Chapter 20c. [Vignette] Creation of a Patient Safety Culture: A Nurse Executive Leadership Imperative

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Background

In 2004, the Healthcare Leadership Alliance, which includes the American Association of Nurse Executives and other health care executives, identified a core set of competencies for executive leaders in health care.[1] The identified core competencies for nurse executives in health care were: (a) leadership, (b) business skills and principles, (c) communication and relationship management, (d) professionalism, and (e) knowledge of the health care environment. Patient safety is identified as a key element of concern in the health care environment. Within the context of the core five competencies listed above, seven imperatives were identified to develop a patient safety culture: [1]

- To support the development and implementation of an organization-wide patient safety program
- To design safe clinical systems, processes, policies, and procedures
- To monitor clinical activities to identify both expected and unexpected risks
- To support a nonpunitive reporting environment and reward systems for reporting unsafe practices
- To support safety surveys, responding and acting on safety recommendations
- To ensure staff is clinically competent and trained in their roles in patient safety
- To articulate and take action in support of the Joint Commission's National Patient Safety Goals

These imperatives are the necessary building blocks the nurse executive must communicate to foster the development of a culture of proactive patient safety. This vignette will first review the historical background of the evolution of a patient safety proponent. From lessons learned in the redesign of an entire hospital culture, a model "Systemic Mindfulness Model of Proactive Patient Safety" is presented. Using a corkscrew metaphor and systems theory, the model suggests that all levels and professions of the health care culture must become aware and responsible to achieve meaningful medical error reductions. Practical suggestions are then offered, which derive directly from the model for achieving and maintaining a culture of proactive error reduction. The skillful acquisition of the five core competencies and the implementation of the seven patient safety imperatives are necessary for these practical suggestions to be truly effective.

A Culture of Systemic Mindfulness

A systemic mindfulness culture is grounded in professional experience of the vice president of patient care at the University Community Hospital (UCH) in Tampa, Florida, from 1996 to 2002. Prior to this tenure, the sentinel event of wrong-leg amputation in the now-famous case of Willie King occurred in 1995.[2] This patient safety crisis, in concert with the drug overdose death

of Betsy Lehman in Boston in the same year, ignited public and regulatory agencies to question the safety of hospitals.[2] In 1996, the Joint Commission (formerly the Joint Commission for Accreditation of Healthcare Organizations) developed the Accreditation Watch and encouraged the use of root-cause analysis.[3] Subsequently, the Institute of Medicine's 2000 report, *To Err Is Human,* which estimated that 44,000 to 98,000 deaths in hospitals occurred each year due to medical errors, forced the issue of patient safety into public awareness.

The organizational culture of UCH in 1996, 1 year following the Willie King tragedy, was defensive and insular to any outside feedback or systems redesign. Nursing practice was fragmented, and identifying and firing the one employee—usually a nurse—responsible for a medical or nursing error was the way mistakes were handled.

Due to the negative publicity that the wrong-leg amputation created for the hospital, patients were unsure of the care they would be given, and trust by local, State, and Federal health care agencies was at an all-time low. Multiple inspections occurred by the Florida Agency for Health Care Administration, Joint Commission, Health Care Finance Administration, and Federal Drug Administration due to the numerous complaints and accusations. Malpractice claims increased and hospital administrators became adept at giving legal depositions and writing corrective action plans for the above-mentioned regulatory agencies.

Strong beliefs in patient advocacy and safety, in conjunction with a few visionary colleagues, supported the work required to make necessary changes, relying on critical-thinking skills, strong nursing educational background, personal tenacity, and self-reflection. It was not a time to second-guess personal decisions to practice at UCH, but to become part of a culture of change. Doctors, nurses, administrators, and all other employees at UCH seemed truly dedicated to providing safe patient care. Due to the wrong-site event, the culture needed leaders unscathed by the actual 1995 event to assist in reprioritizing basic patient care measures to reestablish the trust of the community. The punitive treatment of the entire hospital community by the regulators and media essentially destroyed the pride and self-confidence of the entire medical and hospital staffs.

