Patient Safety and Patient Safety Culture: Foundations of Excellent Health Care Delivery

CNE Continuing Nursing Education

Beth Ulrich
Tamara Kear

Primum non nocere. First do no harm.

Patient safety forms the foundation of healthcare delivery just as biological, physiological, and safety needs form the foundation of Maslow's hierarchy (Maslow, 1954). Little else can be accomplished if the patient does not feel safe or is, in fact, not safe. But the healthcare system is extremely complex, and ensuring patient safety requires the ongoing, focused efforts of every member of the healthcare team.

Patient safety moved to the forefront in health care with the release in 1999 of the Institute of Medicine (IOM) landmark report, *To Err is Human: Building a Safer Health System*, which estimated that annually in the United States, up to one million people were injured and 98,000 died as a result of medical errors (IOM, 2000). The report caught the attention of the media, and there were headlines across the nation about the safety (or lack of safety) for patients in healthcare organizations. In 2013, James updated the estimate of patient harms associated with hospital care by performing a literature review of studies that used a trigger tool to identify specific evidence in medical records related to preventable adverse events. Preventable adverse events include errors of commission, errors of omission, errors of communication, errors of context, and diagnostic errors (James, 2013). When using medical records to identify adverse events, however, conservative estimates result because this method primarily targets errors of commission and are less likely to find other types of errors (Parry, Cline, & Goldmann, 2012). As a result of the review, James (2013) estimated the number of premature deaths associated with preventable harm to patients to be more than 400,000 per year and that serious

Beth Ulrich, EdD, RN, FACHE, FAAN, *is Editor, the* Nephrology Nursing Journal, *and a Professor, the University of Texas Health Science Center at Houston School of Nursing. She is a Past President of ANNA and a member of ANNA's Sand Dollar Chapter. She may be contacted directly via email at BethUlrich@aol.com*

Tamara Kear, PhD, RN, CNS, CNN, *is an Assistant Professor of Nursing, Villanova University, Villanova, PA, and a Nephrology Nurse, Liberty Dialysis. She is on the Editorial Board for the* Nephrology Nursing Journal, *serves as the ANNA Research Committee chairperson, and is a member of ANNA's Keystone Chapter.*

Statements of Disclosure: *Please refer to page 457.*

Note: *Additional statements of disclosure and instructions for CNE evaluation can be found on page 457.*

Ulrich, B., & Kear, T. (2014). Patient safety and patient safety culture: Foundations of excellent health care delivery. *Nephrology Nursing Journal, 41*(5), 447-456, 505.

In 1999, patient safety moved to the forefront of health care based upon astonishing statistics and a landmark report released by the Institute of Medicine (IOM). This report,* To Err is Human: Building a Safer Health System*, caught the attention of the media, and there were headlines across the nation about the safety (or lack of safety) for patients in healthcare organizations. In the ensuing years, there have been many efforts to reduce medical errors. Clinicians reviewed their practices, researchers looked for better ways of doing things, and safety and quality organizations focused attention on the topic of patient safety. Initiatives and guidelines were established to define, measure, and improve patient safety practices and culture. Nurses remain central to providing an environment and culture of safety, and as a result, nurses are emerging as safety leaders in the healthcare setting. This article discusses the history of the patient safety movement in the United States and describes the concepts of patient safety and patient safety culture as the foundations for excellent health care delivery.

Key Words: Patient safety, culture of safety, patient safety, culture.

Goal

To provide an overview of the concepts of patient safety and patient safety culture.

Objectives

1. Discuss the history of the patient safety movement in the United States.
2. Identify the components of a patient safety culture.
3. Describe the relationship between patient safety culture and patient safety.

This offering for 1.4 contact hours is provided by the American Nephrology Nurses' Association (ANNA).

American Nephrology Nurses' Association is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center Commission on Accreditation.

ANNA is a provider approved by the California Board of Registered Nursing, provider number CEP 00910.

This CNE article meets the Nephrology Nursing Certification Commission's (NNCC's) continuing nursing education requirements for certification and recertification.

harm appeared to be 10 to 20 times more common than deaths. An annual estimate of 400,000 deaths and 4 to 8 million occurrences of serious harm per year translate into 1,096 deaths and 10,959 to 20,918 occurrences of serious harm daily. To put it in perspective, that number of deaths would be the same as three 747 airplanes crashing each day.

Patient Safety

In the *To Err is Human* report, the IOM defined *error* as "the failure of a planned action to be completed as intended (i.e., error of execution) or the use of a wrong plan to achieve an aim (i.e., error of planning)," an *adverse event* as "an injury caused by medical management rather than the underlying condition of the patient," and a *preventable adverse event* as an adverse event attributable to error (IOM, 2000, p. 28). The report began by observing that "errors can be prevented by designing systems that make it hard for people to do the wrong thing and easy for people to do the right thing" (p. *ix*). In 2001, the IOM published *Crossing the Quality Chasm: A New Health System for the 21st Century*, further detailing the changes needed to ensure patient safety as well as looking at other quality issues. They identified six aims for improvement, noting that health care should be safe, effective, patient-centered, timely, efficient, and equitable.

Over the next decade, after the IOM reports, there were many efforts to reduce medical error. Clinicians reviewed their practices, researchers looked for better ways of doing things, and safety and quality organizations focused attention on the topic of patient safety. In 2002, The Joint Commission established National Patient Safety Goals to improve patient safety by assisting healthcare organizations to address specific areas of concern with regard to patient safety. The goals focus on problems in healthcare safety and how to solve them. A Patient Safety Advisory Group, composed of expert nurses, physicians, pharmacists, risk managers, clinical engineers, and other professionals with hands-on experience in addressing patient safety issues in a wide variety of healthcare settings, assists The Joint Commission in identifying and prioritizing emerging patient safety issues, and determining how to address those issues. The Joint Commission determines the highest priority patient safety issues and how best to address them. Examples of issues that have been addressed include disruptive behavior, wrong site surgery, and most recently, safe clinical alarm management. The 2014 National Patient Safety Goals are shown in Table 1.

