
A CONSENSUS REPORT
Foreword

IMPROVING THE SAFETY OF HEALTHCARE DELIVERY saves lives, helps avoid unnecessary complications, and increases the confidence that receiving medical care actually makes patients better, not worse. Unfortunately, 10 years after the Institute of Medicine report To Err Is Human issued a call to action, uniformly reliable safety in healthcare has not yet been achieved. Every day, patients are still harmed, or nearly harmed, in healthcare institutions across the country. This harm is not intentional; however, it usually can be avoided. The errors that create harm often stem back to organizational system failures, leadership shortfalls, and predictable human behavioral factors.

We can, and must, continue to do better.

Every healthcare stakeholder group should insist that provider organizations demonstrate their commitment to reducing healthcare error and improving safety by putting into place evidence-based safe practices. This includes promoting an environment of effective reporting and learning from errors or mistakes within a blame-free culture. Collective reporting and learning from the mistakes of others is also an essential component of this process to improve healthcare safety.

The original set of National Quality Forum (NQF)-endorsed® safe practices released in 2003, updated in 2006 and 2009, were defined to be universally applied in all clinical care settings in order to reduce the risk of error and harm for patients. The current 2010 updated report adds to the evolution of these practices and acknowledges their ongoing value to the healthcare community. This update of the NQF- endorsed safe practices was conducted as an abbreviated maintenance process, with few major changes to the safe practice statements or specifications. However, the practices have been updated with the most current evidence and expanded implementation approaches; additional measures for assessing the implementation of the practices have been included in each section as well. Each practice is specific and ready for implementation and has been shown to be effective in improving healthcare safety. Systematic, universal implementation of these practices can lead to appreciable and sustainable improvements for healthcare safety.

Every individual who seeks medical care should be able to expect and receive safe, reliable care, every time, under all conditions. We thank NQF Members and the NQF Safe Practices Consensus Committee for their stewardship of this important work.

Janet M. Corrigan, PhD, MBA
President and Chief Executive Officer

National Quality Forum
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Executive Summary

NOW A DECADE AFTER the Institute of Medicine’s report To Err is Human, some advances have been made in patient safety, yet the consensus is clear that there is still much to do. With the recognition that healthcare-associated infections are for the most part preventable, and that zero infections is the number we must chase, medical-related harm as the leading cause of death in America has not gone down, but gone up from the eighth leading cause in 1999 to the third leading cause.

The Safe Practices for Better Healthcare – 2010 Update presents 34 practices that have been demonstrated to be effective in reducing the occurrence of adverse healthcare events. The practices are organized into seven functional categories for improving patient safety:

- creating and sustaining a culture of safety (Chapter 2);
- informed consent, life-sustaining treatment, disclosure, and care of the caregiver (Chapter 3);
- matching healthcare needs with service delivery capability (Chapter 4);
- facilitating information transfer and clear communication (Chapter 5);
- medication management (Chapter 6);
- prevention of healthcare-associated infections (Chapter 7); and
- condition- and site-specific practices (Chapter 8).

Based on feedback from healthcare organizations, subject matter experts, and the NQF Safe Practices Consensus Committee, the 2010 update has made modest changes to the 2009 report.

In Chapters 2 through 8, the problem statements, implementation approach information, and other narrative elements that do not constitute the endorsed standards have been significantly updated. No substantive changes were made to the latest additional specifications. Chapter 9 describes selected contributions from patient advocate experts as examples of the themes that are believed to be important for patients and families to consider during their healthcare encounters. Specific recommendations regarding patients and families are embodied formally in each practice. This section has been modestly updated with input from patient advocates and organizations that have embraced the concept of involving patients and families in their safety and quality programs.
As with the previously endorsed practices, these 34 safe practices should be universally utilized in applicable healthcare settings to reduce the risk of harm resulting from processes, systems, and environments of care.

This set of safe practices is not intended to capture all activities that might reduce adverse healthcare events. Rather, this report continues the focus on practices that:

- have strong evidence that they are effective in reducing the likelihood of harming a patient;
- are generalizable (i.e., they may be applied in multiple clinical care settings and/or for multiple types of patients);
- are likely to have a significant benefit to patient safety if fully implemented; and
- have knowledge about them that consumers, purchasers, providers, and researchers can use.

The implementation of these practices will improve patient safety. Additionally, other important uses of the set are to help healthcare providers assess the degree to which safe practices already have been implemented in their settings and to assess the degree to which the practices provide tangible evidence of patient safety improvement and increased patient satisfaction and loyalty. And importantly, with this update, healthcare organization leaders and governance boards are explicitly called upon to proactively review the safety of their organizations and to take action to improve continually the safety and thus the quality of care they provide.

