the best and most prepared nurses she could find to make the journey and care for the wounded British soldiers.¹

Upon their arrival, the nurses faced many barriers and outright resistance. The career military

changed the way the medical staff viewed Nightingale and her nurses. The nurses had minimal supplies, but instituted new practices and procedures based on observations and data they collected related to Nightingale's teaching.¹ They observed under which conditions the soldiers had survived and attempted to replicate and spread best practices throughout the hospital.

For example, the nurses found that the soldiers with clean bandages, proper hydration, and exposure to clean air had better outcomes than those who didn't. They began sewing proper bandages and only using bandages once before washing and reusing.

redefining the image of modern nursing well into the 20th century. Data demonstrated the merits of quality nursing care: Survival rates increased from 50% to nearly 80% under the care of Nightingale and her nurses.¹ Attention to rigorous infection prevention, hygiene and cleanliness, nutrition and hydration, and compassionate care were integral interventions that revolutionized nursing care practices and improved clinical outcomes.

Current challenges

Fast-forward 166 years and today's nurses continue to face myriad healthcare challenges and systems issues. Perhaps less

severe in some ways, contemporary practice settings and work environments remain fraught with problems. Although infectious diseases may appear less prevalent than in the late 19th century, a burgeoning list of complex chronic conditions demand evidence-informed knowledge, innovative interventions, and new skills to meet the postmodern imperatives of efficiency, quality, affordability, and care experience.

In gratitude to Florence Nightingale, a path was charted for modern nurses to become trusted and valued members of the healthcare team who employ data and evidence daily to plan care. However, our systems of healthcare delivery are characterized by chaos and complexity. Despite a long list of health system inefficiencies that make delivering care challenging and stressful, nurses must maintain balance and ensure safe, efficient, and high-quality patient care.

Stevens and colleagues described nurses' encounters with operational failures (OFs) in the healthcare system that hinder timeliness of care and erode quality and patient safety.³ The multisite study collected data from 774 nurses working in 23 hospitals. OFs were found in several categories, including equipment/supplies, information/communication, medication, staffing/training, and physical unit layout. On average, nurses reported a rate of 6.07 (SD = 7.10) OFs per shift, most related to equipment and supplies. These findings illustrated that nurses commonly encounter OFs in delivering patient care. The frontline nurse's intimate knowledge

of OFs can inform operational improvements that not only lead to better quality care, but also help reduce wasted nursing time. Over a century and a half has passed since Nightingale identified the need for nurses to observe, assess, understand, collect data, and plan nursing care. Time spent on OFs wastes a nurse's precious time, creates moral distress, and detracts from core care responsibilities.

Although nurses are effective at identifying OFs, they're often ill-equipped to complete more in-depth, system-level problem solving. Instead, due to the nature of the work environment, nurses are forced to create workarounds. Unfortunately, clinical nurses have little time to learn and employ second-order problem-solving techniques in which they investigate and seek to change a problem's underlying cause. Tucker and colleagues' qualitative study examined the daily problem-solving skills of nurses.⁴ The researchers collected data related to actual situations and responses to develop theoretical concepts about the phenomenon of problem-solving behavior using observations of 22 nurses on all three shifts. The outcome demonstrated that nurses do whatever it takes in the moment to take care of their patients, use trial and error to find a solution, and only involve others who are closest work friends in problem solving rather than reporting to the resource that could solve the problem.

Finding solutions to the current perplexing problems in healthcare requires nurses to develop, maintain, and refine

their critical-thinking skills.⁵ But how do we lead nurses, who have deep clinical knowledge and experience, toward developing solutions to systems problems within our organizations and beyond our walls in the broader healthcare landscape? Nurse leaders should consider implementing proven solution-seeking frameworks and problem-solving techniques such as Lean methodology and offering opportunities such as nursing fellowship programs to exercise nurses' critical-thinking skills. There are numerous examples of nurses achieving significant improvements in quality, safety, and patient outcomes, with guidance and frameworks for improvement. Lessons from Florence Nightingale are just as relevant today as they were more than 150 years ago: Nurse leaders must embrace the importance of nurturing highly motivated nurses who are critical thinkers.

