Creating cultures of safety:
Risk management

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Hospital-based nursing faces difficult challenges from the vantage point of risk management. Encouragingly, the continuous and passionate work of nurse leaders to improve patient safety and quality is clearly interfaced with decreasing liability and risk of harm. Many risk management challenges and corresponding strategies are the same as nationwide clinical initiatives in patient safety. The role of the nurse manager in directing patient care and influencing change from a risk perspective is paramount to success.

Risk management is the process by which vulnerabilities are identified and changes are made to minimize the consequences of adverse patient outcomes and liability. Related clinical initiatives to reduce risk and harm should be part of a larger organizational commitment to patient safety. In a true culture of safety, everyone in the organization is committed and driven to keep patients safe from harm. It's under the umbrella of a patient safety culture that risk managers and nurse leaders effect the most successful clinical change.

Human error is often unavoidable, unpredictable, and unintentional. Nurse managers and risk managers conduct root cause analyses (RCAs), which are opportunities for organizational learning and development of corrective action strategies. However, RCAs are reactive responses; organizations should also employ proactive risk assessments for vulnerabilities that can be corrected.

Let's look at the top challenges experienced within large teaching community hospitals and
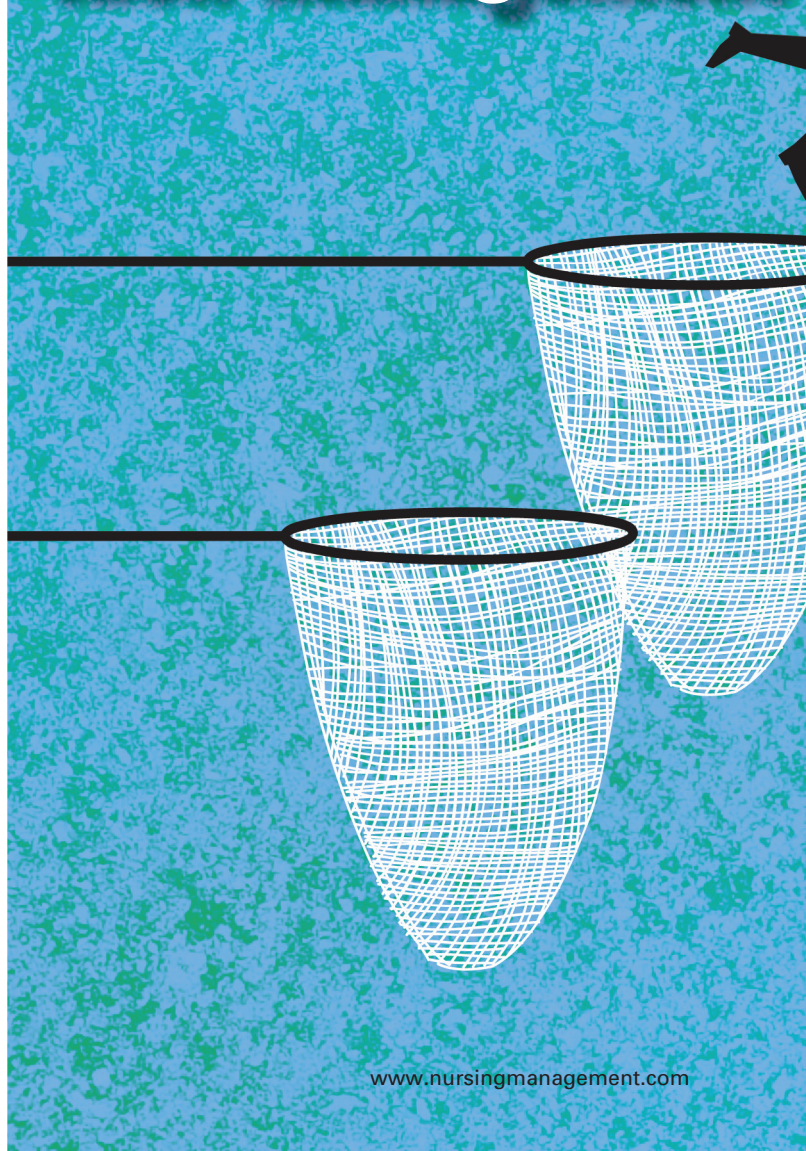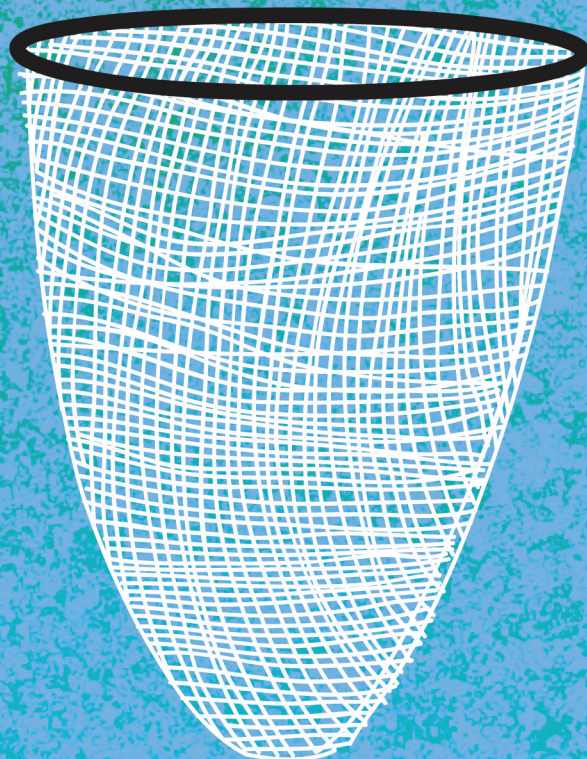
challenges and strategies