In 2002, the National Quality Forum (NQF) endorsed a list of serious reportable events in health care to "facilitate uniform and comparable public reporting to enable systematic learning across healthcare organizations and systems and to drive systematic national improvements in patient safety based on what is learned both about the events and about how to prevent their recurrence" (NQF, 2011, p. ii). Included on the list were such events as wrong site surgery and acquisition of Stage 3 or 4 pressure ulcers after admission. These were subsequently referred to as "never events," which the NQF defined as "errors in medical care that are of concern to both the public and health care professionals and providers, clearly identifiable and measurable (and thus, feasible to include in a reporting system), and of a nature such that the risk of occurrence is significantly influenced by the policies and procedures of the healthcare organization" (Centers for Medicare and Medicaid Services [CMS], 2008, p. 1). In 2008, CMS issued a directive that effective October 1, 2008, Medicare would no longer pay the extra cost of treating the certain categories of conditions that occurred while the patient was in the hospital, including pressure ulcer Stages 3 and 4; falls and trauma; surgical site infection after bariatric surgery for obesity, certain orthopedic procedures, and bypass surgery (mediastinitis); vascular-catheter associated infection; catheter-associated urinary tract infection; administration of incompatible blood; air embolism; and foreign object unintentionally retained after surgery (CMS, 2008). In addition, CMS began strategies to base reimbursement practices on quality rather than on quantity. Subsequently, private insurers followed CMS's lead and changed their reimbursement policies.

Building on their prior studies, the IOM published another landmark report in 2004, *Keeping Patients Safe: Transforming the Work Environment of Nurses*, which recognized the value of nurses and the environments in which they provide care, and discussed how to design nurses' work environments to enable them to provide safer patient care. Based on their review of research, they concluded that nursing actions were directly related to better patient outcomes and that nursing vigilance defended patients against errors. They noted "how well we are cared for by nurses affects our health, and sometimes can be a matter of life or death" (IOM, 2004, p. 2). The evidence reviewed for the report also found that the typical work environment of nurses is characterized by many serious threats to patient safety, which are found in the basic components of all organizations – organizational management practices, workforce deployment practices, work design, and organizational culture. The report found safety issues, including frequent failure to follow management practices necessary for safety, unsafe workforce deployment, unsafe work and workspace design, and punitive cultures that hindered the reporting and prevention of errors. To strengthen patient safety, the report recommended changes in work environment, including the use of transformational leadership and evidence-based management, maximizing workforce capability, design of work and workspace to prevent and mitigate errors, and creating and sustaining a culture of safety (see Table 2).

The Quality and Safety Education for Nurses (QSEN) project, created in 2006, developed a quality and safety framework to be integrated into

Table 1
The Joint Commission 2014 National Patient Safety Goals for Hospitals and Ambulatory Health Care

Goal: Improve the accuracy of patient identification.
• Use at least two patient identifiers when providing care, treatment, and services. • Eliminate transfusion errors related to patient misidentification.
Goal: Improve the effectiveness of communication among caregivers.
• Report critical results of tests and diagnostic procedures on a timely basis.
Goal: Improve the safety of using medications.
• Label all medications, medication containers, and other solutions on and off the sterile field in perioperative and other procedural settings. Note: Medication containers include syringes, medicine cups, and basins. • Reduce the likelihood of patient harm associated with the use of anticoagulant therapy. • Maintain and communicate accurate patient medication information.
Goal: Reduce the harm associated with clinical alarm systems.
• Improve the safety of clinical alarm systems.
Goal: Reduce the risk of health care–associated infections.
• Comply with either the current Centers for Disease Control and Prevention (CDC) hand hygiene guidelines or the current World Health Organization (WHO) hand hygiene guidelines. • Implement evidence-based practices to prevent health care-associated infections due to multidrug-resistant organisms in acute care hospitals. • Implement evidence-based practices to prevent central line-associated bloodstream infections. • Implement evidence-based practices for preventing surgical site infections. • Implement evidence-based practices to prevent indwelling catheter-associated urinary tract infections (CAUTI).
Goal: Reduce the risk of patient harm resulting from falls.
• Reduce the risk of falls.
Goal: Prevent health care-associated pressure ulcers (decubitus ulcers).
• Assess and periodically reassess each resident's risk for developing a pressure ulcer and take action to address any identified risks.
Goal: The organization identifies safety risks inherent in its patient population.
• Identify patients at risk for suicide. • Identify risks associated with home oxygen therapy, such as home fires.
Goal: Universal Protocol for Preventing Wrong Site, Wrong Procedure
• Conduct a pre-procedure verification process. • Mark the procedure site. • A time-out is performed before the procedure.

Note: Details for the rationales and elements of performance for the goals are available at http://www.jointcommission.org/standards_information/npsgs.aspx

Source: The Joint Commission, 2013

nursing education (Cronenwett et al., 2007; Sherwood & Zomorodi, 2014). The framework was based on recommendations from the IOM (2003) to prepare all health professionals with six core competencies – patient-centered care, teamwork and collaboration, evidence-based care, quality improvement, safety, and informatics – and provided the knowledge, skills, and attitudes essential to achieve each competency. The goal of the safety competency is to "minimize risk of harm to patients and providers through both system effectiveness and individual performance" (Cronenwett et al., 2007, p. 128). Medical education has also placed more emphasis on patient safety. Kirsh and Boysen (2010) note that achieving greater patient safety requires a fundamental culture change across all phases of medical education. They describe five factors that are critical for success: explicit leadership from the top, early engagement of health professions students, having residents teach others about patient safety, the use of information technology, and promoting teamwork among health professions.

In 2009, 10 years after the *To Err is Human* IOM report, Leape and colleagues (2009) concluded that progress on patient safety had been insufficient; in fact, they said that "safety does not depend just on measurement, practices, and rules, nor does it depend on any specific improvement methods; it depends on achieving a culture of trust, reporting, transparency, and discipline" (p. 424). Given the status of healthcare organizations in the U.S. in 2009, they believed that achieving safety would require a major culture change.