To make matters worse, a nurse in the UCH emergency room administered a medication that was contraindicated for a patient with an aspirin allergy, culminating in the patient's death. During this time, the Joint Commission encouraged the use of the root-cause analysis process; hence, UCH was required to conduct one of the first root-cause analyses of a medical error. A root-cause analysis was conducted with key pharmacy personnel and administrators, an approach that was both overwhelming and enlightening. More questions than answers were discovered as a result of the root-cause drill-down process. The Joint Commission provided further direction, and the hospitals' chief operating officer and chief nurse officer were invited to fly to Chicago to discuss questions with the major creator of the root-cause analysis process, Dr. Richard Croteau.

Patient safety science is an important base of knowledge for nursing leadership. Patient safety conferences where Dr. Lucian Leape, Don Berwick, and Michael Cohen and their book, "New Look in Patient Safety," provide important understanding of latent errors and system dynamics in medical errors.[4–7] An important insight into the most salient insight in the journey was that the causes of medical errors were complex and did not occur in any predictable and linear way. Rather, a systems approach to patient safety and the impact of leadership and communication on the safety processes was needed—instead of focusing solely on the one person who presumably made the error. Yet, the scarcity of nursing scholars and executives assuming leadership in the development and design of patient safety science was evident; which may be why physicians, pharmacists, quality officers, administrators, sociologists, and information experts became the pioneers for this new frontier in health care.[8]

The extensive experience gained by the entire UCH multidisciplinary team in the 3 years from 1996 to 1999 culminated in a true success story. The 1999 Joint Commission triennial visit resulted in UCH earning Accreditation with Accommodation with no citations. This achievement remains a career hallmark.

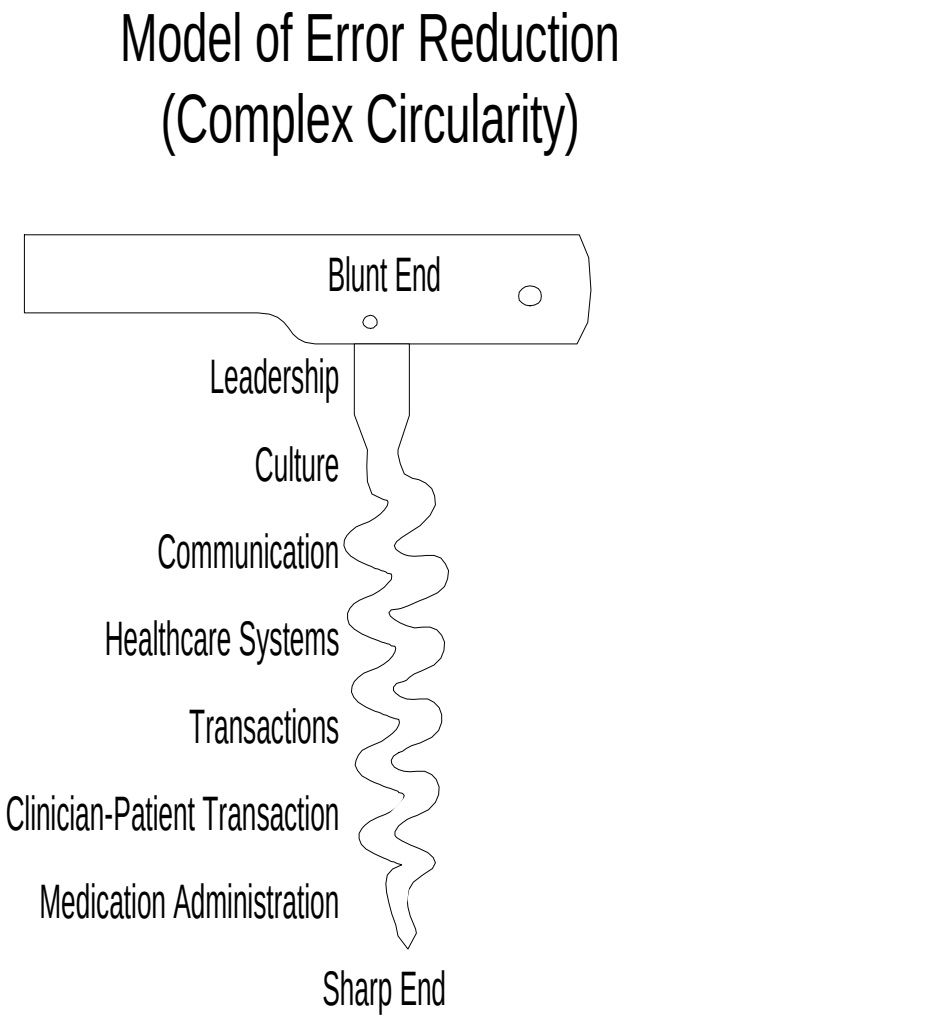
Development of the Systemic Mindfulness Model of Proactive Patient Safety

