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Editorial

Quality and Safety Education for Nurses: Making progress in patient safety, learning from COVID-19

The past year of global COVID-19 pandemic renewed the attention on the inherent quality and safety risks in healthcare. Fragmentation in delivery services, poor coordination across transitions in care, and ineffective communication among providers and patients were magnified as healthcare delivery underwent sudden pivots to address unprecedented healthcare demands. The scope of unknown vulnerabilities to system safety and quality, the demands of processing the explosion of new information, and the complexity of managing safety risks to patients and workers were only some of the sudden threats as the virus spread across boundaries.

COVID-19 illuminated both progress and lingering gaps in patient safety and quality over the past twenty years since the deep gaps in patient care quality and safety became public knowledge. In the United States (US), the publication of the Institute of Medicine's initial report of the startling statistics of preventable patient harm, *To Err is Human*, was met with alarm by both clinicians and consumers [1]. Still, two decades later, we do not know the full extent of the burden of preventable patient harm because preventable harm remains a difficult concept to categorize definitively, healthcare staff are often reluctant to report concerns and incidents for fear of retribution, and there is no aggregate reporting of preventable patient harm.

Even before COVID-19, the WHO called preventable harm a global crisis [2]. Few countries have a national plan to transform healthcare to accurately identify, report, redesign, and mitigate preventable patient harm, briefly defined as harm to the patient unrelated to the patient's reason for seeking medical care. Data from the most comprehensive global quality report, *Crossing the Global Quality Chasm* [3] confirm patient safety is far from reaching zero, the goal for many safety organizations. Primary recommendations for transforming healthcare education and delivery systems include implementing new educational strategies to focus on quality and safety competencies, fostering systems thinking, reimaging leadership development, and creating learning organizations. A brief review of recent literature traces progress, but questions remain. Where are we globally in assuring all nurses have the opportunity to achieve the competencies essential for nurses in developing a mindset for quality and safety in their practice? What educational approaches best prepare nurses for the transition to safe quality practice environments? How do healthcare delivery organizations hardwire quality and safety into organizational culture? What have we learned from the global pandemic to improve safe quality patient care?

1. Quality and Safety Education for Nurses (QSEN): an evidenced based Competency Approach

Transforming healthcare to eliminate preventable harm begins with a competent workforce. The Quality and Safety Education for Nurses (QSEN, www.QSEN.org) project developed a robust framework used in many countries. It launched at the University of North Carolina at Chapel Hill and became the US national plan for nurses to improve quality and safety in patient care [4]. QSEN defined six competencies nurses must achieve to be able to lead and transform practice to improve patient care quality and safety.

(1) Patient-Centered Care: Treats patients and their family with respect, engaging them in decisions about their care, and honoring their culture, values and beliefs.
(2) Teamwork and Collaboration: Skillfully connecting, coordinating, and communicating across all disciplines and care team members including the patient and family to assure accurate, timely and effective information sharing, informed decision-making and smooth transitions between providers.
(3) Evidence Based Practice: Assuring latest evidence guides practice interventions that also support patient values and preferences.
(4) Quality Improvement: Applying a spirit of inquiry to question processes for best practices, measuring actual practice to compare with desired benchmarks, and implementing appropriate system improvements.
(5) Safety: Identifying and alleviating conditions and processes in the healthcare environment that contribute to preventable harm.
(6) Informatics: Participating in design and application of informatics and technology to support decision-making, data management, and information sharing and retrieval.

Consistent with competency development, evidence based objectives for knowledge, skills, and attitudes (KSAs) were first developed to guide pre-licensure development of each competency for integrating into nursing curricula [4]. In 2009, higher-level objectives for the KSAs were adopted to guide graduate nursing academic programs and nursing professional practice standards [5]. This work is translated into Swedish, Korean, Italian, and Chinese through the *Quality and Safety in Nursing: A Competency Approach to Improving Outcomes* [6].

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To assure nurses are prepared for the transition to practice, these six competencies are embedded in the standards for nursing schools in the US. Globally, several studies demonstrate patient safety and quality are unevenly applied in nursing education and practice. Kirwan et al. [7] reported patient safety is incorporated in nursing education in 27 countries with less integration in European Union countries. Furthermore, unlike the US, most countries lack regulatory guidelines on how patient safety and quality are integrated. Steven et al. [8] demonstrated cross-country collaboration could speed change through sharing patient safety student learning events.

HOW we teach is as critical as WHAT we teach for learners to develop a practice based safety mindset. Educator development for effective educational redesign is an imperative [9,10], and is compounded by the emphasis in online learning due to COVID-19. Interactive classrooms [11] built around unfolding case studies [12,13] encourage learners to apply safety competencies in the security of the learning environment [14]. Faculty serve as facilitator and coach with students working in small groups or in online virtual breakout rooms.