Of note, in some cases, patient safety issues had improved in one delivery area, but not in another. For example, overall MSRA infections decreased in the United States from 2005 to 2011. Hospital-acquired infections dropped by 54%, from about 9.7 to 4.5 per 100,000 people (Dantes et al., 2013). This decline was likely due to increased awareness, major infection control initiatives, and reim-

Table 2
Necessary Patient Safeguards in the Work Environment of Nurses

Governing Boards That Focus on Safety
Leadership and Evidence-Based Management Structures and Processes
Effective Nursing Leadership
Adequate Staffing
Organizational Support for Ongoing Learning and Decision Support
Mechanisms that Promote Interdisciplinary Collaboration
Work Design That Promotes Safety
Organizational Culture That Continuously Strengthens Patient Safety

Source: IOM, 2004.

bursement incentives/disincentives. However, while the rate of MRSA infections with healthcare-associated community onset decreased (from 21.0 to 15.0 per 100,000 people), it was still more than three times higher than the rate of hospital-acquired MRSA infections. In 21% of all the cases analyzed, the patient had received hemodialysis or peritoneal dialysis in the year prior to onset; only 12% of these 21% of cases were hospital acquired. These results led the researchers to conclude, "Significant progress in preventing invasive MRSA infections in the dialysis and post-discharge settings is needed to substantially reduce the overall burden of invasive MRSA infections" (Dantes et al., p. 1976).

Measuring Safety

Pronovost and colleagues (2006) developed a framework for measuring patient safety in two categories. The first is valid rate-based measures that are readily available to answer the questions "How often do we harm patients?" and "How often do we provide the interventions the patient should receive?" (Pronovost, et al., 2006, p. 1603). The second category includes indicators that are essential to patient safety but cannot be measured as valid rates to answer the questions "How do we know we learned from defects?" and "How well have we created a culture of safety?" (Pronovost et al., 2006, p. 1603).

Patient Safety Culture

Patient safety culture has been defined as "the values shared among organization members about what is important, their beliefs about how things operate in the organization, and the interaction of these with work unit and organizational structures and systems, which together produce behavioral norms in the organization that promote safety" (Singer, Lin, Falwell, Gaba, & Baker, 2009, p. 400). Reason and Hobbs (2003) have identified three main components of a safety culture: learning culture, just culture, and reporting culture. A just culture is a culture of trust, a culture in which what is acceptable and not acceptable is defined, and fairness and accountability are critical components. A reporting culture encourages and facilitates the reporting of errors and safety issues, and commits to fixing what is broken. A learning culture is one that learns from errors, near misses, and other identified safety issues. The three components are intertwined – without a just culture, you have minimal reporting; without reporting, you have no opportunities to learn and improve.

Sammer, Lykens, Singh, Mains, and Lackan (2010) conducted a review of the literature on the culture of safety and identified seven subcultures of patient safety culture: leadership, teamwork, evidence-based care, communication, learning, just, and patient centered. McFadden, Henagan, and Gowen (2009) investigated the existence of what they term a "patient safety chain." They collected data from 371 hospitals across the U.S. and found empirical evidence that indeed such a chain exists. Improving patient safety begins at the highest level of the organization with a transformational leadership style, which leads to the creation of a culture of safety, the adoption of patient safety initiatives, and ultimately, to improved patient safety outcomes.

Few patient safety culture/climate studies were found in the specialty of nephrology. Taher and colleagues (2014) investigated the safety climate as perceived by nurses and physicians in five dialysis units in three cities in Saudi Arabia. The results indicated that the nurses had a higher perception of the patient safety climate than did the physicians, while both groups felt that there was a stronger commitment to safety from clinical area leaders than from senior leaders in the organization.

The Institute for Healthcare Improvement (IHI), a group noted for its promotion of and strategies for patient safety and quality patient care, has noted "in a culture of safety, people are not merely encouraged to work toward change; they take action when it is needed. Inaction in the face of safety problems is taboo, and eventually, the pressure comes from all directions – from peers as well as leaders" (IHI, 2014a, p.1).

The Relationship Between Patient Safety Culture and Patient Safety

Patient safety culture has been shown to be related to healthcare clinician behaviors, such as reporting adverse incidents (Braithwaite, Westbrook, Travaglia, & Hughes, 2010), to patient outcomes such as fewer adverse

events in hospitals (Mardon, Khanna, Sorra, Dyer, & Famolaro, 2010; Singer et al., 2009) and patient mortality in intensive care units (Huang et al., 2010), and to positive assessments of care by patients (Sorra, Khanna, Dyer, Mardon, & Famolaro, 2012).

Singer and colleagues (2009) studied the relationship between patient safety culture and patient safety indicator data from 91 hospitals in 37 states. Their findings indicated that higher levels of patient safety culture were associated with higher safety performance and that hospitals in which employees reported more problems with fear of shame and blame had a significantly higher risk of safety problems. They also found that a better patient safety culture was associated with a lower risk of patient safety issues when the patient safety culture was measured as perceptions of frontline personnel but not when measured by the perceptions of patient safety culture by senior management. This led the researchers to observe that senior executives might not fully appreciate the safety hazards in their organizations. This observation was also made by Buerhaus and colleagues (2007) after studying the impact of the nursing shortage on hospital patient care as perceived by direct care nurses, chief nursing officers (CNOs), physicians, and hospital chief executive officers (CEOs). When asked how often they would say the nurse shortage that existed at the time had an adverse impact on safe patient care, direct care RNs said 65% of the time, physicians 36%, CNOs 26%, and CEOs 17%. Buerhaus and colleagues (2007) noted that the differences in perceptions identify gaps that could be important barriers to safe patient care. If, for example, CEOs do not perceive that a shortage of nurses affects patient safety, they are far less likely to allocate human and fiscal resources to alleviate the shortage.

Measuring Patient Safety Culture

Several measures of patient safety culture and the various elements of patient safety culture have been developed. Examples include the Safety Attitudes Questionnaire (Sexton et al., 2006), the Patient Safety Culture Improvement Tool (Fleming & Wentzell, 2008), and the patient safety culture tools developed by the Agency for Healthcare Research and Quality (AHRQ).

