CHAPTER NINE

Patient Safety: Preventing Unintended Consequences and Reducing Errors

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The patient safety movement was galvanized by the Institute of Medicine (IOM) report, *To Err Is Human: Building a Safer Health System* (Kohn, Corrigan, & Donaldson, 2000). This report fundamentally changed how providers, policy makers, and the public view healthcare safety and focused national attention on the mistakes and errors occurring in a deficient system that permits 44,000 to 98,000 needless patient deaths each year due to medical error (Kohn et al., 2000). Although certainly one of the most highly recognized initiatives, the IOM report was not the first attempt to address healthcare safety concerns. White (2004) noted that the earliest safety and quality efforts can be traced to 1955, although this work was not specific to patient safety initiatives but rather to patient outcomes, complications, and strategies for establishing measures to monitor outcomes.

Approximately 40 years later, in the mid-1990s, interest in medical errors and patient safety peaked with the convening of the first Annenberg Conference on Patient Safety, the establishment of the National Patient Safety Foundation (NPSF), and President Clinton's formation of the Advisory Commission on Consumer Protection and Quality in the Health Care Industry. In 1996, the Joint Commission launched its Sentinel Event Policy for the voluntary reporting of sentinel events. By 2000, continued momentum in the patient safety and quality movement led the Agency for Health Care Policy and Research (AHCPR) to change its name to the Agency for Healthcare Research and Quality (AHRQ) and become a funding powerhouse for research focused on patient safety, error reduction, strategic planning specific to patient safety, and technology utilization in the interest of enhancing quality of care (White, 2004).

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Within this same period of time, the Business Roundtable established the Leapfrog Group, an organization with the mission of triggering "giant leaps forward in the safety, quality, and affordability of health care by supporting informed healthcare decisions by those who use and pay for health care; and promoting high-value health care through incentives and rewards (Leapfrog Group, 2007).

CNSs have been involved in workplace safety initiatives throughout this trajectory and are uniquely positioned to serve as patient safety experts across a variety of care settings. As patient safety is indistinguishable from quality care (Aspden, Corrigan, Wolcott, & Erickson, 2004), the CNS's goal of delivering quality patient care is in concert with, and contributes to, creating and sustaining an environment of safety. This chapter introduces CNSs to current patient safety perspectives and opportunities while sharing suggestions for Web sites, tools, and resources that may be used to create and sustain a culture of safety through the integration of evidence-based practice with patient safety practices, as defined by the Agency for Health Research and Quality (AHRQ) (2001).

Human Error and Types of Error

Most practicing nurses are well aware of the high rates of errors and near misses that occur on a daily basis across the healthcare system. The number of actual errors and prevented errors is staggering. Appreciating the various types of errors and their triggers may assist CNSs in planning and implementing targeted strategies that minimize error likelihood and improve patient outcomes. Reason's work (1990) on human error provides interesting theoretical and practice perspectives on basic error mechanisms, types and consequences of errors, and techniques for assessing and reducing the risks of errors.

Human error theory (HET) (Reason, 1990) suggests that organization failures in complex systems cause accidents. Reason (1990) asserts that the term *error* denotes an intentional act. Other error types depend upon two kinds of failure—slips and lapses—and mistakes. Errors may be active or latent. Latent errors lie dormant for a long period of time until they align with enough other factors to breech the system's defenses.

The alignment of latent failures and a variety of triggering events is referred to as the dynamics of accident causation, or the Swiss cheese model of accident causation (Figure 9-1). The figure illustrates a trajectory of accident opportunity that penetrates several defensive systems and is the result of complex interactions between latent failures and triggering events. In this model, latent failures at the managerial levels combine with psychological precursors, and unsafe acts within a context of local triggering events lead to an accident opportunity. When these factors and influences align, accidents are more likely to occur, characterized by the holes of a Swiss cheese wedge aligning to allow for unimpeded passage through the cheese wedge. A few examples of organizational failures include lack of administrative commitment to safety, blurred safety responsibilities, and poor training (Wolf, 2007).

Reason (1990) points out that very few unsafe acts actually result in damage or injury, even in systems that are unprotected. Findings from a focus group study exploring the influence of technologies on registered nurses' work illustrate the many ways that nurses work around and bypass technology-related rules and routines in efforts

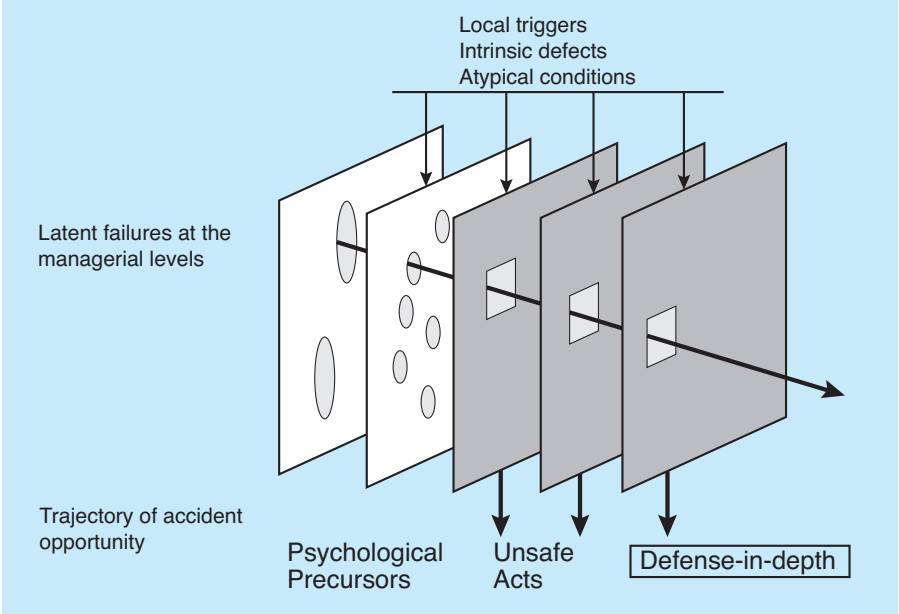

Figure 9-1 The dynamics of accident causation. The diagram shows a trajectory of accident opportunity penetrating several defensive sysems. This results from a complex interaction between latent failures and a variety of local triggering events. It is clear from this figure, however, that the chances of such a trajectory of opportunity finding loopholes in all of the defenses at any one time is very small.

Source: James Reason (1990). *Human error.* © Cambridge University Press, 1990. Reprinted with permission of Cambridge Univerity Press.

to meet patient care needs, save time, or minimize frustrations. Rarely do these system breeches lead to patient harm (Zuzelo, Gettis, Hansall, & Thomas, 2008). However, when mistakes do occur, they may be catastrophic.

Reason (1990) pessimistically observes that while engineered safety devices offer barriers against most single errors, human and mechanical, there are no guaranteed technological defenses against the accumulation of latent failures that provide opportunities for errors within organizations, including high-risk healthcare systems (see Exemplar 9-1). Reducing the likelihood of errors by minimizing latent failures, scrutinizing and improving systems, and rapidly evaluating the effectiveness of process changes are requisite activities to promote safety and certainly fall within the purview of CNS practice.

Accident causation theory is very relevant to CNS practice and is applicable to large healthcare organizations as well as to specific types of clinical care areas. As an example, critical care poses great risk for patients related to (1) increased patient acuity, (2) high frequency of invasive interventions, (3) high medication volume, (4) need for

Exemplar 9-1

The Unsafe Act: Case of the Infusion Pump

Tim Bradley, RN, is a new intensive care unit nurse with 1 year experience. One evening, Tim is presented with a newly admitted, critically ill patient requiring intravenous antibiotics, high-volume fluid resuscitation, and vasopressor and inotropic support therapy to treat progressive shock. The patient is deteriorating, and Tim is rapidly responding to each ailing system.

This particular shift, there had been a registered nurse sick call. This individual was not replaced. The remaining nurses were very busy providing care to unstable patients. As a result, Tim was independently handling his patient's care needs.

Tim's patient was prescribed dopamine 400 mg/250 ml @ 7 micrograms/kilogram/minute. The patient weighed 80 kilograms.