how they can be addressed. The case examples are hypothetical cases.

1. Patient identification

Case: *It's 9 a.m. The transporter arrives to take Mrs. S for a computed tomography scan with contrast. The patient says she's not supposed to have any tests, but the transporter insists she's on the schedule and the radiology department is very busy so they have to hurry. Mrs. S has the exam. Mrs. J, in the other bed, was actually scheduled for the test.*

In almost every case of mistaken patient identification there's human error. Factors usually involved, as identified by staff nurse interviews and surveys, include being in a hurry, not following policy, language barriers, missing ID bands, staff carelessness, and patients answering to the wrong name.[1] In the above case, staff didn't listen to the patient and there was a lapse in the patient identification process both at the patient's bedside and in the testing area. It's no wonder that the first Joint Commission National Patient Safety Goal (NPSG) concerned patient identification.

Risk management strategies revolve around the basic patient safety rule of using two patient identifiers to verify identity. Encouraging patient involvement in combination with active listening skills of staff is key. Using a second identifier that patients know, such as their date of birth or last four digits of their Social Security number, facilitates patient participation. To hardwire this practice during patient transport, the use of a "Trip Slip" or "Ticket to Ride" has been implemented in many organizations.[2] It's modeled after the Time-Out process, during which right patient and right procedure are verified before commencement of a procedure. Although it takes extra time and can lead to transport delay, it's an excellent strategy to avert ID error and improve handoff between departments.

Some organizations have chosen patient identification as a "red rule," meaning the two-identifier rule must be followed without exception or there are defined consequences.[3]

Correct specimen labeling is another vulnerable area in the patient identification arena. The importance of bedside labeling using two identifiers, akin to what's done for blood transfusion administration, is vital. Chance of mislabeling increases when the process is moved away from the bedside. There's promise of hard-wiring patient identificatio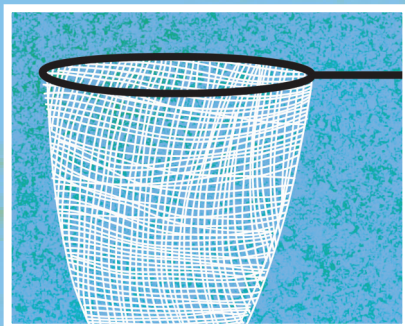n processes using technological solutions. Bar code scanning devices are being used in medication administration and glucometer testing; more applications such as in bedside specimen labeling are expected.