The experiential journey of managing contradiction, chaos, and complexity in patient safety informed the development of the Systemic Mindfulness Model of Proactive Patient Safety.[9, 10] This model, displayed in Figure 1, resembles a corkscrew and suggests that risk and safety are embedded in all systems of the health care environment, from the blunt end (leadership) to the sharp end (clinical interventions). In addition, the pathway to patient safety risk reduction is not linear. Movement and change in each level of the corkscrew are complex, circular, and continuous.[11, 12] Furthermore, such complex circularity is by nature interdisciplinary in medical systems in which critical safety systems are embedded at each level of the system, and in which each level interacts with other levels, making each turn of the corkscrew an appropriate field of study for the researcher.[10] The goal of the model is to provide a framework for moving a health care culture from a pathological or bureaucratic organization to a generative patient safety culture. Basic definitions are provided for clarification:

- *Systemic mindfulness* is being aware of the current moment-to-moment, lived experience by observing and attending to the changing scope of thoughts, feelings, and sensations. This results in alertness to what is happening in the here and now.[13–16] In the health care genre, systemic mindfulness refers to focused attention at each level of the health care system on how its functions affect patient safety.
- *Blunt end of a system* refers to those people in the organization such as administrators, members of the board of trustees, and health care leaders farthest removed from individual contact with the patient and patient system who nonetheless affect the patient safety processes through policies, technological and economic decisions, and cultural leadership.[5]
- *Sharp end of a system* refers to those who are closest to the moment-by-moment interactions with the patient and the patient's family. Nurses, doctors, pharmacists, technicians of various medical specialties, and support personnel such as dieticians work at the sharp end.[5]
- *Culture* is defined as a system of shared beliefs, values, customs, behaviors, and material objects that interact to produce attitudes and behavioral norms that determine how health care providers do things. Culture includes almost any form of behavior that is learned rather than instinctive or inherited.[17]
- *Generative* or *informed safety culture* exists when bidirectional communication is open and honest, trust exists for all levels of the organization, and messengers are trained and rewarded for improving systems. The system is just in the treatment of employees, reporting of errors is valued, and lifelong learning from mishaps is identified and appreciated.[18–20]
- A *pathological organization* is one in which messengers are reprimanded or ignored, change is extremely difficult, and powerful people are honored.[19, 20]

- A *bureaucratic culture* is highly compartmentalized and failure is known by only a few. Bidirectional communicational processes do not exist.[19, 20]

Figure 1. Systemic Mindfulness Model of Proactive Patient Safety Using a Corkscrew Metaphor



The corkscrew metaphor (shown in Figure 1) also signifies that the journey to an error reduction culture is never static, but constantly turning and twisting, and that a steady state of patient safety can never be obtained without a systemic mindfulness value system that holds both the sharp and blunt ends personally and professionally accountable for patient safety. As mentioned, there are seven imperatives that the nurse leader must implement to develop a patient safety culture.[1] These imperatives must be initiated by the nurse executive leadership and communicated from top to bottom.