The safe practices are not prioritized or weighted within or across categories. This is because all are viewed as important in improving patient safety and because no objective, evidence-based method of prioritizing the practices could be identified that would equitably apply across the current heterogeneous universe of healthcare organizations that have variably implemented many—and in some cases all—of these practices. For any given healthcare provider, the choice of priority practices for implementation will depend on the provider’s circumstances, including which of the practices already have been implemented, the degree of success the provider has had with implementation, the availability of resources, environmental constraints, and other factors.

This report does not represent the entire scope of NQF work pertinent to improving patient safety and healthcare quality; over the years since the publication of the original set of safe practices, NQF has completed and updated a number of projects of direct relevance to this report. In 2006, NQF endorsed 28 serious reportable events in healthcare that should be reported by all licensed healthcare facilities. In 2007, NQF completed a consensus project related to the assessment and prevention of healthcare-associated infections (HAIs). The HAI report specifically called for additional practices in HAI prevention, with a specific call for a new safe practice related to catheter-associated urinary tract infections. NQF also endorsed a set of Patient Safety Indicators developed by the Agency for Healthcare Research and Quality. Additional safety-related work included focused projects on perioperative care, the prevention of venous thromboembolism, a pressure ulcer prevention framework, and the endorsement of measures related to patient safety and medication management. Finally, the emerging priorities and goals from the National Priorities Partnership include a strong focus on avoidable harm, continuity of care, and patient safety.
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<th>SAFE PRACTICE</th>
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<tr>
<td><strong>Safe Practice 1: Leadership Structures and Systems</strong></td>
<td>Leadership structures and systems must be established to ensure that there is organization-wide awareness of patient safety performance gaps, direct accountability of leaders for those gaps, and adequate investment in performance improvement abilities, and that actions are taken to ensure safe care of every patient served.</td>
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<tr>
<td><strong>Safe Practice 2: Culture Measurement, Feedback, and Intervention</strong></td>
<td>Healthcare organizations must measure their culture, provide feedback to the leadership and staff, and undertake interventions that will reduce patient safety risk.</td>
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<td><strong>Safe Practice 3: Teamwork Training and Skill Building</strong></td>
<td>Healthcare organizations must establish a proactive, systematic, organization-wide approach to developing team-based care through teamwork training, skill building, and team-led performance improvement interventions that reduce preventable harm to patients.</td>
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<td><strong>Safe Practice 4: Identification and Mitigation of Risks and Hazards</strong></td>
<td>Healthcare organizations must systematically identify and mitigate patient safety risks and hazards with an integrated approach in order to continuously drive down preventable patient harm.</td>
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<tr>
<td><strong>Safe Practice 5: Informed Consent</strong></td>
<td>Ask each patient or legal surrogate to “teach back,” in his or her own words, key information about the proposed treatments or procedures for which he or she is being asked to provide informed consent.</td>
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<td><strong>Safe Practice 6: Life-Sustaining Treatment</strong></td>
<td>Ensure that written documentation of the patient’s preferences for life-sustaining treatments is prominently displayed in his or her chart.</td>
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<tr>
<td><strong>Safe Practice 7: Disclosure</strong></td>
<td>Following serious unanticipated outcomes, including those that are clearly caused by systems failures, the patient and, as appropriate, the family should receive timely, transparent, and clear communication concerning what is known about the event.</td>
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<tr>
<td><strong>Safe Practice 8: Care of the Caregiver</strong></td>
<td>Following serious unintentional harm due to systems failures and/or errors that resulted from human performance failures, the involved caregivers (clinical providers, staff, and administrators) should receive timely and systematic care to include: treatment that is just, respect, compassion, supportive medical care, and the opportunity to fully participate in event investigation and risk identification and mitigation activities that will prevent future events.</td>
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## Safe Practices for Better Healthcare—2010 Update