Learning from case studies and other forms of narrative pedagogy derives from reflecting on the unfolding case to apply knowledge, recall previous experience, and examine the impact of decisions on the patient [15]. Educators foster clinical judgment by using instructional strategies that help develop reflection among nurses to examine, reconsider, and learn from critical situations [16]. Reflective Practice (Fig. 1), systematically examining experiences to learn better ways to respond, guides how we learn from experience. Self-awareness developed through reflective practice develops the mental model to ask questions about safety of high-risk procedures, monitor processes that don't work reliably, and become aware that all actions have consequences. A basic process for reflection in Fig. 1 begins with mindfulness to recognize critical experiences with potential for improvement:

2. Learning organizations: a systems approach to safety and quality

The first US national patient safety plan [17] cites areas of organizational progress. These include working interprofessionally for improved collaboration in patient care [18], more transparent reporting systems to capture near misses and adverse events [19], more integration of quality and safety competencies across health professions education, and strategic efforts to actively enlist patients in their care [20]. Yet, preventable harm remains pervasive. The report, like the 2018 global report [3], reveals system change is the most critical area of improvement to promote learning organizations focused on inquiry as the basis for improvement. Leaders at all levels of the system hardwire safety as a basic value in creating safety culture and supporting their workers. While individual competency development is essential, safety outcomes ultimately depend on how each worker lives patient safety and quality with every patient, every interaction and procedure, every day.

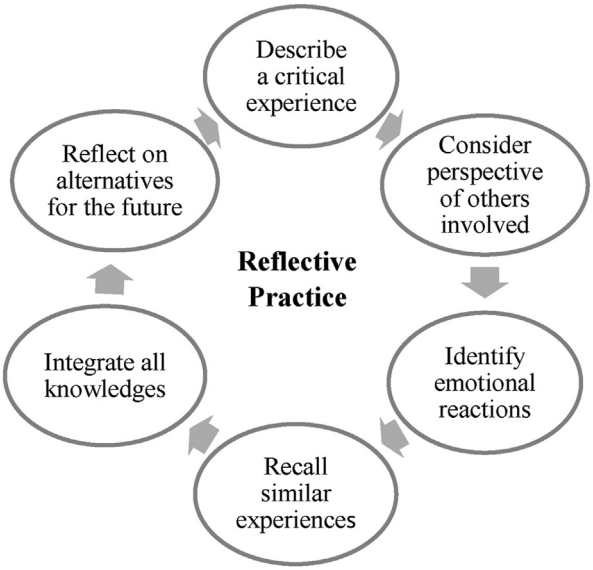

Fig. 1. Basic model of reflection.

New concepts form the science guiding safety cultures in healthcare organizations [21]. Because nurses are continuously present with patients and their families, they are key to establishing an organizational safety culture. Developing a mindset for safety begins with inquiry, the presence of mind with a willingness to ask questions about practice, that is, whether practice is based on best evidence with openness to constructive feedback.

Systems thinking is the framework for implementing quality and safety competencies. Systems are a set of interdependent components that interact to achieve a common goal [22]. Creating a safety culture that embraces transparency enables the organization, whether, in-patient or out-patient primary care, to learn from, not hide, near misses and preventable harm. Just Culture encourages learning from near misses and adverse events through a reporting system with systematic analysis, emphasizing accountability not individual blame [19,20].

Safety cannot rely on a piecemeal set of activities. Improving safety requires a system culture and mindset that guides a proactive system wide plan to provide care that is safe, reliable and free from harm. Total system safety is interdependent, collaborative and coordinated. High reliability organizations simplify and standardize processes to achieve reliable results. For example, following an evidence-based protocol exactly when inserting and managing central lines has resulted in sharp reductions in infection.

Healthcare workers take pride in working in organizations focused on quality and safety. Workers experience satisfaction in doing work well and are supported or restrained by their work environment. New evidence from research on human factors and the value of psychological safety for workers—feeling free from bullying and incivility—is clarifying the need to feel supported in speaking up about unsafe care [23]. New studies examine the impact of human factors on how workers complete their work, including fatigue, interruptions, distractions, broken processes, unreliable equipment, and other human workplace interfaces [24].

3. 2020 and beyond: safety lessons from the global pandemic

COVID-19 highlighted the critical inclusion of the QSEN competencies in daily practice and challenged the overall safety for workers and patients. The cessation of family visiting hours put nurses and other healthcare providers as the caring connection between isolated patients with COVID-19 and family members relegated to virtual healthcare visits. Nurses were recognized for their innovative approaches to patient-centered care, a core QSEN competency. Nurses applied competency in evidence-based practice for quick assessment and implementation of rapidly emerging new evidence on treatment and prevention, often relying on skills in informatics. Quality improvement projects evaluated various treatments and monitored infection management. Teamwork and collaboration of all healthcare workers in all settings established a pattern for sharing knowledge, resources, and skills to assure safe quality care delivery [25]. Daily safety briefings assessed bed availability, coordinated emergency responses, allocated

equipment shortages and monitored worker safety. Research continues to examine changes in healthcare that will extend beyond the pandemic, such as improvements in telehealth, increasing healthcare access for all [26]. Still, safety ultimately relies on shared accountability between the system and each worker in the healthcare delivery organization to engage in and build a culture of safety with high reliability, human factors and transparent reporting.

Ricciardi [27] issues a call to action for all healthcare workers to commit to the goals of patient safety and quality across the continuum of care, from ambulatory primary care and health promotion to the highest acuity level. Patient safety is a team activity requiring all of us to work together, locally and globally, to build safer systems, eliminate patient harm, and ensure worker safety. Let's reflect on the experiences of the pandemic for lessons learned to achieve equitable safe quality healthcare every patient, every time.

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