However, communication between the blunt and sharp ends of the system must be bidirectional. If nurses feel comfortable reporting near misses in a nonpunitive environment, new communication channels are developed and new practice procedures are put in place by leadership. Moreover, decisions made at one level of the system affect all other levels. For example, a decision to decrease staff made at the leadership level will necessarily affect health care system transactions and nurse–patient interactions by increasing caseloads and responsibilities, and thereby potentially increase medical error risk**.**[21]

Communication affects health care transactions among health care personnel. For example, it is imperative that the list of a patient's medications that is gathered at admission be communicated effectively to subsequent providers as the patient is transferred between settings and practitioners extending all the way to discharge.[10]

Croteau[22] refers to the general principles of proactive risk reduction necessary at the sharp end of care to mitigate error. Leadership involves staff in the development and implementation of the following principles: (a) retraining and counseling, (b) redoing policies and changing practices, (c) creating redundancy and double checks, (d) putting in fail-safe systems such as backup systems, and (e) purchasing more technological solutions.

In summary, the premise behind the model is that each level identified in the spiral must be addressed and managed to ensure patient safety. A generative culture of systemic mindfulness and professional accountability is imperative at all levels of the system for system-wide effectiveness. This infers that everyone's job is patient safety in all health care system transactions; this safety mission involves the entire health care team, from the nurse and physician to the valet parking attendant.

Handling a Medical Error

A generative culture for nursing is created by the chief nurse executive, mindful of patient safety. Leadership guidelines to adhere to when an error or near miss occurs are as follows:

1. Interview all clinicians involved in the error and be sensitive to not only the overt, explicit information about the experience, but also implicit knowledge such as coping style, fatigue, and personality traits such as attitudes of overconfidence and underconfidence in clinical knowledge.
2. Assess if the error is one of three types: (a) s*kill-based*—occurs when the competency of the nurse is identified as a component of the error, (b) *rule-based*—results from a failure to follow policy and procedure, or (c) *knowledge-based*—due to a knowledge deficit or assumption that known knowledge is correct when it is not.[18]
3. If an error occurs, provide administrative leave with pay during the investigation and offer psychological counseling. Invite the nurse to be involved in the root-cause analysis to express what happened and why. The nurse executive or designee should be present to provide professional support and leadership to all team members. Remember that the involved clinician is often overlooked and can become the second victim. Shame and guilt can become disabling.

The information gained through this process can be used to further explore the latent errors within each level of the system. Nurses learn to use 'work-arounds' and peer support to compensate for poorly designed systems or lack of resources. These 'work-arounds' become common practice. A hallmark of identifying causes of system errors or near misses is to interview nurse clinicians involved in the mishap about their actual thoughts and resultant

behaviors during the time of the event. This process should be accomplished prior to the root-cause analysis so that information obtained can be utilized in remedial actions and self-reflections of the people involved.

Changing and Holding Generative Culture Gains at the Nurse-Patient Transactional Level

There are a number of processes that can be used to retain gains made through the change process that move the culture to one of patient safety. For example, decisions to improve patient safety by leadership must be communicated through each level of the system from leaders in allied professions, to health care transactions among health care professionals, to clinician-patient interactions, to the administration of a specific health care intervention. These changes not only need to be implemented effectively, but also maintained over time in the face of other changes such as staff and nurse manager turnover.