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| **Safe Practice 9: Nursing Workforce** | Implement critical components of a well-designed nursing workforce that mutually reinforce patient safeguards, including the following:  
- A nurse staffing plan with evidence that it is adequately resourced and actively managed and that its effectiveness is regularly evaluated with respect to patient safety.  
- Senior administrative nursing leaders, such as a Chief Nursing Officer, as part of the hospital senior management team.  
- Governance boards and senior administrative leaders that take accountability for reducing patient safety risks related to nurse staffing decisions and the provision of financial resources for nursing services.  
- Provision of budgetary resources to support nursing staff in the ongoing acquisition and maintenance of professional knowledge and skills. |
| **Safe Practice 10: Direct Caregivers** | Ensure that non-nursing direct care staffing levels are adequate, that the staff are competent, and that they have had adequate orientation, training, and education to perform their assigned direct care duties. |
| **Safe Practice 11: Intensive Care Unit Care** | All patients in general intensive care units (both adult and pediatric) should be managed by physicians who have specific training and certification in critical care medicine (“critical care certified”). |
| **Safe Practice 12: Patient Care Information** | Ensure that care information is transmitted and appropriately documented in a timely manner and in a clearly understandable form to patients and to all of the patient’s healthcare providers/professionals, within and between care settings, who need that information to provide continued care. |
| **Safe Practice 13: Order Read-Back and Abbreviations** | Incorporate within your organization a safe, effective communication strategy, structures, and systems to include the following:  
- For verbal or telephone orders or for telephonic reporting of critical test results, verify the complete order or test result by having the person who is receiving the information record and “read-back” the complete order or test result.  
- Standardize a list of “Do Not Use” abbreviations, acronyms, symbols, and dose designations that cannot be used throughout the organization. |
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<td><strong>Safe Practice 14:</strong> Labeling of Diagnostic Studies</td>
<td>Implement standardized policies, processes, and systems to ensure accurate labeling of radiographs, laboratory specimens, or other diagnostic studies, so that the right study is labeled for the right patient at the right time.</td>
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<td><strong>Safe Practice 15:</strong> Discharge Systems</td>
<td>A “discharge plan” must be prepared for each patient at the time of hospital discharge, and a concise discharge summary must be prepared for and relayed to the clinical caregiver accepting responsibility for postdischarge care in a timely manner. Organizations must ensure that there is confirmation of receipt of the discharge information by the independent licensed practitioner who will assume the responsibility for care after discharge.</td>
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<tr>
<td><strong>Safe Practice 16:</strong> Safe Adoption of Computerized Prescriber Order Entry</td>
<td>Implement a computerized prescriber order entry (CPOE) system built upon the requisite foundation of re-engineered evidence-based care, an assurance of healthcare organization staff and independent practitioner readiness, and an integrated information technology infrastructure.</td>
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<td><strong>Safe Practice 17:</strong> Medication Reconciliation</td>
<td>The healthcare organization must develop, reconcile, and communicate an accurate patient medication list throughout the continuum of care.</td>
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<td><strong>Safe Practice 18:</strong> Pharmacist Leadership Structures and Systems</td>
<td>Pharmacy leaders should have an active role on the administrative leadership team that reflects their authority and accountability for medication management systems performance across the organization.</td>
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<td><strong>Safe Practice 19:</strong> Hand Hygiene</td>
<td>Comply with current Centers for Disease Control and Prevention Hand Hygiene Guidelines.</td>
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<tr>
<td><strong>Safe Practice 20:</strong> Influenza Prevention</td>
<td>Comply with current Centers for Disease Control and Prevention (CDC) recommendations for influenza vaccinations for healthcare personnel and the annual recommendations of the CDC Advisory Committee on Immunization Practices for individual influenza prevention and control.</td>
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<tr>
<td><strong>Safe Practice 21:</strong> Central Line-Associated Bloodstream Infection Prevention</td>
<td>Take actions to prevent central line-associated bloodstream infection by implementing evidence-based intervention practices.</td>
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<td><strong>Safe Practice 22: Surgical-Site Infection Prevention</strong></td>
<td>Take actions to prevent surgical-site infections by implementing evidence-based intervention practices. <em>Safe Practice 22 is currently under ad hoc review by an expert panel. This practice will be updated in the coming months to reflect the review decision.</em></td>
</tr>
<tr>
<td><strong>Safe Practice 23: Care of the Ventilated Patient</strong></td>
<td>Take actions to prevent complications associated with ventilated patients: specifically, ventilator-associated pneumonia, venous thromboembolism, peptic ulcer disease, dental complications, and pressure ulcers.</td>
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| **Safe Practice 24: Multidrug-Resistant Organism Prevention**                | Implement a systematic multidrug-resistant organism (MDRO) eradication program built upon the fundamental elements of infection control, an evidence-based approach, assurance of the hospital staff and independent practitioner readiness, and a re-engineered identification and care process for those patients with or at risk for MDRO infections.  
Note: This practice applies to, but is not limited to, epidemiologically important organisms such as methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant *enterococci*, and *Clostridium difficile*. Multidrug-resistant gram-negative bacilli, such as *Enterobacter* species, *Klebsiella* species, *Pseudomonas* species, and *Escherichia coli*, and vancomycin-resistant *Staphylococcus aureus*, should be evaluated for inclusion on a local system level based on organizational risk assessments. |
<p>| <strong>Safe Practice 25: Catheter-Associated Urinary Tract Infection Prevention</strong>  | Take actions to prevent catheter-associated urinary tract infection by implementing evidence-based intervention practices.                                                                                                                                                                                                                                               |
| <strong>Safe Practice 26: Wrong-Site, Wrong-Procedure, Wrong-Person Surgery Prevention</strong> | Implement the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery™ for all invasive procedures.                                                                                                                                                                                                                                          |
| <strong>Safe Practice 27: Pressure Ulcer Prevention</strong>                              | Take actions to prevent pressure ulcers by implementing evidence-based intervention practices.                                                                                                                                                                                                                                                                           |
| <strong>Safe Practice 28: Venous Thromboembolism Prevention</strong>                      | Evaluate each patient upon admission, and regularly thereafter, for the risk of developing venous thromboembolism. Utilize clinically appropriate, evidence-based methods of thromboprophylaxis.                                                                                                                                                                           |</p>
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<td>Safe Practice 29: Anticoagulation Therapy</td>
<td>Organizations should implement practices to prevent patient harm due to anticoagulant therapy.</td>
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<tr>
<td>Safe Practice 30: Contrast Media-Induced Renal Failure Prevention</td>
<td>Utilize validated protocols to evaluate patients who are at risk for contrast media-induced renal failure and gadolinium-associated nephrogenic systemic fibrosis, and utilize a clinically appropriate method for reducing the risk of adverse events based on the patient’s risk evaluations.</td>
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<tr>
<td>Safe Practice 31: Organ Donation</td>
<td>Hospital policies that are consistent with applicable law and regulations should be in place and should address patient and family preferences for organ donation, as well as specify the roles and desired outcomes for every stage of the donation process.</td>
</tr>
<tr>
<td>Safe Practice 32: Glycemic Control</td>
<td>Take actions to improve glycemic control by implementing evidence-based intervention practices that prevent hypoglycemia and optimize the care of patients with hyperglycemia and diabetes.</td>
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<tr>
<td>Safe Practice 33: Falls Prevention</td>
<td>Take actions to prevent patient falls and to reduce fall-related injuries by implementing evidence-based intervention practices.</td>
</tr>
<tr>
<td>Safe Practice 34: Pediatric Imaging</td>
<td>When CT imaging studies are undertaken on children, “child-size” techniques should be used to reduce unnecessary exposure to ionizing radiation.</td>
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Chapter 2: Improving Patient Safety by Creating and Sustaining a Culture of Safety