2. Hospital-acquired infections (HAIs)

Case: *Mr. H was brought into the ED unresponsive and hypotensive. In the ED, a femoral line was placed for emergency access. After transferring him to the ICU, the femoral line wasn't changed as per hospital protocol and CDC recommendations. Approximately 48 hours later the patient became febrile with an elevated white blood cell count. Blood cultures were positive in 4/4 bottles for enterococcus.*

HAIs are often avoidable complications that are in the public eye and under scrutiny by regulatory agencies, insurance companies, and malpractice attorneys. A press release from the Association for Professionals in Infection Control and Epidemiology states that the greatest challenges to preventing central line–associated bloodstream infection (CLABSI) are policy enforcement, adequate education, comprehensive surveillance/data management, and full hospital leadership commitment.[4] These factors are present in all healthcare organizations struggling to decrease HAIs.

The bundle checklist has become a relatively simple yet powerful strategy to standardize practice. When each critical step is identified, agreed on, observed at each procedure, and supported by hospital leadership, then you have the recipe for decreasing risk. Nursing must be empowered to stop the process, which clearly makes a huge difference. The Institute for Healthcare Improvement first introduced the use of a bundle checklist during the successful 100K Lives Campaign in 2005, later followed by a related Joint Commission NPSG.[5] And it

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works: You can't forget important steps when you have a real-time guide to check off at the procedure. The key here is that all concerned follow the process, communicate with each other, and don't regard it as an exercise in postprocedure penmanship.

Other strategies include gathering and using process and outcome data along with daily surveillance and intervention by both nurses and infection control practitioners. After each CLABSI it's helpful to have a multidisciplinary process to identify root causes and needed system improvements. A red rule supporting use of the insertion bundle checklist can be effective. These strategies work for all HAIs, not just CLABSI.

Enforcement of the golden rule of hand washing is an important facet on the road to reducing risk from HAI. As with all efforts to improve safety, best practice must be identified and shared, along with identifying and fixing barriers. A recent publication from The Joint Commission Center for Transforming Health Care provides a matrix on hand hygiene that outlines contributing factors, solutions, and level of impact.[6] Strategies include improving accessibility of dispensers and sinks, efficiency of workflow, and just-in-time coaching for reinforcement.

3. Communication/escalation

Case: *Mrs. F has been in labor for 10 hours. Her electronic fetal monitoring has started to show absent variability with prolonged decelerations. Nurse N asks the resident to look at the strips; the resident recommends the nurse to keep observing. After 10 minutes of no improvement, Nurse N escalates to the attending physician, who assures her the baby will be born soon and nothing more needs to be done. Baby F is born with an Apgar score of 2 and 4, requiring resuscitation and NICU admission.*

Best practice must be identified and shared, along with recognizing and removing barriers.

Prenatal death/loss of function is on the top 10 Joint Commission Sentinel Event List.[7] In this case the nurse attempts to communicate her concern and escalates to an attending, but is in a difficult situation: She's reached the top of the physician tree, it's a time-sensitive situation, and there's no agreement on case urgency. Several factors challenge nurse communication and escalation, including fear of disruptive behavior, cultural/gender perceptions and experiences, as well as clinical competency and mutual trust and respect. An analysis of nurse claims from 1997 to 2007 revealed that communication and escalation are two of the top three recommendations to reduce risk for nursing liability.[8]

One remedy specific to this case scenario is the development of an OB Rapid Response Team, one in which the nurse is permitted to request the team. When called, the team of OB experts responds to the situation, thus relinquishing the nurse from any further escalation. Rather than experiencing frustration, the nurse feels empowered to

provide a safe environment for patients and promote good outcomes. Other remedies include an organizational code of conduct with zero tolerance of disruptive behavior, chain of command policies, multidisciplinary team training, and use of structured communication techniques.