Safety Attitudes Questionnaire

The Safety Attitudes Questionnaire is based on a six-factor model of provider attitudes: teamwork climate (perceived quality of collaboration between personnel), safety climate (perceptions of a strong and proactive organizational commitment to safety), perceptions of management (approval of managerial action), job satisfaction (positivity about the work experience), working conditions (perceived quality of the work environment and logistical support), and stress reduction (acknowledgement of how performance is influenced by stressors) (Sexton et al., 2006). The questionnaire has 60 items and takes about 15 minutes to complete. The scale reliability is 0.90.

Patient Safety Culture Improvement Tool

Fleming and Wentzell (2008) developed a patient safety culture improvement tool covering five dimensions: leadership, risk analysis, workload management, sharing and learning, and resource management. The tool is designed to be solution-focused. It is based on the safety culture maturity model developed by Ashcroft, Morecroft, Parker, and Noyce (2005), which includes five levels of safety culture maturity :

- Pathological (see safety as a problem, suppress information, blame individuals).
- Reactive (see safety as important but only respond after event has occurred).
- Calculative (fixate on rules and territory, fix immediate issue but without deeper inquiry).
- Proactive (have a comprehensive approach, anticipate safety issues, involve a wide range of stakeholders).
- Generative (safety culture is central to the mission, learn from successes and failures).

Content and face validity were tested using patient safety experts.

Agency for Healthcare Research and Quality Patient Safety Culture Surveys

The Agency for Healthcare Research and Quality (AHRQ) patient safety surveys are well known and well used. In 2014, data from surveys conducted at 653 hospitals (405,281 respondents) and 935 medical offices (27,103 respondents) were reported to the AHRQ comparative database. In addition, many other organizations and work units use the AHRQ patient safety surveys without reporting data to the comparative database.

AHRQ's mission is to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable, and to work with the U.S. Department of Health and Human Services (DHHS) and other partners to insure the evidence is understood and used (AHRQ, 2014a). AHRQ has four areas of care and focus: improving health care quality by accelerating implementation of patient-center outcomes research (PCOR), making health care safer, increasing accessibility to health care, and improving health care affordability, efficiency, and cost transparency (AHRQ, 2014a).

AHRQ Surveys on Patient Safety Culture

As part of its goal to support a culture of patient safety and quality improvement in the U.S. healthcare system, AHRQ sponsored the development of patient safety culture assessment tools for hospitals, nursing homes, ambulatory outpatient medical offices, and community pharmacies (AHRQ, 2014a). Healthcare organizations are encouraged to use these survey assessment tools to raise staff awareness about patient safety, diagnose and assess the current status of patient safety culture, identify strengths and areas for patient safety culture improvement, examine trends

in patient safety culture change over time, evaluate the cultural impact of patient safety initiatives and interventions, and conduct internal and external comparisons (AHRQ, 2014a).

AHRQ Hospital Survey on Patient Safety Culture. In 2004, AHRQ released the Hospital Survey on Patient Safety Culture, a staff survey designed to help hospitals assess the culture of safety in their institutions (AHRQ, 2014b). Since then, hundreds of hospitals across the United States and internationally have implemented the survey. The survey measures staff perceptions of patient safety culture in the work area/unit, as well as perceptions about patient safety culture in the hospital as a whole. There are 12 dimensions of patient safety culture with each dimension measured by three or four survey questions (see Table 3). Reliability data have been reported on the subscales. In response to requests from hospitals interested in comparing safety culture survey results to other hospitals, AHRQ funded the development of a comparative database on the survey in 2006 (AHRQ, 2014b). The database comprises voluntarily submitted data from U.S. hospitals that have administered the survey.

AHRQ Medical Office Survey on Patient Safety Culture. The AHRQ Medical Office Survey on Patient Safety Culture was designed for medical offices with at least three providers (physicians, either MD or DO; physician assistants; nurse practitioners; and other providers licensed to diagnose medical problems, treat patients, and prescribe medications) (AHRQ, 2014c). The Medical Office Survey on Patient Safety Culture emphasizes patient safety and healthcare quality issues. The Medical Office Survey on Patient Safety Culture is an expansion of AHRQ's Hospital Survey on Patient Safety Culture and is designed to measure the culture of patient safety in medical offices from the perspective of providers and staff.

The survey includes 51 items measuring 12 dimensions. Some survey dimensions are similar to dimensions in the Hospital Survey on Patient Safety Culture, although some items are different in the two surveys. The remaining survey dimensions are unique to the medical office survey with items that focus specifically on issues related to patient safety or quality of care in medical offices (see Table 3). In 2010, AHRQ established the Medical Office Survey on Patient Safety Culture Comparative Database (AHRQ, 2014d).

Improving Patient Safety and Patient Safety Culture

The IOM (2000) has noted that designing healthcare processes for safety involves a three-part strategy: designing systems to prevent errors from occurring, designing procedures to make visible the errors that occur, and designing procedures to mitigate the harm to patients from errors that are not intercepted or are not detected.

The experience of the aviation industry is a source for many patient safety strategies. The Federal Aviation Administration (FAA) defines a safety management system as "the formal, top-down business approach to managing safety risk, which includes a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies, and procedures" (FAA, 2014a, p. 1). The FAA (2014a) further notes that the safety management system "is a structured process that obligates organizations to manage safety with the same level of priority that other core business processes are managed" (p. 1). The safety management system is comprised on four functional components:"

- Safety policy. Establishes senior management's commitment to continually improve safety; defines the methods, processes, and organizational structure needed to meet safety goals.
- Safety risk management. Determines the need for and adequacy of new or revised risk controls based on the assessment of acceptable risk.
- Safety assurance. Evaluates the continued effectiveness of the implemented risk control strategies; supports the identification of new hazards.
- Safety promotion. Includes training, communication, and other actions to create a positive safety culture within all levels of the workforce" (FAA, 2014b, p. 1).