Unit policy required high-risk medication infusions via Smart Pump devices capable of identifying and preventing adverse drug events (ADE) when used as designed. Tim was familiar with the correct use of the Smart Pump infusion devices and had been correctly in-serviced; however, during his orientation, his preceptor had also encouraged Tim to bypass the pump technology. Tim's colleagues shared with him a variety of ways to avoid "dealing with the drug library and all those alerts!" The rationale was to "save time" by "bypassing" the information required when setting up the infusion device alerts.

Tim was in a hurry. His patient required many medications. Tim felt rushed and pressured. When he saw the dopamine infusion order, he decided to hang the medication without the use of the Guardrails alerts. His intent was to go back after hanging the remaining medications and set up the dopamine infusion as per policy.

Tim calculated the dopamine infusion rate. He set the infusion pump as per his calculation. Tim did not realize that he had mistakenly calculated an infusion rate of 70 micrograms/kilograms/minute. Within a short period of time, the patient exhibited tachycardia and ventricular irritability with increased blood pressure significantly above the desired mean arterial pressure. Scared that he had made an error, Tim immediately rechecked the dopamine dosage and quickly discovered his error. The patient did not suffer apparent untoward effects once the dose was corrected; however, certainly the ADE could have been fatal.

This exemplar provides an overview of an unsafe act that violated an established rule because the rule violation was perceived as a routine, common act. Nurses had violated this particular rule on many occasions but the preconditions of nurse inexperience, high acuity, and inadequate supports in combination with established workarounds or shortcuts contributed to the actual adverse drug event.

speedy decision-making processes and associated intervention, and (5) other factors, including patient characteristics. In one study, researchers found that critical care patients experienced 1.7 errors per day, 29% with the potential to cause significant harm or death (Pronovost, Thompson, Holzmueller, Lubomski, & Morlock, 2005). Across the United States, that data extrapolates to 85,000 errors every day, of which 24,650 are potentially life threatening. Nursing homes and ambulatory care settings are also not immune from error. In fact, because the number of outpatient visits each year far

exceeds the number of inpatient visits, the opportunity for error in that setting is also considerable (Aspden et al., 2004).

The frequencies and costs of patient safety incidents (PSI) that occurred in the hospitalized Medicare population are staggering. From 2004 to 2006, patient safety incidents (PSIs) cost the Medicare program $8.8 billion and resulted in 238,337 potentially preventable deaths (HealthGrades, 2006). HealthGrades analyzed 41 million Medicare patient records and identified that those patients treated at top-performing hospitals had approximately a 43% lower chance of experiencing one or more medical errors than if treated at the poorest-performing hospitals.

While HealthGrades found that the overall death rate among Medicare beneficiaries that developed one or more patient safety incidents had decreased by almost 5% during the 2-year period, four indicators had increased when compared to a 2004 baseline. These indicators included postoperative respiratory failure, postoperative pulmonary embolism or deep vein thrombosis, postoperative sepsis, and postoperative abdominal wound separation/splitting. These key areas are included in the current focus of regulatory (e.g., Joint Commission and Centers for Medicare and Medicaid Services [CMS]) (CMS and Joint Commission, 2008) and recommending (e.g., Institute for Healthcare Improvement [IHI]) agencies.

Since the release of the IOM report (Kohn et al., 2000), there has been an abundant volume of published patient safety-focused literature. Multiple recommending and regulatory agencies offer guidelines and mandates. Many organizations provide evidence-based practice guidelines to assist clinicians in providing standardized evidence-based care.

The volume of materials and ever-changing safety standards and best practices may be overwhelming to CNSs, particularly those who are new to putting patient safety principles into practice. The CNS is absolutely pivotal in assessing the clinical environment for accident and error opportunities, collaborating with appropriate team members to proactively improve systems or to meaningfully react to occurrences, and rapidly evaluating the outcomes of systems changes. Actively engaging in this work requires a preliminary review of the definitions of terms commonly used in patient safety projects and publications (Table 9-1). The CNS concentrating on a patient safety role integrates all the skill and competencies described in role-based CNS conceptualizations (Hamric, 1989; Oncology Nursing Society, 2003) and influence-based models (American Association of Critical-Care Nurses [AACN], 2002; National Association of Clinical Nurse Specialists [NACNS], 2004).

Creating a Just Culture for Patient Safety

Culture is a shared set of beliefs and values about how people work individually and together as teams (Phillips, 2005). It delineates a shared set of values and beliefs that influences communication, social relations, and actions (Friersen, Farquhar, & Hughes, 2006). Achieving and sustaining a culture of safety requires an understanding of the values and beliefs within a particular organization. The safety culture of an organization is the product of individual and group values, attitudes, perceptions,

Table 9-1 DEFINITIONS OF KEY TERMS IN PATIENT SAFETY

Term	Definition
Error	Mistakes made in the process of care that result in, or have the potential to result in, harm to the patient.
Near miss	An act of commission or omission that could have harmed the patient, but did not do so as a result of chance (IOM).
Patient safety	The absence of the potential for, or occurrence of, healthcare-associated injury to patients. Created by avoiding medical errors as well as taking action to prevent medical errors from causing injury. Mistakes include failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. These can be the result of an action that is taken (error of commission) or an action that is not taken (error of omission).
Incident	Unexpected or unanticipated events or circumstances not consistent with the routine care of a particular patient, which could have, or did, lead to an unintended or unnecessary harm to a person, or a complaint, loss, or damage.
Adverse event	An injury resulting from a medical intervention.

Source: Aspden et al., 2004; Pronovost et al., 2005.

competencies, and patterns of behavior that combine to determine the commitment to, and the style and proficiency of, an organization's health and safety management (AHRQ, 2001).

The notion of a "just culture" is relatively recent and denotes a culture where people can report mistakes, errors, accidents, or waste without negative repercussions (AHRQ, 2008a). In a just culture, individuals remain accountable for their actions but they are not held responsible for flawed systems that permit earnest, trained people to err. Sharing and disclosure are prominent features of a just culture because efficiencies and quality improvement processes depend on the frontline staff to drive improvements, and such drive requires a sense of safety. Staff must feel empowered to point out errors, defects, and systems failures that could cause patient harm (AHRQ, 2008a). A just culture is not an "anything goes" culture. In other words, individuals may be held personally accountable for intended actions that are unsafe and violate rules. But, in highly protected systems with established defense systems, such unsafe acts are more likely in a highly specific, often atypical, set of circumstances (Reason, 1990).

Organizations with a positive safety culture have characteristics in common. These organizations have leaders who support bidirectional communications founded on mutual trust, with the ability for all employees to speak up and raise concerns, as well as the willingness to listen when others have a concern. In addition, there are shared

perceptions of the importance of safety, coupled with a systems approach to analysis of safety issues (Friersen et al., 2006; Helmreich, 2005). Patient safety permeates the culture, and there is an emphasis on continuous improvement (Friersen et al., 2006). Highly reliable organizations (HROs) tend to be exceptionally consistent and are particularly good at avoiding error (AHRQ, 2008b). HROs are characterized by several organizing concepts: (1) sensitivity to operations with staff maintaining an ongoing organizational awareness; (2) reluctance to simplify; (3) preoccupation with failure; (4) deference to expertise; and (5) resilience (AHRQ, 2008b).

Progress toward creating a culture of patient safety requires honest, routine error reporting. Errors and near misses are reported in organizations in which staff feels safe reporting errors. In organizations with a culture of patient safety, the emphasis is on *why* the error occurred, versus *who* made the error (see Figure 9-2). Leaders use errors to help staff evaluate processes and learn how to prevent a recurrence of an error, rather than to blame. Two strategies encouraged by the Joint Commission that can assist with error analysis are failure mode and effects analysis (FMEA) and root cause analysis strategies (RCA) (De Rosier & Stalhandske, 2006; Duwe, Fuchs, & Hansen-Flashen, 2005).