Practical solutions

A contemporary form of healthcare performance improvement and problem solving is the use of Lean management techniques. Lean concepts seek to create a continuous improvement culture in organizations by developing a management system that focuses on improving quality, safety, cost, and healthcare delivery processes.⁶ When an organization commits to developing a Lean transformation, it's essential to assess the state of nurses' improvement thinking and attitudes. For example, Roszell and Lynn sought to measure the success of Lean management implementation in their organization from the nurses' perspective by

developing the frontline improvement thinking (FIT) tool.⁷ The nurses were asked to provide their perceptions of Lean's impact on the organization, the unit, and the individual. Data from the FIT tool can be used to prioritize and focus Lean management training and improvement efforts and identify Lean mentors, coaches, and change agents. Nurses who elevate to the level of coach should be afforded opportunities for more in-depth exposure to Lean management and performance improvement techniques through extensive training programs.

When equipped with tools and techniques for improvement, nurses are a valuable resource to identify and solve clinical and organizational problems and improve patient outcomes. Sharpe described a grant-funded project of 37 hospitals spanning 12 years that empowered frontline nurses as leaders implementing evidence-based practices to improve quality and safety.⁸ The nurses involved received extensive training in improvement concepts. Like Nightingale and the Scutari nurses, frontline nurses were taught to make improvements and then measure the outcomes. The quality improvements measured included falls with injury, sepsis mortality, central line-associated bloodstream infections (CLABSI), hospital-acquired pressure injuries, ventilator-acquired pneumonia (VAP), medication administration errors, and acute myocardial infarction mortality. Forty-three percent of the hospitals reduced falls with injury, 77.1% improved sepsis mortality, 82.9% improved CLABSI rates, 69.7% improved VAP rates, 100%

reduced medication administration errors, and 100% reduced acute myocardial infarction mortality.⁸ The results achieved by these nurse-led quality improvement projects are powerful and impactful.

Bramley and colleagues described the Chief Nurse Excellence in Care Junior Fellowship initiative that provided a small cohort of nurses with an opportunity to advance their skills in leadership, innovation, improvement science, and change management.⁹ Early evaluations from the qualitative study suggested that providing such a program for frontline nurses enhances professional development and influences positive patient outcomes. Case studies of the projects completed by the nurse fellows were conducted. Based on the case findings and the fellowship self-evaluation, the study concluded that a fellowship program is a sustainable, clinically driven opportunity to enhance nurses' professional development.

Patrician and colleagues highlighted a program put in place at the US Veterans Affairs (VA) Health Administration called the Veterans Affairs Quality Scholars fellowship program.¹⁰ The program was a partnership between the VA and the Robert Wood Johnson Foundation's Quality and Safety Education for Nurses project, with the aim of expanding the fellowship to include nurses in 2009. Including nurses in the program promoted inter-professional education and team development to improve health-care quality and safety across the VA system. As an early indication of effectiveness, the first three nurse fellowship graduates

published successful performance improvement work.

The fellowship approaches described in these examples provided nurses with enriched opportunities to make a difference in care quality for the populations they serve. Reflecting back, that's exactly what Florence Nightingale did for the Scutari nurses: She empowered them to observe, assess, gather data, conduct analysis, and intervene to solve problems that got in the way of their patient care and interventions.

Future success

The World Health Organization has designated 2020 as the International Year of the Nurse and Midwife, celebrating 200 years since Florence Nightingale's birth. As nurse leaders, this celebratory year is an opportunity to reflect on the past while looking to the future of the nursing profession. Aligning nurses to our professional purpose and delivering on our promise as caregivers requires special attention to strengthen all nurses' opportunities to engage in solving difficult challenges and critically examining innovative solutions to today's healthcare problems.

Nurses are in the unique position to thread their knowledge and wisdom of human caring into creating sustainable solutions. As nurse leaders, it's essential to continually develop nurses as future change agents. Development should be extensive, with a true commitment and investment in advancing nurses' knowledge and skills in improvement science. A fellowship model that allows for a deeper understanding of performance improvement tools is paramount.

The same qualities of courage, tenacity, and skills Nightingale searched for all those years ago are still foundational for addressing the myriad problems nurses face today and those yet to emerge. A formidable army of highly competent nurses skilled in quality improvement and inspired to serve as change agents at the front-line can transform our systems, just as Nightingale realized over a century and a half ago. **NMI**

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