Background

As the decade closes, there is universal agreement that dramatic transformation will be required to make healthcare safe and financially sustainable in the United States. There is also the uniform belief that the responsibility for such transformation lies squarely on the shoulders of healthcare leaders. Leaders from suppliers of technologies and services, to providers of care, and purchasers of care across the healthcare value chain must all move to priorities. A move from a revenue-centered focus to a patient-centered focus with responsible stewardship of resources is important. Blind cost-cutting will only make healthcare increasingly unsafe. Proper and thoughtful investment of financial and talent resources will be required to maintain the sacred trust of patients and communities served. Governance, administrative, and clinical leaders must all act independently and collectively on teams in their local communities.

The practice of modern healthcare encompasses an exceedingly complex set of activities, one that is highly dependent on the actions of human beings and that combines a variety of sophisticated technologies that are capable of both healing and causing significant harm. This combination of complex processes, dependence on human performance, and powerful technologies makes healthcare a high-risk and error-prone enterprise fraught with the potential for multisystems failures. Yet although the serious problem of healthcare errors has been increasingly recognized over the past 50 years, healthcare as an industry has been slow to address safety improvement as a priority. Indeed, compared to other high-risk industries, healthcare’s approach to safety can be described as lackluster, at best. In fact, only modest progress has been made since the Institute of Medicine’s (IOM’s) report To Err Is Human was published in 2000.

A number of barriers impede the improvement of the safety of healthcare, including both the medical and larger societal culture that perpetuate the myth that “good” healthcare professionals will perform perfectly and, conversely, that adverse events are caused by
carelessness, negligence, or incompetence. Other barriers include medical-legal and liability concerns that stifle open communication about safety problems and data sharing; a lack of awareness of the prevalence of healthcare errors and adverse events; a lack of effective reporting systems; a lack of systems thinking and knowledge about the systemic nature of healthcare errors; and a lack of leadership with respect to safety.

In most settings today, the high-risk, error-prone nature of modern healthcare and the shared responsibility for risk reduction are not widely recognized. Free and open communication and nonpunitive reporting of adverse events and patient safety concerns are not the norm, and organizational objectives and rewards are not clearly aligned with the goal of improving patient safety. To address these issues, there is a need to promote a culture of safety in all healthcare settings—a safety-conscious culture demonstrating the values, attitudes, competencies, and behaviors that determine the commitment to health and safety management. Additionally, such a culture overtly encourages and supports the reporting of any situation or circumstance that threatens, or potentially threatens, the safety of patients, caregivers, healthcare personnel, or visitors and views the occurrence of errors and adverse events as opportunities to make the healthcare system better.

Dispelling any magical thinking that safety is an easy fix through technology acquisition is critical to recognize. Without reorganization of workflow to adopt technologies safely, these new technologies can be even more dangerous than existing care delivery.

This chapter describes the four safe practices involved in creating and sustaining a patient safety culture, which involve leadership structures and systems; culture measurement, feedback, and intervention; teamwork training and skill building; and the identification and mitigation of risks and hazards.