What strategies can the CNS use to assess the culture of safety within the practice environment? AHRQ has tools posted on its Web site that can be downloaded free of charge to facilitate assessment of the safety culture within a hospital or nursing home. The tools are designed to provide institutions with the opportunity to assess their patient safety cultures, track changes in safety over time, and evaluate the influence of patient safety interventions (AHRQ, 2008c).

Results of the AHRQ survey will assist the CNS and other members of the leadership team to assess the perception of patient safety within their organizations, whether errors are reported and discussed in an appropriate forum, and whether there is an atmosphere of continuous learning based on the principles of patient safety. Each healthcare institution can use the completed survey data to calculate their percentage of positive responses on each item. Those data can be submitted to AHRQ for entry into a national database. The AHRQ Hospital Survey on Patient Safety Culture allows comparisons between the submitting hospital and other similar hospitals. This report enables each hospital to compare itself to the benchmark hospitals (AHRQ, 2008c).

Safety culture assessments are useful tools for measuring organizational conditions that lead to adverse events and patient harm in hospitals. The assessment is the starting point from which action planning begins and patient safety changes evolve (Sora & Nieva, 2003). Reassessments serve as barometers to measure the success of improvement interventions. Once the cultural assessment is complete, the CNS can use the data to integrate evidence-based guidelines into everyday practice for patient care.

Creating a Safe Environment

Armed with the culture assessment findings, the CNS must continue to examine the practice environment with an eye on safety. Through assessment and analysis of the

ASSESS - ERR™

Medication System Worksheet

Patient MR# _____ (if error reached patient)
Date of error: _____
Incident # _____
✓ if no callback identified: _____
Date information obtained: _____
Patient age: _____

Drug(s) involved in error: _____

Non-formulary drug(s)?	❑ Yes	❑ No
Drug sample(s)?	❑ Yes	❑ No
Drug(s) packaged in unit dose/unit of use?	❑ Yes	❑ No
Drug(s) dispensed from pharmacy?	❑ Yes	❑ No
Error within 24 hours of admission, transfer, or after discharge?	❑ Yes	❑ No
Did the error reach the patient?	❑ Yes	❑ No

Source of IV solution: ❑ Manufacturer premixed solution ❑ Pharmacy IV admixture ❑ Nursing IV admixture

Brief description of the event: (what, when, and why) _____

Possible causes	Y/N	Comments
Critical patient information missing? (age, weight, allergies, BS, lab values, pregnancy, patient identity, location, renal/liver impairment, diagnoses, etc.)		
Critical drug information missing? (outdated/absent references, inadequate computer screening, inaccessible pharmacist, uncontrolled drug formulary, etc.)		
Miscommunication of drug order? (illegible, ambiguous, incomplete, misheard, or misunderstood orders, intimidation/faulty interaction, etc.)		
Drug name, label, packaging problem? (look/sound-alike names, look-alike packaging, unclear/absent labeling, faulty drug identification, etc.)		
Drug stoage or delivery problem? (slow turn around time, inaccurate delivery, doses missing or expired, multiple concentrations, placed in wrong bin,etc.)		
Drug delivery device problem? (poor device design, misprogramming, free-flow, mixed up lines, IV administration of oral syringe contents, etc.)		
Environmental, staffing, or workflow problems? (lighting, noise, clutter, interruptions, staffing deficiencies, workload, inefficient workflow, employee safety, etc.)		
Lack of staff education? (competency validation, new or unfamiliar drugs/devices, orientation process, feedback about errors/prevention, etc.)		
Patient education problem? (lack of information,noncompliance, not encouraged to ask questions, lack of investigating patient inquiries, etc.)		
Lack of quality control or independent check systems? (equipment quality control checks, independent checks for high alert drugs/high risk patient population drugs etc.)		

Did the patient require any of the following actions after the error that you would not have done if the event had not occurred?
❑ Testing ❑ Additional observation ❑ Gave antidote ❑ Care escalated (transferred, etc.) ❑ Additional LOS ❑ Other _____

Patient outcome: _____

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Figure 9-2 Assess-ERR Medication Safety System Worksheet.
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practice environment, the CNS begins to understand potential root causes of errors within that environment. The majority of medical errors do not occur as the result of one person's actions, but are the result of faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them (Phillips, 2005).

AHRQ has identified factors that contribute to errors: communication, inadequate flow of information, human problems, patient-related issues, organizational transfer of knowledge, staffing patterns and work flow, technical failures, and inadequate policies and procedures (AHRQ, 2003). Table 9-2 presents each of these factors with an example of how they apply to bedside practice.

When assessing the role each factor plays in contributing to errors within the practice environment, the CNS must also assess how staff has adapted its practice to work around systematic obstructions to completing work. Nurses have unparalleled skill at developing workarounds. In other words, what can the nurse do to solve the issue for the patient today?

Although this strategy does garner short-term success, it creates long-term problems. As a simple example, if a nurse does not have a patient's medications and solves this problem by borrowing medications from another patient, this exemplifies first-order problem solving (Tucker & Edmondson, 2002). The nurse has met the needs of the patient in the immediate period by securing the needed medications. But, of course, the medications are now no longer available for the patient for whom they were intended.

In examining this simple issue, numerous other issues arise: What about the patient whose medications were taken (his or her dose is now missing)? What if it is a slightly different dose? What will keep this situation from arising tomorrow? Bedside nurses' role supports first-order problem solving. Nurses at the point-of-care do not have the resources (mainly time) to do second-order problem solving (Tucker & Edmondson, 2002).

The role of the CNS in this scenario is critical. Second-order problem solving involves a system analysis of why the error occurred—what part of the system failed the nurse and the patient (Tucker & Edmondson, 2002). To have more than a temporary fix, the root cause of the problem must be uncovered. It is often easier to work around problems, especially when the staff nurses believe that they have reported this issue previously and no action has been taken. The CNS must partner with the staff nurse to investigate the concern and to craft a reasonable, efficient solution to the clinical problem. Partnering facilitates staff buy-in, because the nurses helped to broker the solution. The CNS must make it easier for staff to do the right thing while making it more difficult to do a workaround.

One essential support to sustaining a culture of safety is the creation of a healthy work environment (HWE). The attributes of a healthy work environment are symbiotic with a culture of patient safety. The American Association of Critical-Care Nurses' (AACN) Healthy Work Environment standards demonstrate a commitment to creating a positive work environment that facilitates safety (Barden, 2005). Each standard is clarified by essential (absolutely required, fundamental), standard (authoritative statement), and critical elements (structures, processes, programs, and behaviors required for a standard to be achieved).

The first healthy work environment standard is skilled communication; nurses must be as proficient in communication skills as they are in clinical skills. The concept of communication is complex, encompassing verbal, written, and nonverbal skills. In reviewing sentinel events, the Joint Commission has identified team communication

Table 9-2 FACTORS THAT CONTRIBUTE TO ERRORS

Factor	Description	Examples of Interventions for CNS
Communication	Verbal/nonverbal, written (e.g., in e-mail communication). Between any members of the team: nurse, physician, family, support staff, therapists. NPSG #2: "Improve the effectiveness of communication among caregivers" (Joint Commission, 2006).	1. Conduct briefings: Role-model efficient and effective bidirectional communication with all team members. When preparing to perform a procedure, review each step before beginning to prevent miscommunication. 2. Be assertive: Create an environment where any member of the team feels comfortable in voicing their concern. Utilize the SBAR strategy to communicate a message that is clear and concise. 3. Develop situational awareness: Place signs outside the patient's door, be sure all staff are aware of patients who are "at risk" for falls or other clinical issues. 4. Understand the difference between the novice and the expert in making decisions: Decisions are made based on past experience, and because the novice has little past experience, he or she may rely more on the CNS to support his or her decision-making process. 5. Conduct debriefings: After a significant clinical event, review with the staff the pre-event situation, the event, and the response to the event. Listen to the staff's perception of what happened. The CNS may be able to use the information to plan future education.