1. Foster a just culture that enables reporting of all errors and rewards actions to proactively avoiding future errors:
    a. Provide opportunities for staff to share near-miss scenarios with one another without breaking patient confidentiality.
    b. Reward nurses who speak up and identify errors or near misses. As a nurse executive leader, it is important to personally meet with staff that speak out and present them with a thank you note and/or a small gift such as movie tickets.
    c. Learn the art of storytelling. Become a raconteur. In nurse executive leadership meetings with staff, tell the story of a root cause, what was discovered and what practice changes are needed. Initiate a bidirectional dialogue with staff to get honest feedback. Validate disparate opinions and explain alternative solutions.
    d. Review, on an annual basis, all root-cause analyses to assure that identified corrective strategies are still in existence and are providing continued safety nets.
    e. Proactively identify unit trends in near misses, nurses' expressed concerns, vacancy and turnover increases, increased patient volume, and acuity. The perfect storm could be brewing.
    f. Administer punishment when willful misconduct, reckless behavior, and unjustified deliberate violation of the rules were significant factors in causing the error.
2. Identify and develop nurses as patient safety experts:
    a. Create employees who function as surveillance and reconnaissance officers who are trained in patient safety principles and are well versed in the Joint Commissions' National Patient Safety Goals. Give these patient safety disciples titles such as "deltas" and provide a formalized structure for ongoing communication, empowerment, and recognition.
    b. Include patient safety functions in everyone's job description.
    c. Consider a patient safety clinical specialist who provides oversight for nurse/patient safety processes such as clinical alarms, code carts, and telemetry outcomes.[23, 24]
3. Ensure staff have the needed tools and resources to improve patient safety:
    a. Implement computerized occurrence reporting that is anonymous and easy to complete. Report aggregate data at designated times to determine areas of concern.

b. Spread positive gossip and the rationale for the purchase of new safety equipment or process changes that have been implemented. Include nurses in decisions. Celebrate acquisition of new technologies and changes as key components to creating safe environments for both the patient and nurse.
c. Develop a scorecard for each nursing unit, reporting clinical outcomes and adherence to patient safety goals such as patient identification. Establish achievable targets to share with all staff on a monthly basis.
d. Create evidence-based nurse safety practices that are unit-specific and review and update on a yearly basis with staff.
e. Establish a communication officer for nursing and publish a monthly newsletter that includes patient-nurse safety updates from both internal and external avenues. Circulate to all nursing units the *Institute for Safe Medication Practices* (ISMP) monthly newsletter.[25]
f. Expect new technology to create new, unexpected errors and perform a failure mode and effects analysis prior to implementation or early on in the adoption phase.[26, 27]
g. Invite industry partners to open forum lunches with staff nurses to discuss design and operative concerns of safety devices. Effectuate changes with health care vendors and purchasing agents.

4. Develop clever reminders for nursing staff that validate their importance in safety, both for their patients and themselves. An example is the following message attached to the back of the employee identification badge:

> Mindful Practice
> It doesn't matter how good we are if we are not paying attention.
> - Stop—Stop and become focused on the task at hand.
> - Look—Look and see the uniqueness of the patient.
> - Listen—Listen to what you have been taught about safe patient care.

5. Enable patient safety through effective leadership:
   a. Address in senior leadership lack of professionalism and diminished respect in the workplace. Remember, it takes a village to change a culture.
   b. Provide leadership, direction, and passionate commitment for rapid response team implementation. Communicate successful outcomes to not only nursing and medical staff, but to all stakeholders. Take charge as a nurse executive to promote the successes.[28]
   c. Be the moral conscience for the patient at the senior leadership table, especially if a balance of safety practices and financial imperatives is needed. Sometimes compromise is not acceptable when it concerns patient or nurse safety.
   d. Develop translational research mechanisms and business acumen to effectively articulate the business case for patient safety.
   e. Keep informed on technology and innovations in patient safety and support them vehemently if outcomes appear justified.

   f. Emulate authentic leadership traits using skilled communication messages of truth, trust, balance, respect, and confidentiality.[29]
6. Enable patients and their families to be part of patient safety improvements:
   a. Invite preselected patients, families, and/or consumers to speak directly to nurses about their perceptions of care given, as well as the lived experience of near misses or medical errors.
   b. Empower patients on admission by giving them safety information regarding issues such as making sure identification bands have correct information, observing and expecting clinicians to wash hands, mark surgery sites, etc.
   c. Remember medical errors are always matters of the heart. Everyone is impacted, not just the patient and family, but the nurse or clinician involved in the error—the second victim.