4. Medication administration

Case: *A 30-year-old man comes into the ED Level I trauma unit as one of several victims of a motor vehicle accident. A new ED nurse picked up multiple medications as prescribed on this patient and was distracted by the physicians giving additional verbal orders. She forgets to label two syringes that contain clear liquid, one meant to be given I.V. and the other subcutaneously. She inadvertently administers the subcutaneous medication I.V.; the patient subsequently codes and dies.*

Medication error is also on the top 10 Joint Commission Sentinel Event List. Multiple vulnerabilities existed for this error to occur: An emergency situation, multiple distractions, verbal orders, novice nurse, and failure-to-label syringes are obvious ones. Interruptions occur in at least 50% of medication administrations, and each interruption is associated with over a 10% increase in procedural failures and clinical errors.[9]

Syringe labeling is a basic safety procedure and even a Joint Commission NPSG. Why would a nurse fail to label syringes not prepared and immediately administered at the bedside? Once again, the risks add up: interruptions, perception of low risk, rushing, possibly even a lack of labels. Engaging staff, especially involved staff, in identifying barriers and their fixes goes a long way. Consistent reinforcement of the process is essential.

Many other major risk areas besides syringe labeling exist in the

omnipresent nursing responsibility of medication administration: failures in medication reconciliation, transcription, pharmacy prescription review, and more. Electronic solutions are most beneficial in advancing safety and decreasing risk. Computerized provider order entry features clinical alerts, standardized orders, clarity, immediate transmission to pharmacy, and

oil rig explosion was found to involve alarm bypasses due to false alarms. Alarm fatigue is a real and daunting challenge, as more and more patient-care equipment is beeping at the bedside and in patient-care units.

Strategies to reduce risk include layering of alarm systems such as monitor technicians, integrating-alarms into nurse beepers or phones,

The nurse programs the pump to 12 mL/hour without using the pump's medication library. The mistake isn't caught until the patient's partial thromboplastin time is overtherapeutic, 6 hours later.

Of all medication errors, I.V. medications are twice as likely to cause patient harm.[13] Use of smart pumps with customized medication libraries, rules, and dose alerts is recommended, but "smart pumps aren't smart on their own."[14] The FDA has issued guidelines requiring infusion pump manufacturers to supply more test data before approval due to over 700 deaths and 50,000 complaints reported to the FDA in the last 5 years.[15] There's even been a recent recall of an infusion pump by a well-known manufacturer.

Successful strategies to improve infusion pump safety and reduce error include:
• easy-to-use technology
• standardized infusion ordering protocols
• 100% compliance with dose mode
• drug library that mirrors clinical practice
• protocols to support override verification
• staff education and involvement
• data analysis, preferably with wireless, concurrent data transmission
• use of data to make appropriate library or practice changes
• vendor support
• partnership with biomedical engineering
• random auditing.
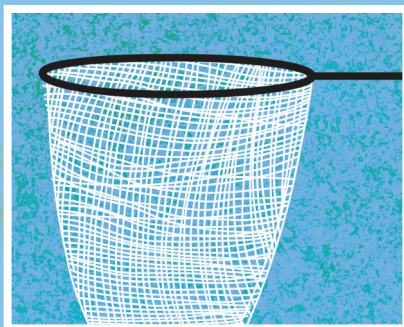
> *"Right staffing" as a management responsibility involves more than quantity; it also means matching staff competencies to patient need.*

decreased turnaround time for medication availability. Bar code medication administration eliminates transcription, manual documentation of medication administration, and many sources of error.

5. Clinical alarms

Case: *A cardiac patient requiring continuous heart rate and rhythm monitoring died in January after developing a lethal arrhythmia for 22 minutes and systole for 17 minutes before being found by staff members.*[10]

You can't avoid reading about this very public alarm tragedy in newspapers and nursing journals.[11] Alarm problems are on the 2010 top 10 medical device hazard list from the ECRI Institute, a nonprofit healthcare research organization. Multiple research studies identify caregiver fatigue from false and nuisance alarms as problematic, leading to distrust in alarms and even tampering.[12] The recent Gulf of Mexico

improving audibility of high-priority alarms, and modifying equipment, so alarms can't be turned off. Reducing nuisance/false alarms is critical and involves competency skills; lead placement, signal assessment, individualization of alarms, alarm recognition, and troubleshooting skills can be taught but need practice and experience to perfect. Standardized procedures for clinical alarm monitoring, communication, and documentation responsibility are necessary. Random audits and observations on alarm response times and procedural expectations promote accountability and opportunity for education and learning. Frequent inspections and testing of the alarm systems, possibly on each shift, should also be adopted.