Table 9-2 (continued)

Factor	Description	Examples of Interventions for CNS
Communication (continued)		6. SBAR strategy: Develop a template for the use of the SBAR strategy, including a few key clinical characteristics. For example, if caring for a thoracic population, always include an assessment of breath sounds and pattern of breathing.
Inadequate flow of information	Members of the team may not have the information they need to appropriately care for the patient. NPSG #2, to "Improve the effectiveness of communication," includes a requirement for a standardized handoff of communications (Joint Commission, 2006).	1. Examine the handoff process within the practice environment; include nurses, physicians, pharmacists, etc. 2. Partner with other members of the team to create a handoff tool that would enable clear, concise communication.
Human problems	How standards of care, policies, and procedures are followed. Other factors that play a role: fatigue, stress, distractions, interruptions, and	1. CNS plays a key role in the design, development, implementation, and evaluation of policies. 2. Partner with the nurse manager and bedside nurses to establish the standards of care within the practice environment. 3. Evaluate the practice environment for factors that may influence care. 4. Develop a peer-review process to enable the staff to hold each other accountable for care delivered.

(continues)

Table 9-2 (continued)

Factor	Description	Examples of Interventions for CNS
	multitasking.	
Patient-related issues	Incomplete assessment, which may include allergies, or duplicate or missing medications. NPSG #8 requires accurate and complete reconciliation of medications across the continuum of care. Patient identification, utilizing two unique identifiers (NPSG #1) (Joint Commission, 2006).	1. Monitor patient identification: As you make rounds on each patient, ask the patient if the staff have been checking his or her identification. 2. Ensure that there is a clear process if the identification is incorrect. 3. Partner with bedside nurses, pharmacists, physicians, and nursing leadership to establish a process for medication reconciliation.
Organizational transfer of knowledge	Formal transfer of knowledge occurs during orientation, education, and competency assessments. Informal.	1. In collaboration with other experts, design, develop, and evaluate clinical competencies as they relate to the care of a defined population. 2. Develop a tool for a brief orientation to your practice area for staff who are pulled, pool nurses, or agency staff. Include emergency equipment, supplies, medications, a short lesson on how to contact the physicians; anything that is important about your patient population.
Staffing patterns/workflow	Supplies: disjointed, missing, not easily available to the nurse. Assignments geographically undesirable.	1. Review work by Ebright and colleagues who have studied the flow of "nurse work" (Ebright, 2004). 2. Start with one simple project: What does a nurse need to perform safe, aseptic intra-

Table 9-2 (continued)

Factor	Description	Examples of Interventions for CNS
Staffing patterns/ workflow (continued)		venous line care? If the care is done at the patient's bedside, the supplies should be at the bedside, not in the supply room. 3. Discuss with the staff changes in where/how medications are prepared to decrease, and eventually eliminate interruptions/distractions when preparing medications.
Technical failures	Frequent interruptions/ distractions. Mechanical devices can malfunction.	1. Ensure that contact numbers for experts (in house or from the companies) are easily accessible, particularly for life-sustaining equipment; for example, ventricular assist devices. 2. Plan and execute drills for all equipment that is low volume, high risk (continuous renal replacement machines, postcardiac arrest hypothermia devices).
Inadequate policies and procedures	Policies that are too long, too wordy, out of date, or not easily accessible will not be utilized.	1. Participate in policy review and revision, with an eye for practicality (e.g., if the policy is 28 pages single spaced, it is not likely to be used). 2. Promote electronic availability of nursing policies and medication information (e.g., online policy manuals or medication manuals).

Source: AHRQ, 2003; Phillips, 2005.

as a top contributor to sentinel events (Joint Commission, 2006). Healthcare organizations are obligated to help staff develop excellent communication skills. Skilled communicators focus on finding solutions and desirable outcomes, advancing collaborative relationships, listening as intently as they speak, and demonstrating mutual

respect (Barden, 2005). The CNS must role model expert communication techniques and offer constructive feedback to staff nurses as they develop their communication skill sets.

One strategy that has been effective in facilitating clear, direct communication among caregivers is the SBAR strategy. SBAR is an acronym for *situation*, *background*, *assessment*, and *recommendation* (Leonard, Graham, & Bonacum, 2004). SBAR is a situational briefing model characterized by appropriate assertion, critical language, and awareness and education. It is a vital model designed to address the different communication styles used and valued by nurses, physicians, and other clinicians (Table 9-3).

Table 9-3 SBAR

30–60 Second Communication	
Situation	**What is happening with the patient?** Example: "Hello, Dr. Jones, this is Susan, I am calling from 2 West. I am taking care of Mr. Green in room 212, a patient of Dr. Johnson's who went to the OR today for a colectomy. He has been back from the PACU for 4 hours. I have just reassessed him."
Background	**What is the important clinical information?** "Over the past 4 hours, his BP has dropped from 120/78 to 90/58, his heart rate has increased from 70 to 100, his respiratory rate is 24, and his urine output was 80 mL/hour for the first 2 hours and has dropped to 30 mL each hour for the past 2 hours. He is receiving IV fluids, D5.45NS + 20 meq KCL at 125 mL/hour. His postop labs were unremarkable, his hemoglobin was 10.2. His estimated blood loss was 450 mL."
Assessment	**What do you think the problem is?** "I think he is dry."
Recommendation	**What do you think he needs? If you think the patient needs to be seen by the physician or nurse practitioner, do not be afraid to say so.** "I think he needs more fluid."

Source: Leonard et al., 2004; Phillips, 2005.

The CNS can assist staff with developing a template for communicating with physicians and other team members using the SBAR strategy and incorporating the consistent use of particular elements that relate to the specific patient population. For example, if caring for a neuroscience population, the assessment of the Glasgow Coma Score (GCS) would always be included in every communication. Additional strategies to improve communication include conducting briefings, being assertive, developing situational awareness, understanding the differences in expert and novice decision making, and conducting debriefings (Volker & Clark, 2004). Communication successes will develop over time and will occur only with practice, repetition, and constructive feedback to staff.

The second healthy work environment standard is true collaboration: Nurses must be relentless in pursuing and fostering true collaboration. True collaboration can build on the relationships fostered through skilled communication. It is a relationship grounded in respect and trust. Nurse–physician collaboration is one of the three strongest predictors of nurse empowerment. One of the critical elements of true collaboration is that "every team member contributes to the achievement of common goals by giving power and respect to each person's voice, integrating individual differences, resolving competing interests, and safeguarding the essential contribution each must make in order to achieve optimal outcomes" (Barden, 2005, p. 21). Authentic collaboration is revealed through relationships with other nurse leaders, physicians, and administrators.

The third standard is effective decision making: Nurses must be valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations (Barden, 2005). Nurses have primary responsibility for patient safety, but only 8% of physicians recognize the nurse as part of the decision-making team (Cook, Hoas, Guttmannova, & Joyner, 2004). Effective decision making bridges the autonomy–accountability gap by empowering nurses to be the decision-making authority in the care of their patient.

The fourth healthy work environment standard addresses appropriate staffing: Staffing must ensure the effective match between patient needs and nurse competencies (Barden, 2005). Some CNSs may play a functional role in staffing by either being accountable to make sure enough staff is present or filling in when staffing is short. One clear role for the CNS in any staffing pattern is to collaborate with the nurse manager and staff nurses to look at the nurse work flow and the relationship to staffing. Are there staff members uninvolved in patient care for parts of the day that could have time schedules flexed? Are there times when the CNS must partner with the manager to assert that the staff has reached a critical workload point and cannot take any more patients? This standard builds on the first, second, and third standards, wherein all the skills can combine to provide excellent communication, collaboration, and decision making to solve complex staffing issues.

Meaningful recognition is the fifth standard: Nurses must be recognized and must recognize others for the value each brings to the work of the organization (Barden,

2005). Recognition was important to 75% of the nurses in the healthy work environment study. A formalized process for recognition is essential for it to be effective. The CNS must be knowledgeable about recognition programs nationally (as with professional organizations), regionally (as with local chapters or statewide awards), or within the organization. The CNS must lead the recognition initiative to ensure that excellence in clinical practice, communication, patient–family relationships, and other key performance measures are recognized.