The development of an informed patient safety culture has evolved since 1995 through the passionate leadership of many stakeholders in both the public and private sectors, including the Joint Commission and the development of its National Safety Goals.[7, 8] However, the health care industry still struggles to gain the trust of patients. Consumer groups are encouraging patients to have a patient advocate accompany them to the hospital.[30]

The patient safety leadership skills identified by the Leadership Alliance for Nurse Executives[1] should be addressed by practicing the strategies described as necessary for creating a generative culture at all levels of the health care system from leadership to the nurse-patient transaction (see Figure 1). Patient safety is dependent upon the safe practices of nurses. Nurse executives must be the moral conscience for the patient and assure that wherever nursing care is practiced, it is practiced with a mindful approach. Nurses must have the time to think critically and not be interrupted or easily distracted. Every newly designed system will never be fail-safe if the nurse does not have time for that final safety net at the sharp end of the care delivery system. The authentic executive nurse leader in the 21st century must lead in spite of contradictions and complexity and build bridges to all stakeholders as we walk on them together.[31]

Research Implications

Despite the advances in the science of patient safety, a significant reduction in the frequency of medical errors has yet to be accomplished.[30] Process enhancements such as double checks, redundancy, and fail-safe procedures, have not led to the elimination of administering the wrong drug or the wrong dose. Research from the field of human factors has shown that attention, perception, and cognition are all fallible. Reality is influenced by expectation. Routines and similarities may result in not being able to recognize differences. Fatigue, stress, and strong emotions such as anger and frustration, affect perceptions and thoughts. The next frontier in patient safety is now researching how human factors affect performance. As such, mindfulness may contribute to preventing common errors of attention and perception, but it is not known whether mindfulness can be a learned skill. Each time a nurse administers a medication, an MRI is performed, and the operating room personnel complete the sponge count, can they learn to bring full awareness to their task?

Another set of questions involves new technology. How will the work of the future nurse be redesigned to assure that barcoding, hand-held devices, bedside computerized documentation, computerized physician order entry, e-ICUs, smart infusion systems, and voice-activated

communication tools are all interconnected to result in a decrease in errors and better patient outcomes? Paradoxically, these strategies may introduce new sources of error.

Conclusion

Well-publicized medical errors during the mid-1990s created a health care crisis involving patient safety. As the public and the profession have become more cognizant of the problem, demands for system redesign to significantly reduce medical errors have occurred. This vignette suggests that it is imperative for all nurse leaders and the chief nurse executive, in particular, to become prime architects in creating a culture of patient safety by employing the core competencies of leadership, communication, professionalism, business skills, and knowledge of the health care environment.

Personal experience in redesigning a hospital safety culture, following a significant medical error, contributed to learning that the science of medical error reduction is complex and involves multiple levels and systems of the health care environment. More specifically, reducing medical errors is not a matter of finding and punishing the one person thought responsible for the error. Rather, chief nurse executives must recognize that medical errors occur because of complex reasons that are not entirely predictable. All departments of the hospital environment with direct or indirect patient contact must be accountable if patient safety goals are to be achieved.

To assist in this process, the Systemic Mindfulness Model of Proactive Patient Safety model suggests using a corkscrew metaphor where each multiple level of the health care system interacts in complex ways to affect patient safety. Decisions made at one level can affect all other levels and alter the dynamics of the patient safety culture. To be effective, all staff need to be aware of their role in the patient safety process and how they can best promote and maintain a patient safety culture.

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