John Nance (2008), author of *Why Hospitals Should Fly*, notes that there are three tiers to a safety system:

1. "Minimize the occurrence of human error through training, system changes, and education as well as cultural change.
2. Despite #1, expect human mistakes and build your system to fully absorb every anticipatable mistake without patient impact (much the same as aircraft manufacturers build in backup systems to backup the backup systems);
3. Even with #1 and #2 complete, the third step is to thoroughly redirect the thinking of team members so as to assign a 50/50 chance of serious error at any given time in the patient's care (given that the normal expectation after tiers 1 and 2 is to expect a 90% probability of error-free performance)" (Nance, 2008, pp. 175-176).

Another patient safety strategy is to become a high reliability organization. High reliability organizations are organizations in which accidents rarely occur despite the potential for catastrophic failure. Weick, Sutcliffe, and Obstfeld (1999) have identified a state of mindfulness created by five key processes that facilitate problem detection and management in high reliability organizations.

- Preoccupation with failure (and near failure) to better understand the strengths and weaknesses of the systems and organization.
- Reluctance to simplify interpretations so as not to limit the causal alternatives considered and the undesired consequences envisioned.
- Sensitivity to operations – Having broad operational awareness.
- Commitment to resilience – Having the ability to bounce back

Table 3
Patient Safety Culture Dimensions and Definitions

Patient Safety Culture Composite	Cronbach's α	Definition: *The extent to which…*
Hospital Survey		
Communication openness	0.72	Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority.
Feedback and communication about error	0.78	Staff are informed about errors that happen, given feedback about changes implemented, and discuss ways to prevent errors.
Frequency of events reported	0.84	Mistakes of the following types are reported: 1) mistakes caught and corrected before affecting the patient, 2) mistakes with no potential to harm the patient, and 3) mistakes that could harm the patient but do not.
Handoffs and transitions	0.80	Important patient care information is transferred across hospital units and during shift changes.
Management support for patient safety	0.83	Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.
Nonpunitive response to error	0.79	Staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file.
Organizational learning – Continuous improvement	0.76	Mistakes have led to positive changes and changes are evaluated for effectiveness.
Overall perceptions of patient safety	0.74	Procedures and systems are good at preventing errors and there is a lack of patient safety problems.
Staffing	0.63	There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients.
Supervisor/manager expectations and actions promoting safety	0.75	Supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems.
Teamwork across units	0.80	Hospital units cooperate and coordinate with one another to provide the best care for patients.
Teamwork within units	0.83	Staff support each other, treat each other with respect, and work together as a team.
Medical Office Survey – Additional Components		
Office processes and standardization	0.77	The office is organized, has an effective workflow, has standardized processes for completing tasks, and has good procedures for checking the accuracy of the work performed.
Patient care tracking/follow up	0.78	The office reminds patients about appointments, documents how well patients follow treatment plans, follows up with patients who need monitoring, and follows up when reports from an outside provider are not received.
Staff training	0.80	The office provides staff with effective on-the-job training, trains staff on new processes, and does not assign staff tasks they have not been trained to perform.
Work pressure and pace	0.76	There are enough staff and providers to handle the patient load, and the office work pace is not hectic.
Organizational leadership	0.76	Organizational leadership actively supports quality and patient safety, places a high priority on improving patient care processes, does not overlook mistakes, and makes decisions based on what is best for patients.
Information exchange with other settings	0.90	Accurate and complete information is exchanged in a timely manner.

Sources: AHRQ, 2014b, c.

from errors and cope with surprises.
- Underspecification of structure – Knowing who has the expertise and ensuring that decisions are made by those experts regardless of the structure of the organization.

Christianson, Sutcliffe, Miller, and Iwashyna (2011) demonstrated how these processes could be applied in a hospital setting in an intensive care unit. High reliability organizations, according to Christianson and colleagues (2011), "behave in ways that sometimes seem counterintuitive – they do not try to hide failures, but rather celebrate them as windows into the health of the system, they seek out problems, they avoid focusing on one aspect of the work and are able to see how all the parts of work fit together, they expect unexpected events and develop the capability to manage them, and they defer decision making to local frontline experts who are empowered to solve problems" (p. 314). Botwinick, Bisognano, and Haraden (2006) outlined steps for leaders to follow to achieve patient safety and high reliability. An overview of these steps is shown in Table 4.

Table 4
Steps for Leaders to Follow to Achieve Patient Safety and High Reliability

1. Address strategic priorities, culture, and infrastructure.
a. Establish patient safety as a strategic priority.
b. Assess organizational culture.
c. Establish a culture that supports patient safety.
d. Address organizational infrastructure.
e. Learn about patient safety and methods for improvement.
2. Engage key stakeholders.
a. Engage the Board of Trustees.
b. Engage physicians.
c. Engage staff.
d. Engage patients and families.
3. Communicate and build awareness.
a. Begin patient safety walkrounds™.
b. Implement safety briefings.
c. Improve communication using SBAR.
d. Implement crew resource management strategies.
4. Establish, oversee, and communicate system-level aims.
5. Establish aims beyond benchmarks.
a. Oversee and communicate system-level aims.
6. Track/measure performance over time, strengthen analysis.
a. Measure harm over time as a system-level measure.
b. Improve analysis of adverse events.
c. Strengthen incident reporting mechanisms.
7. Support staff and patients/families impacted by medical errors.
a. Provide support to staff and patients/families impacted be medical errors and harm.
b. Ensure the safety of the staff.
8. Align system-wide activities and incentives.
a. Align system measures, strategy, and projects.
b. Align incentives.
9. Redesign systems and improve reliability.
a. Redesign care processes to increase reliability.
b. Implement rapid response teams.
c. Introduce simulation.
d. Implement a computerized order entry system.

Source: Botwinick, Bisognano, & Haraden, 2006.

The promotion of patient safety culture, as noted by Weaver, Lubomski, Wilson, Martinez, and Dy (2013), "can best be conceptualized as a constellation of interventions rooted in the principles of leadership, teamwork, and behavior change, rather than a specific process, team, or technology" (p. 370).

Pidgeon and O'Leary (2000) argue that a good safety culture reflects and is promoted by four facets:
- "Senior management commitment to safety.
- Shared care and concerns for hazards and a solicitude over their impacts upon people.
- Realistic and flexible norms and rules about hazards.
- Continual reflection upon practice through monitoring, analysis, and feedback systems (organizational learning)" (p. 18).