The final standard is authentic leadership: Nurse leaders must fully embrace the imperative of a healthy work environment, authentically live it, and engage others in the achievements (Barden, 2005). Authentic leaders are supported by their organization in developing skills and competency in skilled communication, true collaboration, effective decision making, meaningful recognition, and authentic leadership. Establishing and sustaining a practice environment that is supported by the concepts in the healthy work environment standards contributes to a hospital culture rich in safety, which contributes to an environment of patient safety.

Safety and Quality Organizations

The complexity of regulatory agencies and recommending organizations within health care is extraordinary. The CNS is frequently held accountable for compliance with multitudes of guidelines, competencies, rules, and regulations. In developing clinical programs for improvement, which may be in response to a regulatory requirement, the CNS must partner with the bedside nurse to collaborate with numerous disciplines to establish compliance strategies for each regulation or guideline.

Joint Commission accreditation is a nationwide seal of approval indicating that organizations meet high performance standards. The Joint Commission and Joint Commission International were designated in 1995 as the World Health Organization (WHO) Collaborating Centre for Patient Safety Solutions (WHO Collaborating Centre for Patient Safety Solutions, 2008).

There are numerous regulatory and recommending agencies that address healthcare safety and quality; many of their recommendations overlap and are quite similar given their shared evidence base. Key organizations include, but are not limited to, the Center for Medicare and Medicaid (CMS), Institute for Healthcare Improvement (IHI), AHRQ, National Patient Safety Goals (NPSG), Joint Commission, and National Quality Foundation (NQF).

Tools of the Trade

The World Wide Web has dramatically influenced patient care delivery. The role of the CNS in patient safety is inextricably linked to the use of electronically available tools in the form of assessment tools, guidelines, and other references, many of which can be downloaded without charge. Professional organizations, not-for-profit (NFP) recommending organizations, governmental agencies, regulatory bodies, and evidence-based practice Web sites offer many useful resources (refer to Tables 9-4 through 9-8).

Table 9-4 EXAMPLES OF WEB SITES WITH PATIENT SAFETY INFORMATION (PSI): PROFESSIONAL ORGANIZATIONS

Web Site	Contents	CNS Benefits
http://www.aacn.org/WD/HWE/Docs/HWEStandards.pdf *American Association of Critical Care Nurses (AACN)* Accessed: December 9, 2008	Healthy work environment standards: Six key factors in creating and sustaining a healthy work environment (HWE). Available to download the full document or the executive summary. Practice Alerts: Eleven succinct, dynamic evidence-based guidelines designed to close the research–practice gap and facilitate standardized practice.	Provides evidence-based guidelines that support the six key factors in creating a HWE. The CNS can operationalize these guidelines to meet the needs of the practice environment.
http://www.ons.org/publications/positions/patientsafety.shtml *Oncology Nursing Society (ONS)* Accessed: December 9, 2008	Position statement on patient safety	Oncology nurses can use this statement to formulate their own position statement on patient safety.
http://www.aorn.org/aboutaorn/whoweare/patientsafetyfirst *Association of periOperative Registered Nurses (AORN)* Accessed: December 9, 2008	Identifying, collecting, and developing clinical and educational resources to improve patient safety in the surgical setting. In addition: • General resources—links to numerous patient safety sites • AORN resources and journal article references	Resources on this site apply to perioperative, postoperative and procedural staff. These resources can be used to develop education programs, orientation programs, and patient safety programs.

(continues)

Table 9-4 (continued)

Web Site	Contents	CNS Benefits
	• List of patient safety journals and newsletters • Patient safety books and media • Joint Commission patient safety practices online • Journal scan • Position statement on patient safety • Nurse consultation opportunities • Correct sites surgery toolkit • National Time-Out Day	
http://www.anesthesiapatientsafety.com *American Association of Nurse Anesthetists (AANA)* Accessed: December 9, 2008	Site is designed to promote safe anesthesia patient care by educating the public. Contains need-to-know information for anesthesia patients: • "Patient Candor Essential for Safe Anesthesia Care"; the full story discusses the importance of full disclosure to the anesthesia provider. • "New Anesthesia Standards for Office Surgeries"; reflects the AANA new strict standards for office surgeries. • "Conscious Sedation"; discusses which types of surgery and procedures can be done with conscious sedation.	This site contains extensive resources for patient education, which could be incorporated into a pre-op education program.

Table 9-4 (continued)

Web Site	Contents	CNS Benefits
http://www.aspan.org *American Society of Perianesthesia Nurses (ASPAN)* Accessed: July 23, 2006	Link to "Anesthesia and Your Child," provides a story and a coloring book for children who are about to have anesthesia to allay fears. Site contains resources for both the nurse and the patient/family. • Link to ask a clinical practice question and numerous organizational committees, such as education and evidence-based practice • Nursing Core Curriculum for Perianesthesia Nurses • For patients, an extensive section on what to expect from the pre-admission interview through discharge	The pre-admission interview can begin the process of medication reconciliation, to comply with the Joint Commission National Patient Safety Goal on medication reconciliation.
http://www.aone.org/aone/pdf/Role%20of%20the%20Nurse%20Executive%20in%20Patient%20Safety%20Toolkit_July2007.pdf *American Association of Nurse Executives (AONE)* Accessed: December 9, 2008	The Role of the Nurse Executive in Patient Safety: 1. Lead cultural change 2. Provide shared leadership 3. Build external partnerships 4. Develop leadership competencies	The CNS can partner with the nurse executive to lead cultural change across disciplines, as well as develop and drive patient safety initiatives across the organization.

Table 9-5 EXAMPLES OF WEB SITES WITH PSI: NOT-FOR-PROFIT "RECOMMENDING" ORGANIZATIONS

Web Site	Contents	CNS Benefits
https://www.ecri.org/Pages/default.aspx *ECRI Institute* Accessed: December 9, 2008	Designated by AHRQ/World Health Organization as an evidence-based practice center. Administers: National Quality Measures Clearing House; National Guidelines Clearinghouse Complete list of technology assessments and evidence-based reports A "consumer reports" for medical devices MDSR—medical device incident and hazard information Publishes *Health Devices* journal	The CNS plays a key role in product selection. The technology assessment on the ECRI Web site can assist in assessing the safety of a technology, as well as offering a nonbiased comparison of different products that provide the same technology. The CNS can also seek out guidelines for a broad range of clinical issues.
http://www.ismp.org *Institute for Safe Medication Practices (ISMP)* Accessed: December 9, 2008	Extensive resources for staff and patients: • Education: newsletters, educational programs, self-assessments, patient safety video • Medication safety tools and resources: high-alert medication list, confused drug list, error-prone abbreviation list, do-not-crush list • "Pathways for Medication Safety"; an extensive program for medication safety that can be downloaded for free • USP—ISMP Medication Error reporting system	Many tools will assist with compliance with Joint Commission NPSG to: • Improve the safety of using medications • Accurately and completely reconcile medications across the continuum of care "Pathways for Medication Safety" will guide the CNS in creating a

Table 9-5 (continued)

Web Site	Contents	CNS Benefits
	• Links to numerous patient safety sites • *Assess-ERR Medication System Worksheet* to facilitate medication use system evaluations (Figure 9-2)	medication safety program as a collaborative with pharmacy. Monthly newsletter contains information to improve medication administration process.
http://www.npsf.org *National Patient Safety Foundation (NPSF)* Accessed: December 9, 2008	National Patient Safety Foundation: • Create a core body of knowledge • Develop a culture receptive to safety • Raise public awareness • Foster communications Sponsors educational programs, patient safety fellowships; educational videos, newsletters Resources are available for patients, families, and caregivers	"When things go wrong…" is a document from the Harvard Hospitals to teach physicians and nurses what to do if something goes wrong. The CNS can use this in collaborative forums for physicians and nurses to discuss plans on how to respond when an adverse event occurs.