Leaders drive values, values drive behaviors, and the collective behaviors of the individuals in an organization define its culture. Leaders must be involved in creating the transformational change that is required to develop and sustain a culture of safety, and leadership structures and systems should be established and maintained to ensure that engagement. In the end, results are all about meshing strategies with execution of tactics targeting line-of-sight objectives that, in sequence, can achieve the preferred destination. This requires a cadence of accountability and a continuous rhythm of leadership engagement—from the top down. Midlevel managers and front-line leaders are a vital link.

Although the manifestations of culture can be measured, measurement by itself is not enough. It must be coupled with feedback systems and performance improvement activities that can inspire the entire organization. Culture measurement is vital to front-line clinicians and staff when the results are provided with specificity to the unit level. Likewise, although teamwork is central to transformational culture change, more than teamwork training is needed. Skill building, team-centered interventions, and projects that have finite patient safety aims are required.
Finally, the identification of risks and hazards should be undertaken with an integrated, systematic, and regular reporting approach to historical events, near real-time assessment of risks, and prospective evaluation of risk in order to prevent future systems failures. Although the focus of these and subsequent safe practices is patient safety, the safety of others in the healthcare setting is also important and should be addressed within an organization’s overall safety program. These four safe practices were originally elements of one practice in the 2006 update, were enhanced for the 2009 update, and references as well as implementation information have been updated for 2010. They continue to be enhanced to emphasize accountability and ease of implementation for leaders within healthcare organizations.
SAFE PRACTICE 1: CULTURE OF SAFETY LEADERSHIP STRUCTURES AND SYSTEMS

The Objective
Ensure that healthcare organizations establish and nurture the leadership structures and systems that drive the values, behaviors, and performance necessary to create and sustain a healthcare culture of safety.

The Problem
Leadership by trustees, chief executive officers (CEOs), physicians, and other personnel across all departments and services is the single most important factor in turning the barriers to awareness, accountability, ability, and action into accelerators of performance improvement and transformation. [Govier, 2009; Gowen, 2009] This “4A framework” is embedded in prior National Quality Forum (NQF)-endorsed safe practices and now in pay-for-performance systems used by healthcare purchasers. [Weiner, 1997; Denham, 2005; NQF, 2007; LFG, 2008]

According to The Joint Commission, leadership failure is one of the most frequent causes of sentinel events. Failure of execution of governance and administrative leadership strategies by midlevel managers is a major component of the problem. [Denham, 2008] Engagement of governance boards in quality and safety directly affects their organizations’ performance. Interestingly, a survey of more than 1,000 governance board chairman by Jha and Epstein revealed that 58 percent of those from hospitals in the bottom decile of quality believed that they were above average, and no respondent reported that their performance was worse than that of the typical U.S. hospital. [Jha, 2009] Another survey of hospital and system leaders found that 80 percent of the 562 responding CEOs indicated that their governance boards establish strategic goals for quality improvement [Jiang, 2008] or use quality dashboards to track performance and follow up on corrective actions related to adverse events. [Levinson, 2008] Despite this progress, only 61 percent of responding CEOs indicated that their governance boards have a quality committee. Studies of organizations from all industry sectors reveal that failure in reliability and systems performance stems from inconsistent execution more than from failure of strategy. [Bossidy, 2002] Quality, value, cost, speed, and trust are intrinsically interdependent and tightly coupled. [Covey, 2006; Denham, 2007; Denham, 2009] These business laws must be respected and leveraged by leaders. Successful centers that have been studied are more likely to have a shared sense of purpose, leaders with a hands-on leadership style, and clear accountability structures. [Keroack, 2007; Frankel, 2006]

While the severity of harm resulting from inadequate performance of leadership structures and systems that are driven by a commitment to quality cannot be definitively quantified, chronic failure of consistent execution plagues all industries. Severe shortfalls in performance are seen across organizations throughout the entire healthcare industry. [Denham, 2009c] Preventability of harm to patients and sustainable transformation to a higher state of reliability is directly related to governance board engagement and administrative execution. [Govier, 2009; Gowen, 2009] For instance, having a governance board quality committee was associated with lower mortality rates for six common medical conditions measured by the Agency for Healthcare Research and Quality’s (AHRQ’s) Inpatient Quality Indicators and State Inpatient Data-bases.
Quality leaders have found that hospital boards are more successful when they set specific aims to reduce harm and make a public commitment to measurable quality improvement. [Wang, 2006; Conway, 2008; Jha, 2009]

Successful boards and administrators use actionable information to drive performance. Successful organizations have used performance improvement models that make the status quo uncomfortable and the future attractive by leveraging will, ideas, and execution. [Reinertsen, 2008] They encourage organizational learning by studying and translating best practices from top performers within and outside of healthcare and become skilled at systematic problem-solving, experimenting with new approaches, learning from best practices of others, and transferring knowledge quickly and efficiently throughout the organization. [Garvin, 1993; Garvin, 2008] They leverage financial and quality crises to galvanize the will to improve. [George, 2009]