Vogus, Sutcliffe, and Weick (2010) posit that there are three phases to implementing a safety culture – enabling, enacting, and elaborating. The enabling phase includes leader actions that consolidate the premises for a safety culture (raising awareness about patient safety, creating a safe environment for people to discuss and report safety issues, and improving safety). In the enacting phase, staff on the frontlines engage and take actions to identify safety threats and to minimize or eliminate them by implementing concrete practices that prioritize safety. Teamwork is needed for success in this phase. The elaborating phase is about reflection and learning.

The IHI (2014a) has developed a list of changes for creating a culture of safety (see Table 5) and detailed resources for implementing each change. Resources for patient safety and patient safety culture are shown in Table 6.

Conclusions and Implications For Nurses

Healthcare professionals are caring people, and it is often hard for them to match patient safety data with

Table 5
Developing a Culture of Safety - Changes for Improvement

Conduct patient safety leadership walkrounds
Create a reporting system.
Designate a patient safety officer.
Re-enact real adverse events.
Involve patients in safety initiatives.
Relay safety reports at shift change.
Appoint a safety champion for every unit.
Simulate possible adverse events.
Conduct safety briefings.
Create an adverse event response team.

Source: IHI, 2014.
Note: Details on resources for each change are available at http://www.ihi.org/resources/Pages/Changes/DevelopaCultureofSafety.aspx

their perceptions and desires of how care is delivered. It is difficult to comprehend the magnitude of more than 1,000 patients who suffer lethal preventable adverse events each day and the thousands more who are seriously harmed. But it is a problem that we must address and fix. Donald Berwick, MD, pediatrician, founder of IHI, and recently Administrator of CMS, has described the stages that people go through when faced with the reality of less-than-favorable data:

- The data are wrong.
- The data are right, but it's not a problem.
- The data are right. It's a problem, but it's not my problem.
- The data are right. It's a problem. It's my problem (IHI, 2014b).

Our commitment to patient safety and patient safety cultures must be strong enough to be able to move quickly to the last stage of data reality, to accept the challenge and the responsibility of ensuring that patients are safe when they are in our care, and to do all in our power and beyond to create patient safety cultures

Table 6
Patient Safety and Patient Safety Culture Resources

AHRQ Comprehensive Unit-based Safety Program (CUSP) Toolkit
http://www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/index.html Provides an entire toolkit including modules, slide presentations, videos, and facilitator notes.
AHRQ Patient Safety Network
http://psnet.ahrq.gov Patient safety primers; publications on patient safety and patient safety culture; weekly updates on new information and publications; newsletter.
AHRQ TeamSTEPPS System
http://teamstepps.ahrq.gov TeamSTEPPS training tools and materials for inpatient, outpatient, and long term care settings; support network; access to webinars.
AHRQ Guide to Patient and Family Engagement in Hospital Quality and Safety
http://innovations.ahrq.gov/content.aspx?id=3971 Four evidence-based strategies that hospitals can use to implement patient- and family-centered care practices. Each strategy includes educational tools and resources for patients and families, training materials for health care professionals, and real-world examples that show how strategies are being implemented in hospital settings.
AHRQ Surveys on Patient Safety Culture
http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/index.html Information on patient safety culture and patient safety culture assessment tools for hospitals, nursing homes, ambulatory outpatient medical offices, and community pharmacies.
Consumers Advancing Patient Safety
http://www.consumersadvancingpatientsafety.org/caps Newsletter, a toolkit for empowering patients, and information on patient safety from a consumer perspective.
Institute for Safe Medication Practices
www.ismp.org Medication safety tools and resources; newsletter.
The Joint Commission – Patient Safety
http://www.jointcommission.org/topics/patient_safety.aspx Information on patient and worker safety, "do not use" abbreviation list, national patient safety goals, the Speak-Up program for patients, etc.
National Patient Safety Foundation
http://www.npsf.org Information and resources on patient safety. an online learning center, webcasts

Note: Details for the rationales and elements of performance for the goals are available at http://www.jointcommission.org/standards_information/npsgs.aspx

Source: The Joint Commission, 2013.

that nurture and support the our staff and our patients.

Not only are nurses responsible for providing safe patient care, we are also responsible for creating an environment in which others can provide safe patient care, and for being the last line of defense when needed between the patient and potential harm. Having a deep understanding of patient safety and patient safety culture allows nurses to be the leaders we need to be in ensuring that our patients are always safe.

References

Agency for Healthcare Research and Quality (AHRQ). (2014a). *About us.* Rockville, MD: Author. Retrieved from http://www.ahrq.gov/about/index.html

Agency for Healthcare Research and Quality (AHRQ). (2014b). *Hospital survey on patient safety culture: 2014 user comparative database report.* Rockville, MD: Author. http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/hospital/index.html

Agency for Healthcare Research and Quality (AHRQ). (2014c). *Medical office survey on patient safety culture.* Rockville, MD: Author. Retrieved from http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/medical-office/index.html

Agency for Healthcare Research and Quality (AHRQ). (2014d). *Medical office survey on patient safety culture: 2014 user comparative database report.* Rockville, MD: Author.

Ashcroft, D.M., Morecroft, C., Parker, D., & Noyce, P.R. (2005). Safety culture assessment in community pharmacy: Development, face validity, and feasibility of the Manchester patient safety assessment framework. *Quality and Safety in Healthcare, 14*(6), 417-421.

Botwinick, L., Bisognano, M., & Haraden, C. (2006). *Leadership guide to patient safety.* Cambridge, MA: Institute for Healthcare Improvement. Retrieved from www.ihi.org/knowledge/Pages/IHIWhitePapers/LeadershipGuidetoPatientSafetyWhitePaper.aspx

Braithwaite, J., Westbrook, M.T., Travaglia, J.F., & Hughes, C. (2010). Cultural and associated enablers of, and barriers to, adverse incident reporting. *Quality and Safety in Health Care, 19*, 229-233.