Table 9-6 EXAMPLES OF WEB SITES WITH PSI: GOVERNMENT AGENCIES

Web Site	Contents	CNS Benefits
http://www.ahrq.gov/clinic/ptsafety/pdf/ptsafety.pdf *Agency for Healthcare Research and Quality (AHRQ)* Accessed: December 9, 2008	"Making Healthcare Safer: Critical analysis of Patient Safety Practices (2001)." The aim of this extensive document was to collect and review existing evidence on practices relevant to improving patient safety. Eleven practices were identified and rated most highly in terms of strength of evidence.	These eleven practices can be integrated into a unit-based patient safety program.
http://www.ahrq.gov/qual/patientsafetyculture/hospsurvindex.htm *Agency for Healthcare Research and Quality (AHRQ)* Accessed: May 6, 2009	Hospital Survey on Patient Safety Culture (2004): how to administer the survey, how to analyze and interpret the results	The CNS can use this tool to begin an environmental assessment of the patient safety culture of the practice area.
http://www.psnet.ahrq.gov *AHRQ Patient Safety Network* Accessed: December 9, 2008	This resource is available as an e-mail from the AHRQ, which provides a continuously updated, annotated, and carefully selected collection of patient safety news, literature, tools, and resources. Also contains the "patient safety classics," including the most influential, frequently cited articles, books, and resources in patient safety.	Since this is automatically sent from the AHRQ, it keeps the CNS abreast of all the key recent patient safety literature.

Table 9-6 (continued)

Web Site	Contents	CNS Benefits
http://www.ahrq.gov/qual/errorsix.htm *Agency for Healthcare Research and Quality (AHRQ)* Accessed: December 9, 2008	Medical errors and patient safety: • Online journals • 41 patient safety documents for staff and patients • Patient Safety Task Force information • The Federal Quality Interagency Coordination QulC Task Force: ensures that all federal agencies that purchase, provide, study, or regulate healthcare services are working in a coordinated way toward the common goal of improving the quality of care • Conferences and workshops	Teamwork is an essential component in patient safety. This site contains a link to: AHRQ's Medical Teamwork and Patient Safety: Competencies on knowledge, skill, and attitudes. The CNS can use those competencies to structure a team approach to a number of clinical initiatives; the development of a rapid response team is a good example. In addition to access to the online journals, the information contained in the patient safety documents is extensive.
http://www.ahrq.gov/about/nursing *Agency for Healthcare Research and Quality (AHRQ)* Accessed: December 9, 2008	Nursing activities associated with the AHRQ: • Nursing research • Research funding • Tools and resources; for example, palliative wound care at the end of life • List of 16 links for nursing resources • Keeping patients safe: Transforming the work environment for nurses	In assessing a clinical issue, this site provides links to the AHRQ Evidence-Based Practice Center, National Guidelines Clearinghouse, National Quality Measures Clearinghouse, and others. The CNS can utilize all these links to begin establishing a foundation of evidence for any clinical issue.

(continues)

Table 9-6 (continued)

Web Site	Contents	CNS Benefits
http://www.webmm.ahrq.gov *AHRQ M&M: Morbidity and Mortality Rounds on the Web* Accessed: December 9, 2008	Case studies are presented from several disciplines, with reviews by content experts in that discipline	Case examples may be used to reinforce the importance of the NPGS. Recent select cases illustrate mistaken identity and a case of transition failure.
http://www.patientsafety.gov *National Center for Patient Safety* Accessed: December 9, 2008	Extensive Web site, sponsored by the Veteran's Administration, designed for patients and staff: • Culture change • Patient safety for patients • Alerts and advisory example: paper on anticoagulation vulnerability • FMEA (failure mode and effects analysis)/RCA (root cause analysis) process: Extensive discussion on FMEA as it relates to health care • Publications include "Topics in Patient Safety" • Patient safety resources, including information on the Patient Safety Reporting System (PSRS) and human factors resources • Toolkits on falls, hand hygiene, and ensuring correct patient surgery	This Web site contains volumes of useful information the CNS may use to address the patient safety culture within the practice environment: • PSAT • Use of the RCA process to evaluate factors involved in an error • Hand hygiene program • Falls prevention program • Patient safety workshop curriculum

Table 9-6 (continued)

Web Site	Contents	CNS Benefits
	• Patient Safety Assessment Tool (PSAT) that examines six elements of patient safety: management and leadership, patient safety management program, Joint Commission compliance, procurement and equipment management, recalls and VA alerts/advisories, patient safety policies, tools, and aids	
http://www.fda.gov *Food and Drug Administration (FDA)* Accessed: December 9, 2008	Product recalls Product safety News for health educators and students Online databases: Maude, MDR (medical device reporting), Medwatch	The CNS plays a key role in product selection and evaluation of new products. When the CNS has been asked to run a trial of a particular piece of technology or equipment, the FDA database can provide information on whether that particular technology/brand has been reported to the FDA as having been dysfunctional or caused injury to a patient or staff member.
http://www.va.gov/ncps/safetytopics.html *National Center for Patient Safety (NCPS)* Accessed: December 9, 2008	Hazard summaries: e.g., anticoagulation vulnerability Guidelines for completing a healthcare failure modes and effect analysis Guidelines for ensuring correct surgery	In leading an initiative on hand hygiene, this Web site has a PowerPoint presentation, posters, other media materials, and numerous

(continues)

Table 9-6 (continued)

Web Site	Contents	CNS Benefits
	Falls tool kit An extensive hand hygiene program Patient Safety Assessment Tool	tools for the CNS to use in this initiative, from calculating the amount of waterless soap to the time it takes to clean hands with the waterless soap.
http://www.guidelines.gov *AHRQ and American Medical Association* Accessed: December 9, 2008	AHRQ and American Medical Association national guidelines clearing house	CNSs challenged with a new patient population should start by going to the evidence to see what has already been published. Guidelines on this site are evidence based.

Table 9-7 EXAMPLES OF WEB SITES WITH PSI: REGULATORY AGENCIES

Web Site	Contents	CNS Benefits
http://www.ccforpatientsafety.org *WHO Collaborating Centre for Patient Safety Solutions* Accessed: December 9, 2008	Patient Safety Practices Resources, patient safety tools, cases studies • Tools/resources including a link to approximately 40 patient safety Web sites • Awards • Case studies • Patient safety good practices • Articles/newsletter Facilitates finding patient safety goals and practices by using drop-down menus • Causes of adverse events/types of events • U.S. national patient safety goals/international patient safety goals Patient safety link, newsletter Links to patient safety practices, products and services, and resources. Archives available online Official newsletter: *Collaborations* (quarterly; electronic)	The CNS observes that the culture of safety is not ingrained in the practice area. There is a sample outline for a patient safety program. In investigating a sentinel event via the root cause analysis mechanism, this site walks the CNS through the causes of adverse events and types of adverse events that might be uncovered. Solution sets for look-alike, sound-alike medication names, patient identification, communication during hand-offs, and performance of correct procedure at correct body site.

Table 9-8 EXAMPLES OF WEB SITES FOR EVIDENCE-BASED PRACTICE

Web Site	Contents	CNS Benefits
http://www.ohsu.edu/epc *Oregon Evidenced-Based Practice Center* Accessed: December 9, 2008	OHSU is an evidenced-based practice center that conducts systematic review of healthcare topics for federal and state agencies and private foundations. These reviews report the evidence from clinical research studies and the quality of that evidence for use by policy makers in decisions on guidelines	The CNS is the leader in the introduction of the concepts of evidenced-based practice. Either of these Web sites provides guidance on "where to start" in introducing evidence-based practice at the bedside.
http://www.joannabriggs.edu.au/about/home.php *Joanna Briggs Institute* Accessed: December 9, 2008	International Research and Development Unit, which provides a collaborative approach to the evaluation of evidence derived from a diverse range of sources, including experience, expertise, and all forms of rigorous research	

Educating New and Experienced Nurses: Electronic Resources for the CNS

Patient safety as a discipline is a relatively new phenomenon. Many nurses, as well as other healthcare providers, did not explore the science of safety and error reduction or the relationship of culture to patient safety during formal nursing education experiences. Nurses may be inclined to consider patient safety as closely aligned with the traditional five rights of medication administration. These five "rights" include right patient, right drug, right dose, right route, and right time. Many nurses will recall learning these rights by rote as students, and new orientees were often drilled about these rules during clinical experiences involving medication or treatment deliveries. Nurses may continue to view these five rights as the gold standard of error prevention; however, these five rights are best viewed as the desired outcomes of safe medication practices (Federico, 2007). They do not offer strategies for nurses interested in achieving these goals other than a rather bewildering perception that error is the result of individual performance and good nurses do not make mistakes (Federico, 2007). Given that nurses do not come to work intending to commit errors, opportunities for error and accident reduction must be more broadly based than relying on drilled processes.