Costs associated with leadership structures and systems failures and the impact of improvement are difficult to delineate. When adverse events occur, there is significant cost impact on an organization, and costs can be direct, indirect, tangible, and intangible. Costs most frequently cited are those direct costs generated by event management, including malpractice. Intangible and indirect costs can be huge, such as brand erosion, which is expensive and sometimes impossible to reverse. Leaders must insist on investing in infrastructure, and the infrastructure of the healthcare system must be capable of supporting the measurement of progress and the translation of practices into action. [Alexander, 2006; Pronovost, 2008; Denham, 2009d]

Measurement is critical. In the words of Don Berwick, leader of one of the most successful patient safety campaigns in the history of U.S. healthcare: “Some is not a number, soon is not a time.” [IHI, 2009m]

In 2008, NQF convened the National Priorities Partnership, a diverse group of 28 national organizations representing those who receive, pay for, deliver, and evaluate healthcare. This group expanded to 32 stakeholders in 2009. The Partnership identified six National Priorities that target reform in ways that will eliminate waste, harm, and disparities to create and expand world-class, patient-centered, affordable healthcare. The six National Priorities are:

- patient and family engagement, to provide patient-centered, effective care;
- population health, to bring greater focus on wellness and prevention starting in our communities;
- safety, to improve reliability and eliminate errors wherever and whenever possible;
- care coordination, to provide patient-centered, high-value care;
- palliative and end-of-life care, to guarantee appropriate and compassionate care for patients with advanced illnesses; and
- overuse, to remove waste, encourage appropriate use, and achieve effective, affordable care. [NPP, 2009]

Without the engagement of governance and administrative leaders, these Priorities cannot be tackled.

Leaders must first know about performance gaps before they can commit to adopting an innovative idea or process that will address them. Unfortunately, few leaders are fully aware of the magnitude of the problems that are common to organizations like their own. Fewer still are completely aware of the performance gaps at their specific organization, as found by Jha et al. described above.
These gaps can be identified only by directly measuring them and by communicating the results of such measurement to the appropriate leadership teams. Although initiatives such as pay for performance are causing many to focus on quality as a strategic priority, few leaders are held directly and personally accountable for closing specific and measurable patient safety performance gaps. [Conway, 2008; Wang, 2006] However, in order to spur the adoption of needed innovations, leaders must be held accountable for closing these gaps. In addition, organizations should be held accountable to their patients, to their communities, and to the national community through public reporting. Even leaders who are aware of performance gaps and who are held accountable for those gaps will fail to close them if their organizations do not have the ability to adopt new practices and technologies. The dimension of ability may be measured as capacity and competency, and it requires an investment in knowledge, skills, staff time, and line-item budget allocations. Finally, to accelerate the adoption of innovative practices, organizations need to take explicit actions toward line-of-sight targets that close performance gaps that can be easily measured.

Leaders drive values, values drive behaviors, and behaviors drive performance. The collective behaviors of an organization define its culture. [Denham, 2007b] Great cultures embody talent, passion, and hard work. [Gladwell, 2008] The adoption of all of the safe practices presented in this report hinges on our leadership. Fear is an enemy that never sleeps: fear of failure, fear of malpractice, and even fear of admitting that organizations can do better. Through faith in core values, leaders can use the safe practices as a blueprint for their road ahead.

**Safe Practice Statement**

Leadership structures and systems must be established to ensure that there is organization-wide awareness of patient safety performance gaps, direct accountability of leaders for those gaps, and adequate investment in performance improvement abilities, and that actions are taken to ensure safe care of every patient served.

**Additional Specifications**

**Awareness Structures and Systems:** Structures and systems should be in place to provide a continuous flow of information to leaders from multiple sources about the risks, hazards, and performance gaps that contribute to patient safety issues. [Botwinick, 2006]

- **Identification of Risks and Hazards:** Governance boards and senior administrative leaders should be regularly and thoroughly briefed on the results of activities undertaken as defined by the Identification and Mitigation of Risks and Hazards safe practice. [Reason, 1997; Botwinick, 2006; Morath, 2006; IHI, 2009]

- **Culture Measurement, Feedback, and Intervention:** Governance boards and senior administrative leaders should be regularly and thoroughly briefed on the results of culture measurement and performance improvement initiatives addressed in the Culture Measurement, Feedback, and Intervention safe practice. [Botwinick, 2006; Conway, 2008]

- **Direct Patient Input:** A structure and system should be established to obtain direct feedback from patients about the performance of the organization. Information from
satisfaction surveys is not enough—patients and/or patient families representing the population served should be included in the design of educational meetings or should participate on formal committees that provide input to the leadership on the management of safety and quality issues within the hospital. [Rider, 2002; IHI, 2009]