Buerhaus, P.I., Donelan, K., Ulrich, B.T., Norman, L., DesRoches, C., & Dittus, R. (2007). Impact of the nurse shortage on hospital patient care: Comparative perspectives. *Health Affairs, 26*(3), 853-862.

Centers for Medicare and Medicaid Services (CMS). (2008, July 31). *Letter to state Medicaid directors. SMDL #08-004.* Baltimore, MD: Author.

Christianson, M.K., Sutcliffe, K.M., Miller, M.A., & Iwashyna, T.J. (2011). Becoming a high reliability organization. *Critical Care, 15,* 314-318.

Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., … Warren, J. (2007). Quality and safety education for nurses. *Nursing Outlook, 55*(3), 122-131.

Dantes, R., Mu, Y., Belflower, R., Aragon, D., Dumyati, G., Harison, L.H., … for the Emerging Infections Program-Active Bacterial Core Surveillance MRSA Surveillance Investigators. (2013). National burden of invasive Methicillin-resistant staphyloccus aureus infections, United States, 2011. *JAMA Internal Medicine, 173*(21), 1970-1979.

Federal Aviation Administration (FAA). (2014a). *Aviation safety: Safety management system.* Retrieved from http://www.faa.gov/about/initiatives/sms/

Federal Aviation Administration (FAA). (2014b). *Safety management system: Components.* Retrieved from http://www.faa.gov/about/initiatives/sms/explained/components/

Fleming, M., & Wentzell, N. (2008). Patient safety culture improvement tool: Development and guidelines for use. *Healthcare Quarterly, 11*, 10-15. doi:10.12927/hcq.2013.19604. Retrieved from http://www.longwoods.com/content/19604

Huang, D.T., Clermont, G., Kong, L., Weissfeld, L.A., Sexton, J.B., Rowan, K.M., & Angus, D.C. (2010). Intensive care unit safety culture and outcomes: A U.S. multicenter study. *International Journal for Quality in Health Care, 22*(3), 151-161.

Institute for Healthcare Improvement (IHI). (2014a). *Develop a culture of safety.* Cambridge, MA: Author. Retrieved from http://www.ihi.org/resources/Pages/Changes/DevelopaCultureofSafety.aspx

Institute for Healthcare Improvement (IHI). (2014b). *Improvement tip: Take the journey to "Jiseki"* Cambridge, MA: Author. Retrieved from http://www.ihi.org/resources/Pages/ImprovementStories/ImprovementTipTaketheJourneytoJiseki.aspx

Institute of Medicine (IOM). (2000). *To err is human: Building a safer health system.* Washington, DC: National Academy Press. Retrieved from http://www.iom.edu/Reports/1999/To-Err-is-Human-Building-A-Safer-Health-System.aspx

Institute of Medicine (IOM). (2001). *Crossing the quality chasm: A new health system for the 21st Century.* Washington, DC: National Academies Press. Retrieved from http://iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.aspx

Institute of Medicine (IOM). (2003). *Health professions education: A bridge to quality.* Washington, DC: The National Academies Press. Retrieved from http://www.iom.edu/Reports/2003/Health-Professions-Education-A-Bridge-to-Quality.aspx

Institute of Medicine (IOM). (2004). *Keeping patients safe. Transforming the work environments of nurses.* Washington, DC: The National Academies Press. Retrieved from http://www.iom.edu/Reports/2003/Keeping-Patients-Safe-Transforming-the-Work-Environment-of-Nurses.aspx

James, J.T. (2013). A new, evidence-based estimate of patient harms associated with hospital care. *Journal of Patient Safety, 9*(3), 122-128.

The Joint Commission. (2013). *National patient safety goals: 2014 national patient safety goals.* Chicago, IL: Author. Retrieved from http://www.jointcommission.org/standards_information/npsgs.aspx

Kirsh, D.G., & Boysen, P.G. (2010). Changing the culture in medical education to teach patient safety. *Health Affairs, 29*(9), 1600-1604.

Leape, L., Berwick, D., Clancy, J., Conway, J., Gluck, P., Guest, J... & Isaac, T. (2009). Transforming healthcare: A safety imperative. *Quality and Safety in Health Care, 18,* 424-428.

Mardon, R.E., Khanna, K., Sorra, J., Dyer, N., & Famolaro, T. (2010). Exploring relationships between hospital safety culture and adverse events. *Journal of Patient Safety, 5*, 226-232.

Maslow, A. (1954). *Motivation and personality.* New York, NY: Harper.

continued on page 505

Patient Safety Culture

continued from page 456

McFadden, K.L., Henagan, S.C., & Gowen III, C.R. (2009). The patient safety chain: Transformational leadership's effect on patient safety culture, initiatives, and outcomes. *Journal of Operations Management, 27*(5), 390-404. doi:10.1016/j.jom.2009.01.001

Nance, J.J. (2008). *Why hospitals should fly: The ultimate flight plan to patient safety and quality care.* Bozeman, MT: Second River Healthcare Press.

National Quality Forum. (2011). *Serious reportable events in healthcare – 2011 update: A consensus report.* Washington, DC: Author.

Parry, G., Cline, A., & Goldmann, D. (2012). Deciphering harm measurement. *Journal of the American Medical Association, 307*, 2155-2156.

Pidgeon, N., & O'Leary, M. (2000). Man-made disasters: Why technology and organizations (sometimes) fail. *Safety Science, 34*, 15-30.

Pronovost, P.J., Berenholtz, S.M., Goeschel, C.A., Needham, D.M., Sexton, J.B., Thompson, D.A., … Hunt, E. (2006). Creating high reliability in healthcare organizations. *Health Services Research, 41*(4), 1599-1617.

Reason, J., & Hobbs, A. (2003). *Managing maintenance error.* Farnham, Surrey, England: Ashgate.

Sammer, C.E., Lykens, K., Singh, K.P., Mains, D.A., & Lackan, N.A. (2010). What is patient safety culture? A review of the literature. *Journal of Nursing Scholarship, 42*(2), 156-165.