CNSs interested in using creative, evidence-based resources for educating new-to-practice nurses as well as more experienced staff without much formal exposure to health safety and quality topics will appreciate the opportunities available through Quality and Safety Education for Nurses (2007), a comprehensive resource funded by the Robert Wood Johnson Foundation (see Exemplar 9-2).

Exemplar 9-2

Promoting Safety by Influencing New-to-Practice Nurses

Geralyn Altmiller, EdD, MSN, APRN

Quality improvement and patient safety initiatives are much broader and more evidence-based than suggested by simplistic and systematized rules historically emphasized in basic nursing education. Recognizing the need for change, the Robert Wood Johnson Foundation spawned a national movement to change the way that nurses are prepared for patient care delivery by funding the Quality and Safety in Nursing Education (QSEN) grant through the University of North Carolina, Chapel Hill (2005). The grant provided 15 pilot schools across the nation with the opportunity to integrate practices for quality improvement and patient safety standards into their nursing curricula. As this national movement to improve preparation in prelicensure education of all nurses grows, recently graduated nurses are entering the workforce with varying degrees of competency in addressing patient safety concerns.

The CNS has a particularly important role in bridging the gap between prelicensure nursing education and the first work position of new-to-practice nurses. Providing re-

sources and opportunities that connect practitioners to nationally accepted standards and by supporting and developing safety initiatives, CNSs model the transformation of nursing practice into a higher quality, safer endeavor.

The Institute for Healthcare Improvement (IHI) Web site (n.d.) contains a wealth of resources to assist the CNS as she or he supports those new to the profession of nursing. One such resource is Transforming Care at the Bedside (TCAB) (IHI, 2003), an initiative developed to connect nursing education to the vision of improving bedside care for the patient. Using the easily downloadable TCAB storyboard (IHI, 2008b), the CNS can connect the newly graduated nurse to the new skill sets being implemented across the nation to provide patient-centered care. The storyboard promotes personal accountability and situational awareness as tools to avoid codes, reduce readmission rates, prevent falls, and improve patient satisfaction.

At the same Web site, CNSs may access the 5 Million Lives Campaign (IHI, 2008a). This initiative works toward preventing 5 million incidents of medical harm by asking healthcare institutions to adhere to 12 safety-focused interventions. By clicking the Materials tab, the CNS has access to free slide presentations that demonstrate strategies for implementing the 12 interventions, along with blueprints for educational presentations to staff, updates on the latest prevention interventions, and related articles.

An important role of the CNS is to introduce the new language of safety and quality care improvement to the new-to-practice nurse or to the uninitiated seasoned professional. Value-added nursing care, which is the care that directly contributes to an improved outcome for the patient (such as rounding on the unit), or *workarounds*, the term that identifies routes to circumvent the established work system (obtaining meds from another patient's drawer rather than the pharmacy), may be terms more commonly used in the work environment but missing from some aspects of nursing education at present, thereby creating a communication barrier for the new graduate RN. To bridge that gap, the Agency for Healthcare Research and Quality (AHRQ) provides a Glossary (n.d.) of current terms as a resource on its Web site.

Many times new-to-practice nurses are uncomfortable communicating with other members of the healthcare team, particularly when they believe a patient concern is not being attended to. Improving communication skills can be facilitated by the CNS using helpful tools available through the AHRQ such as *TeamSTEPPS* (AHRQ, 2005). The T*eamSTEPPS* site contains free slide show downloads for presentations as well as short vignettes in high-resolution video that are designed to familiarize healthcare workers with current trends in communication techniques and risk-reduction practices. On the Web site, there are many examples of safe communication practices that can be used to increase the attention of other healthcare team members such as CUS (I'm *C*oncerned, *U*ncomfortable, *S*afety) or DESC (*D*escribe the situation, *E*xpress feelings about the situation, *S*uggest other alternative actions, *C*onsequences of current actions are stated).

The Joint Commission is an organization that is frequently discussed in healthcare settings but many new-to-practice nurses do not have a clear understanding of what the Joint Commission does or how it functions within the healthcare setting. It is a national organization that accredits healthcare facilities. In doing so, hospitals are graded based on their ability to demonstrate that they follow the standards set by the Joint Commission to maintain a highly reliable practice setting. Not only does this accreditation assure the public

that the hospital is meeting standards, but it provides a measure that insurance companies use to determine their willingness to refer members to that facility. The CNS promotes compliance of the standards when she or he helps staff members understand the value of accreditation and the pivotal role of nurses in the process.

Familiarizing new-to-practice nurses with the Joint Commission Web site (n.d.) promotes a sense of personal accountability for system improvement to ensure patient safety. The Patient Safety tab provides concrete information regarding the current National Patient Safety Goals, abbreviations that are not acceptable due to high error potential, and extensive materials that can be used to demonstrate and promote patient safety practices. The Sentinel Event tab provides a root cause analysis framework that presents a step-by-step walk through the process. Using this resource, the CNS demonstrates to the new graduate that there are usually multiple factors that contribute to error. The root cause analysis specifically identifies those factors and frequently reveals that error is attributed to systems failure. The CNS empowers the new-to-practice nurse when that individual recognizes that reporting an adverse event can lead to quality improvement because only then can the root cause be identified and the system or process be corrected to reduce risk.

In addition, the Joint Commission Sentinel Event tab highlights current alerts. Most notable is the alert that workplace intimidation and aggression is a threat to patient safety. The Joint Commission has mandated that all healthcare systems address hostile work environment behavior by January 2009 as a risk-reduction strategy. Many times, new-to-practice nurses are the most vulnerable to intimidation by peers in the workplace as they have known knowledge deficits. Intimidation interferes with their acquisition of knowledge and skill development. Cognitive rehearsal of shielding responses (Griffin, 2004) has been an effective strategy that the CNS can teach new-to-practice nurses. It enables them to recognize that the intimidating behavior is a result of stress and frustration and not a personal affront, thereby allowing the new graduate to respond in an intellectual manner rather than respond emotionally.

The unfolding case study is a learning strategy that has been promoted by QSEN (2007) to increase critical thinking in undergraduate nursing education. This approach can be used by the CNS to promote critical thinking in new-to-practice nurses by stimulating real-world decision making. The CNS can access descriptions of actual workplace adverse events on the AHRQ's Patient Safety Network (n.d.) by clicking the Patient Safety Primers tab. Based on these descriptions, the CNS can develop unfolding case scenarios that cultivate critical thinking and decision-making skills. The CNS can utilize the unfolding case study method as a strategy to inform new-to-practice nurses of the available resources at the institution that should be utilized to achieve a positive outcome for patients in similar situations.

Lastly, the CNS functions as a bridge between research and practice. Many new-to-practice nurses have a familiarity with evidence-based practice but are not sure how it is implemented in the clinical setting. The Cochrane Collaboration (n.d.) is an international database that the CNS can access to retrieve the latest information regarding appropriate interventions. AHRQ's National Guideline Clearinghouse (2008) provides recommendations and rating schemes of the strength of evidence for specific diseases and health prob-

lems. The CNS can promote the use of these sites with new-to-practice nurses as a means to determine the appropriate care required for their patients.

There are many resources available to the CNS working with new-to-practice nurses that will support a smooth transition from the prelicensure educational setting to the work environment. The CNS needs to recognize the significant role he or she plays in the transformation that occurs when a nurse enters the workforce and is confronted with the challenges to provide high-quality, safe patient care in a rapid-paced, constantly evolving profession. A toolkit of resources (see Table 9-9) is an invaluable asset.