Governance Board and Senior Management Briefings/Meetings: Patient safety risks, hazards, and progress toward performance improvement objectives should be addressed at every board meeting and should be documented by meeting agendas and minutes. [IHI, 2009a] Such meetings and documentation systems should ensure that organizational leadership is kept knowledgeable about patient safety issues present within the organization and is continuously involved in processes to ensure that the issues are appropriately addressed and that patient safety is improved. [Conway, 2008]

Accountability Structures and Systems:
Structures and systems should be established to ensure that there is direct accountability of the governance board, senior administrative management, midlevel management, physician leaders (independent and employed by the organization), and frontline caregivers to close certain performance gaps and to adopt certain patient safety practices.

Patient Safety Program: An integrated patient safety program should be implemented throughout the healthcare organization. This program should provide oversight, ensure the alignment of patient safety activities, and provide opportunities for all individuals who work in the organization to be educated and participate in safety and quality initiatives. Leaders should create an environment in which safety and quality issues are openly discussed. A just culture should be fostered in which frontline personnel feel comfortable disclosing errors—including their own—while maintaining professional accountability. [Botwinick, 2006]

Patient Safety Officer: The organization should appoint or employ a Patient Safety Officer who is the primary point of contact for questions about patient safety and who coordinates patient safety for education and the deployment of system changes. Governance boards and senior administrative leaders should support leaders in patient safety to ensure that there is compliance with the specifications of this safe practice. [Denham, 2007b; Denham, 2009d]

Direct Organization-Wide Leadership Accountability: Governance and senior management should have direct accountability for safety in the organization, including setting patient safety goals, ensuring that resources are provided to address those goals, and monitoring progress toward their achievement. [Botwinick, 2006; IHI, 2009h]

The Patient Safety Officer: Should have direct and regular communication with governance leaders and senior administrative management. [Denham, 2007b; Denham, 2009d] Senior administrative leaders and leaders of clinical service lines and units should be held accountable for closing patient safety performance gaps. Performance should be documented using methods such as performance reviews and/or compensation incentives. [Botwinick, 2006]

Interdisciplinary Patient Safety Committee: Leaders should establish and support an interdisciplinary patient safety improvement committee(s) or equivalent structure(s) that is (are) responsible for creating, implementing, and administering mechanisms to oversee root cause analyses of every appropriate incident and provide feedback to frontline
workers about lessons learned, disclose the organization’s progress toward implementing safe practices, and provide professional training and practice in teamwork techniques (e.g., anesthesia crisis management, aviation-style crew resource management, medical team management). [TJC, 2009; JCR, 2010] See the Identification and Mitigation of Risks and Hazards and Teamwork Training and Skill Building safe practices for detailed specifications. [Botwinick, 2006]

**External Reporting Activities:** Organizations should report adverse events to the appropriate external mandatory programs and voluntary programs as well as encourage voluntary practitioner reporting. Organizations should publicly disclose compliance with all National Quality Forum-endorsed® safe practices for public reporting that are applicable to the facility. [Kohn, 2000]

**Structures- and Systems-Driving Ability:** Capacity, resources, and competency are critical to the ability of organizations to implement changes in their culture and in patient safety performance. Systematic and regular assessment of resource allocations to key systems should be undertaken to ensure performance in patient safety. On a regular, periodic basis determined by the organization, governance boards and senior administrative leaders should assess each of the following areas for the adequacy of funding and should document the actions taken to adjust resource allocations to ensure that patient safety is adequately funded: [IHI, 2009f; TJC, 2009; JCR, 2010]

**Patient Safety Budgets:** Specific budget allocations for initiatives that drive patient safety should be evaluated by governance boards and senior administrative leaders. Such evaluations should include the detailed context of information from the activities defined in the Identification and Mitigation of Risks and Hazards safe practice. Designating a Patient Safety Officer or someone in charge of patient safety without providing the appropriate staffing infrastructure or budget is an example of inadequate resource allocation.

**People Systems:** Human resource issues should be addressed with direct input from the activities included in the Identification and Mitigation of Risks and Hazards safe practice, as well as those included in Safe Practices 9 and 10 relating to nurse staffing and direct caregiver staffing levels, competency, and training/orientation. [Denham, 2009d; IHI, 2009c]

**Quality Systems:** Quality systems and structures such as performance improvement programs and quality departments should be adequately funded, actively managed, and regularly evaluated for effectiveness and resource needs. [IHI, 2009g]

**Technology Systems:** Budgets for technologies that can enable safe practices should be regularly evaluated to ensure that patient safety impact can be optimized. [IHI, 2009g]

**Action Structures and Systems:** Structures and systems should be put in place to ensure that leaders take direct and specific actions, including those defined below.