6. Infusion pump safety

Case: *Mr. B is in the ED after sustaining a non-hemorrhagic stroke; a heparin infusion of 12 units/kg/hour is prescribed.*

7. Falls

Case: *An 82-year-old male is admitted to a medical floor with a diagnosis of dehydration, pneumonia, and urinary tract infection. He's confused at times, especially at night. A fall risk assessment is completed on admission, which puts him at high risk for falls. Fall precautions are taken, and the family*

insists on a 1:1 companion. While the companion was preparing the patient's evening tea, the patient fell from his bed and fractured his hip, requiring an open reduction internal fixation.

Patient falls is another Joint Commission top 10 sentinel event. But even under the most monitored situations, patients fall. Initial and ongoing fall risk assessment with a concurrent fall risk reduction care plan is important. Interventions include call bell placement, frequent rounding, regular toileting, proximity to the nurses station for observation, low beds, mobility alarms, enclosure beds, wristbands, room signage, color-coded blankets or socks, and companions. An interdisciplinary approach individualized to the patient is beneficial, for example, collaborating with pharmacy for medication interactions, which may affect balance or cognition, as well as physical therapy for strengthening. A dilemma sometimes facing nursing and risk management is balancing patient independence with maintaining safety. As the scenario depicts, even a 1:1 companion doesn't prevent falls.

Several statewide associations have implemented collaboratives around fall safety. A "SAFE from FALLS" patient-care bundle was developed by the Maryland Patient Safety Center:
F: falls risk screening
A: assessment of risk factors
L: linked interventions
L: learn from events
S: safe environment.[16]

A statewide campaign of the same name is being promoted by the Minnesota Hospital Association, with over 100 participating hospitals.[17] Numerous tools and protocols are available on the association's website. Lining up strategies with consistent application will reduce risk from falls. When feasible, discuss with the patient their vulnerability to falls and the safety plan to promote participation.

8. Hospital-acquired pressure ulcers

Case: *A 74-year-old frail female with a history of diabetes and chronic obstructive pulmonary disease was admitted from a long-term-care facility for difficulty breathing. Her condition deteriorates and she's intubated and sedated. A skin assessment isn't completed upon admission. On day 5 of admission, a nurse documents a Stage II pressure ulcer on the sacrum and a Stage I on both heels. There's sparse documentation throughout her hospital stay, and the transfer summary to the long-term care facility is silent on the condition of the patient's skin. Upon arrival at the nursing home, the admitting nurse documents Stage III pressure ulcers.*

Documentation! It's essential, and the lack of it in this case clearly demonstrates increased liability. Assessment and documentation of findings is the third of the top three recommendations to reduce liability in the nurse claims study mentioned in case #2.[8] A comprehensive skin assessment must be done upon admission, with periodic reassessments throughout the hospital stay, including at the time of any transfers. Clearly documented present-on-admission skin breakdown is critical not only for reimbursement purposes, but also from the risk and standards of care perspectives. Risk assessment using established measures such as the Braden scale standardizes practice.

Frequency of ongoing risk assessments and documentation must be defined by the organization. Assessment every shift of pressure areas is minimal for patients at high risk. Monthly prevalence rounds with sharing and benchmarking of unit and overall outcomes facilitate goal achievement. Turning and positioning as part of regular patient rounding is fundamental, along with staff education at all levels in prevention, assessment, pressure ulcer staging, and intervention techniques. The value of the certified wound-care nurse specialist both in individual cases and for overall program development can't be overstated. Developing unit champions for daily coaching and resource is another good strategy. Bundled preventive measures such as "Skinsavers" pull it all together:
S: suspend heels
K: keep the head of bed at 30 degrees
I: inspect skin daily and at every turn
N: nutrition and hydration
S: side-lying positioning 30-degree angle
A: apply moisture barrier if incontinent
V: vigilant skin care and moisture
E: encourage mobility
R: reposition at least every 2 hours
S: support surfaces bed and chair.[18]