Table 9-9 TOOLKIT OF INTERNET RESOURCES FOR THE CNS WORKING WITH NEW-TO-PRACTICE NURSES

Resource	Web Site Address
AHRQ: Glossary	http://www.webmm.ahrq.gov/glossary.aspx
AHRQ: National Guideline Clearinghouse	http://www.guideline.gov/compare/synthesis.aspx
AHRQ: Patient Safety Network	http://psnet.ahrq.gov
AHRQ: TeamSTEPPS	http://dodpatientsafety.usuhs.mil/index.php?name=News&file=article&sid=31
The Cochrane Collaboration	http://www.cochrane.org
IHI: Transforming Care at the Bedside	http://www.ihi.org/IHI/Programs/StrategicInitiatives/TransformingCareAtTheBedside.htm
IHI: Transforming Care at the Bedside Storyboard	http://www.ihi.org/NR/rdonlyres/F81270CD-B8BC-47D5-B2A6-BDA550096AA9/4252/TCABStoryboardFall2006FINAL.pdf
IHI: 5 Million Lives Campaign	http://www.ihi.org/IHI/Programs/Campaign
QSEN Teaching Strategies	http://qsen.org/teachingstrategies/search_strategies#results
The Joint Commission	http://www.jointcommission.org

Case Study: Development and Implementation of a Rapid Response Team

The majority of hospitalized patients experience antecedent physiologic abnormalities prior to cardiopulmonary arrests. When these abnormalities occur outside an intensive care unit, they are often unrecognized or are not responded to in a timely, appropriate manner by the hospital care team. This may be partially due to a reduced awareness of the importance of these physiologic abnormalities in the spectrum of disease or perhaps due to competing clinical responsibilities on the part of the physician or nurse practitioner. This scenario becomes increasingly complex in academic medical centers, as the most junior-level physicians typically perform the triage, clinical management, and communication around these critical events.

A rapid response team (or medical emergency team) is a team of critical care clinicians who can respond to the bedside of a deteriorating patient before a catastrophic event (e.g., cardiac or respiratory arrest) occurs. The goal of the team is to reduce the number of cardiac arrests and unanticipated intubations outside the ICU through clinical staff members' heightened awareness to signs of physiologic deterioration and through the development of a mobile team that can provide immediate critical care to the bedside.

The IHI *Save 100,000 Lives* campaign had designated the development of a rapid response team as one of the six interventions to decrease unanticipated mortality. The subsequent *5 Million Lives* campaign, launched in December 2006, continues to advocate for rapid response teams and the other five original interventions while also adding new interventions selected to reduce harm (IHI, 2008a). IHI provides many useful, effective, and cost-efficient resources for CNSs interested in beginning programs designed to improve healthcare safety. It is an "absolute must" Web site that should be easily accessible to CNSs and professional staff.

Kleinpell and Gawlinski (2005) have developed a nine-step process to guide the CNS in planning and implementing an outcomes-driven initiative. Table 9-10 describes an example of a process to establish a rapid response team, one of the recommendations of the IHI *Save 100,000 Lives* campaign and continued with the *5 Million Lives* campaign. The model can be used to develop other safety-related interventions, such as programs to decrease central line infections and ventilator-associated pneumonia (IHI, 2008b).

Skill breadth, competence, and familiarity with multiple roles uniquely positions the CNS to play a pivotal role in patient safety. The CNS is able to integrate knowledge of patient safety with evidence-based practice to improve outcomes (Phillips, 2005). The role of the CNS in patient safety will continue to expand exponentially; thus, the introduction of the CNS into the world of patient safety is just the beginning of a successful journey toward creating a culture of safety, integrated with evidenced-based practice to produce the highest quality of care possible.

Table 9-10 DEVELOPING A RAPID RESPONSE TEAM

Steps in the Process	Interventions
Find/Identify outcome variables that the CNS can impact. CNS Skills/Roles: Collaborator, clinical leader, research (Hamric, 1989)	1. Decrease codes/airway emergencies outside the ICU. 2. Decrease unplanned transfers to the ICU. 3. Improve nurse/caregiver satisfaction by providing a support system for the staff to call when their patient is in distress.
Organize a team: Who are the key stakeholders? CNS Skills: Change agent, collaborator, role model (Hamric, 1989)	1. Engage senior leadership: physicians, nursing, administration. 2. Other stakeholders: nursing, house staff and training directors, respiratory therapy, pharmacy.
Clarify current knowledge of the practice issue to be resolved. CNS Skills/Roles: Research, collaborator, patient advocate, change agent (Hamric, 1989)	1. Preparation phase includes accurate collection of baseline levels of serious adverse events and cardiac arrests. 2. What percent of codes or airway emergencies occur outside the ICU? 3. What percent of codes or airway emergencies are accompanied by clinical antecedents? 4. Were the clinical antecedents recognized? 5. What is the understanding of the staff of early detection of physiologic deterioration? 6. What communication strategies are utilized to accurately and concisely get the message across? 7. SBAR (situation, background, assessment, recommendation).

Table 9-10 (continued)

Steps in the Process	Interventions
Understand sources of variation. CNS Skills/Roles: Research, consultant, educator, patient advocate (Hamric, 1989)	1. When clinical deterioration is recognized, how is that clinical presentation responded to by the nurse? House staff? 2. What barriers prevent the bedside practitioner from calling for help (calling the attending physician) when his or her gut instinct suggests it is the right thing to do?
Select practices and strategies for improvement. CNS Skills/Roles: Clinical leader, educator, change agent (Hamric, 1989)	1. Establish a trigger tool to provide the staff with a concrete reference for when to call the team. Include at least one caveat that relates to that "gut feeling." 2. Design the team based on currently available personnel. Team construction varies from hospital to hospital. Teams are as simple as the ICU charge nurse and respiratory therapist to as complex as an eight-member team led by an intensivist. 3. Develop protocols for practice if needed. 4. Define team role during activation. 5. Provide team leadership. 6. Assess, intervene, stabilize, arbitrate to appropriate level of care. 7. Communicate, communicate, communicate! 8. Establish a feedback mechanism for the response team to feedback information to the teams that made the calls.
Plan for implementation. CNS Skills/Roles: Clinical leader, role model, educator, consultant (Hamric, 1989)	1. Develop educational curriculum. 2. Bedside practitioners. 3. Responding team.

(continues)

Table 9-10 (continued)

Steps in the Process	Interventions
Plan for implementation. (continued)	4. Physicians, nurses, therapists, technicians, virtually anyone who comes in contact with the patient, page operators. 5. Data management. 6. Documentation while on the scene. 7. Why team was called, who called, interventions, outcomes, communication with attending physician. 8. Log and analyze calls and "missed opportunities." 9. Public relations (need at least five venues to get the word out). 10. Posters, flyers. 11. Grand rounds for nursing, medicine, any department. 12. Present at departmental meetings. 13. Discuss at unit-based meetings. 14. "Roadshow," or traveling inservice, bringing the information to the staff on the floors.
Do the interventions according to the plan. CNS Skills/Roles: Research, education, change agent, role model, expert practitioner (Hamric, 1989)	1. Operationalize team as planned. 2. Phase I or pilot for a defined period of time. 3. Analyze each call to identify areas of opportunity. 4. Clinical review: Why were calls placed? What happened at the bedside? 5. Operational review: Did everything go as planned? Did the team show up? Did the equipment work? Did you need something that you didn't have? Did you need someone who was not available?

Table 9-10 (continued)

Steps in the Process	Interventions
Check/analyze/review data CNS Skills/Roles: Collaborator, researcher (Hamric, 1989)	1. Review data from each event for clinical and operational efficiencies. 2. Compare preintervention/postintervention data for changes in rates of codes outside the ICU, unanticipated transfers to the ICU, and unanticipated mortality.
Put improvement into effect, hold gains, and establish lessons learned. CNS Skills/Roles: Change agent, collaborator, clinical leader, role model, patient advocate (Hamric, 1989)	1. Evaluate process and make appropriate changes to trigger tool, documentation tool, team notification process, or team activities at the bedside. 2. Continue to review data to establish success of program. 3. Involve staff in satisfaction survey to ascertain the effect on nursing satisfaction.

Source: Kleinpell and Gawlinski, 2005; Phillips, 2005.

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