Sexton, J.B., Helmreich, R.L., Neilands, T.B., Rowan, K., Vella, K., Boyden, J., … Thomas, E.J. (2006). The Safety Attitudes Questionnaire: Psychometric properties, benchmarking data, and emerging research. *BMC Health Services Research, 6*, 44-53.

Sherwood, G. & Zomorodi, M. (2014). A new mindset for quality and safety: The QSEN competencies redefine nurses' roles in practice. *Nephrology Nursing Journal, 41*(1), 15-22.

Singer, S., Lin, S., Falwell, A., Gaba, D., & Baker, L. (2009). Relationship of safety climate and safety performance in hospitals. *Health Services Research, 44*(2), 399-421. doi:10.1111/j.1475-6773.2008.00918.x

Sorra, J., Khanna, K., Dyer, N., Mardon, R., & Famolaro, T. (2012). Exploring relationships between patient safety culture and patients' assessment of hospital care. *Journal of Patient Safety, 8*(3), 131-139.

Taher, S., Hejaili, F., Karkar, A., Shaheen, F., Barahmien, M., Al Saran, K., … Al Sayyari, A.A. (2014). Safety climate in dialysis centers in Saudi Arabia: A multicenter study. *Journal of Patient Safety, 10*(2), 101-104.

Vogus, T.J., Sutcliffe, K.M., & Weick, K.E. (2010). Doing no harm: Enabling, enacting, and elaborating a culture of safety in healthcare. *The Academy of Management Perspectives, 24*(4), 60-77.

Weick, K.E., Sutcliffe, K.M., & Obstfeld, D. (1999). Organizing for high reliability: Processes of collective mindfulness. In R.S. Sutton, & B.M. Shaw (Eds.), *Research in organizational behavior*, Vol. 1 (pp. 81-123). Stanford, England: Jai Press.

Weaver, S.J., Lubomski, L.H., Wilson, R.F., Martinez, K.A., & Dy, S.M. (2013). Promoting a culture of safety as a patient safety strategy: A systematic review. *Annals of Internal Medicine, 158*(5, Part 2), 369-375.

Evaluation Form

ANNJ1430

1.4 Contact Hours — Expires: October 31, 2016

Patient Safety and Patient Safety Culture: Foundations of Excellent Health Care Delivery

Complete the Following (please print)

Name: _____

Address: _____

City: _____

Telephone: _____ Email: _____

CNN: ___ Yes ___ No **CDN:** ___ Yes ___ No **CCHT:** ___ Yes ___ No

Payment: ANNA Member: ____ Yes ____ No Member #_____

☐ Check Enclosed ☐ American Express ☐ Visa ☐ MasterCard

Total Amount Submitted: _____

Credit Card Number: _____ Exp. Date: _____

Name as it Appears on the Card: _____

Note: If you wish to keep the journal intact, you may photocopy the answer sheet or access this activity at *www.annanurse.org/journal*

SUBMISSION INSTRUCTIONS

Online Submission

Articles are free to ANNA members
Regular Article Price: $15
CNE Evaluation Price: $15

Online submissions of this CNE evaluation form are available at www.prolibraries.com/nnj. CNE certificates will be available immediately upon successful completion of the evaluation.

Mail/Fax Submission

ANNA Member Price: $15
Regular Price: $25

- Send this page to the ANNA National Office; East Holly Avenue/Box 56; Pitman, NJ 08071-0056, or fax this form to (856) 589-7463.
- Enclose a check or money order payable to ANNA. Fees listed in payment section.
- A certificate for the contact hours will be awarded by ANNA.
- Please allow 2-3 weeks for processing.
- You may submit multiple answer forms in one mailing; however, because of various processing procedures for each answer form, you may not receive all of your certificates returned in one mailing.

Evaluation Form

(All questions must be answered to complete the learning activity. Longer answers to open-ended questions may be typed on a separate page.)

1. I verify I have completed this activity. ☐ Yes ☐ No _____ *SIGNATURE*
2. What do you plan to change in your practice as a result of completing this educational activity?

   _____
3. What information, from this activity, do you plan to share with a professional colleague?

   _____
4. What did you value most about this educational activity?

   _____

		Strongly Disagree		(Circle one)		Strongly Agree
5.	I was able to meet the objectives of this educational activity:					
	a. Discuss the history of the patient safety movement in the United States.	1	2	3	4	5
	b. Identify the components of a patient safety culture.	1	2	3	4	5
	c. Describe the relationship between patient safety culture and patient safety.	1	2	3	4	5
6.	The content was current and relevant.	1	2	3	4	5
7.	The objectives could be achieved using the content provided.	1	2	3	4	5
8.	This was an effective method to learn this content.	1	2	3	4	5
9.	I am more confident in my abilities since completing this material.	1	2	3	4	5

10. The material was (check one): ☐ New ☐ Review
11. This activity was free of commercial bias. (check one – if no please comment) ☐ Yes ☐ No

Nephrology Nursing Journal Editorial Board Statements of Disclosure

In accordance with ANCC governing rules *Nephrology Nursing Journal* Editorial Board statements of disclosure are published with each CNE offering. The statements of disclosure for this offering are published below.

Paula Dutka MSN, RN, CNN, disclosed that she is a coordinator of Clinical Trials for the following sponsors: Amgen, Rockwell Medical, Keryx Biopharmaceuticals, Akebia Therapeutics, and Dynavax Technologies.

Carol M. Headley DNSc, ACNP-BC, RN, CNN, disclosed that she is a Consultant and/or member of the Corporate Speaker's Bureau for Sanofi Renal, and a member of the Advisory Board for Amgen.

Tamara M. Kear, PhD, RN, CNS, CNN, disclosed that she is a Fresenius employee, freelance editor for Lippincott Williams & Wilkins and Elsevier publishing companies, and a consultant for Symplmed.

All other members of the Editorial Board had no actual or potential conflict of interest in relation to this continuing nursing education activity.

This article was reviewed and formatted for contact hour credit by Beth Ulrich, EdD, RN, FACHE, FAAN, *Nephrology Nursing Journal* Editor, and Hazel A. Dennison, DNP, RN, APNc, CPHQ, CNE, ANNA Education Director.