"Catchy" bundles help staff stay focused on necessary steps and promote accountability.[19]

9. Clinical competency

Case: *Mrs. L is receiving chemotherapy via a peripheral line. The float nurse encounters resistance to flow and repositions the patient's arm. Two hours later the patient complains of severe burning at the site and the nurse notes the I.V. is infiltrated with significant redness and swelling. She discontinues the line and applies a warm compress, but is unaware of the protocol for chemoinfiltrations. The patient develops compartment syndrome and requires surgical intervention.*

"Right staffing" as a management responsibility involves more than quantity; it also means matching staff competencies to patient needs.[20] Managers must identify required competencies based on the population served and standards of care in the clinical area, including

documentation and communication skills, and then regularly assess staff competencies. It not only makes sense but also is a Joint Commission Standard (HR 01.06.01). Availability of 24-hour staff resources is a component of facilitating clinical competency. Temporary staff, whether per diem, float, or agency, can only be assigned patients within their scope of practice and competency level. The primary nurse must also recognize the relationship of clinical competency to patient safety when delegating patient-care responsibilities to others. Nursing staff unable to demonstrate a competency should be helped to achieve it through coaching, education, and subsequent observation. Sometimes a nurse may fail to achieve the performance standard, and if the reasons can't be identified and rectified, then another position must be chosen by the practitioner to ensure patient safety and organizational/individual liability reduction. Staff and managers should collaborate at all levels to ensure the right people are in the right places at the right time.

10. Retained foreign bodies

Case: *The surgeon is closing the patient's abdomen after a difficult colectomy and is assured by the scrub and relief-circulating nurse that the final count is correct. The relief-circulating nurse was heard arguing with the charge nurse during the final count. During the cavity count, the resident pulled a lap pad from the sterile field to secure a "bleeder." The patient is transferred to the postanesthesia care unit, and several hours later a routine abdominal X-ray identifies a foreign body behind the liver.*

Retained foreign bodies are on both The Joint Commission Sentinel Event and ECRI Institute's top 10 hazard lists. Root causes of foreign body retention include distraction, fatigue, human counting error, lack of count procedures, difficult operations, and other factors. Risk reduction strategies include using a shoebag-type lap pad holder for easy visualization of all counted laps. Counts when staff change, at cavity closure, and at skin closure (final count) are best practice. Whenever the circulating nurse is relieved there should be a handoff to include the count. Lap rings must never be detached. A time out during the final count, in which there's no conversation or distraction, is another remedy. An X-ray before leaving the OR can be done in high-risk cases.

Technology in this arena, which looks to hardwire success, is radio-frequency identification, where sponges are tagged and a wand is swept over the surgical area to identify any retained sponges. Cost-benefit analysis would be expected following your organization's value analysis procedures. This is one of many OR safety tools available to reduce risk of surgical error.[21,22]
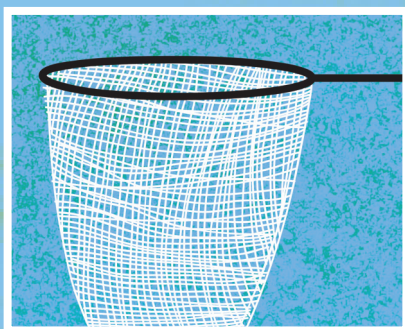
Leadership

Looking at the strategies identified for each challenge, it's evident that there are overall leadership approaches to reducing risk and harm and improving patient safety. Three steps to success are identified by The Joint Commission's Center for Transforming Healthcare:
1. Set expectations
2. Educate
3. Build accountability through measurement, feedback, leadership, and coaching.[23]

It's not as easy as 1-2-3, but sustainable change is possible using this leadership "bundle for change," combined with a systems approach that concentrates on the conditions under which individuals work, identifying barriers and implementing changes to remove them. "We cannot change the human condition, but we can change the conditions under which humans work."[24] Nurse and organizational leaders must provide needed resources and send consistent messages about safety and expectations. It takes a long time for culture to change, so tenacious and passionate nurse leaders are a necessity.[25] **NM**

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