**Performance Improvement Programs:** Leaders should document the actions taken to verify that the remedial activities that are identified through the analysis of reported patient safety events are implemented, are effective, and do not cause unintended adverse consequences. Leaders should
establish patient safety priorities for performance improvement. The direct participation of governance board members and senior administrative leaders should be documented, as specified in the Identification and Mitigation of Risks and Hazards safe practice, to satisfy this requirement. [IHI, 2009k]

Regular Actions of Governance:

- Confirmation of Values: Governance leaders should regularly confirm that senior administrative leadership is continuously ensuring that the values of the organization are mirrored by the behaviors of the staff and caregivers and that those values drive safety and performance improvement in the organization. At least annually, the board should document that it has confirmed that the behaviors of the organization related to quality and safety mirror its values with respect to patient safety. [IHI, 2009d; IHI, 2009e; TJC, 2009; JCR, 2010]

- Basic Teamwork Training and Interventions Briefings: Governance board members should receive a dedicated period of basic training in teamwork, communication, and patient safety per board member per year as determined by the board and as documented by agendas and attendance records.

- Governance Board Competency in Patient Safety: The governance board should take a systematic approach to ensuring that board members’ command of patient safety knowledge is adequate to support the organization. At least annually, the board should discuss its own competency and document its strategy for ensuring that all existing and new board members are well versed in patient safety. [IHI, 2008]

Regular Actions of Senior Administrative Leadership: The actions of the CEO and senior leaders have a critical impact on the safety of every organization. Such actions should be informed, monitored, and directed by an engaged governance leadership on a regular basis. [IHI, 2008]

- Time Commitment to Patient Safety: The CEO and senior administrative leaders should systematically designate a certain amount of time for patient safety activities (e.g., weekly walk-rounds and regular patient safety-related sessions at executive staff and governance meetings). Leaders should establish structures and systems to ensure that they are personally reinforcing the principles of patient safety regularly and continuously to staff at all levels of the organization. They should provide feedback to frontline healthcare providers about lessons learned regarding patient safety from outside sources and from within the organization.

- Culture Measurement, Feedback, and Interventions: The CEO and senior administrative leaders should be directly involved in the application of the knowledge that is generated by the measurement of culture as defined in the specifications of the Culture Measurement, Feedback, and Intervention safe practice.

- Basic Teamwork Training and Team Interventions: The CEO and senior administrative leaders should be directly involved in ensuring that the organization implements the activities detailed in the specifications of the Teamwork Training and Skill Building safe practice. This includes participating in the defined basic training program.
• Identification and Mitigation of Risks and Hazards: The CEO and senior administrative leaders should be continuously engaged in the activities addressed in the specifications of the Identification and Mitigation of Risks and Hazards safe practice. The actions taken to mitigate risks and hazards must be championed by senior administrative leaders with the support of the governance board. Such actions are vital to creating and sustaining a culture of patient safety.

- Regular Actions of Unit, Service Line, Departmental, and Midlevel Management Leaders: The entire leadership structure of an organization should be fully engaged in the patient safety activities addressed in Safe Practice 1: Leadership Structures and Systems. Leaders at all levels and in all clinical areas, including employed clinicians, should be continuously and actively engaged in the pursuit of patient safety. The CEO and senior administrative management should ensure that all leaders have the opportunity to lead and support patient safety activities.

- Regular Actions with Respect to Independent Medical Leaders: Governance and senior administrative leaders should establish the systems and structures needed to ensure that medical leaders in independent practice as well as those employed by the organization have regular and frequent opportunities to provide direct input to patient safety programs.

Applicable Clinical Care Settings

This practice is applicable to Centers for Medicare & Medicaid Services care settings, to include ambulatory, ambulatory surgical center, emergency room, dialysis facility, home care, home health services/agency, hospice, inpatient service/hospital, outpatient hospital, and skilled nursing facility.

Example Implementation Approaches

Governance boards and senior administrative leaders should be briefed on all practice elements of Chapter 2, which includes Safe Practices 1 through 4, to understand how tightly linked they are and how many of the activities overlap. Then a systematic strategy should be employed to establish the systems, structures, and resource requirements for implementation. Governance boards and senior administrative leaders should become personally involved in patient safety to comply with the practices that will constitute the first step in transforming the culture of the organization. [Denham, 2009c; Denham, 2009d; Kanter, 2009]

- There is consensus among leaders from quality, certifying, and purchasing organizations that traditional infection control departments and structures are failing to deliver the prevention of infections we know is possible. Governance and administrative leaders should consider a “chasing zero” approach and can use the framework of this practice to integrate performance improvement infection control and management of real risk beyond malpractice claims. This will require new structures and systems. [Denham, 2009a; Denham, 2009b] They not only include restructuring how people work together, but also by using evolving health information technologies. [Denham, 2009b; Denham, 2009e]

- The power of stories can be used as a vehicle to communicate the critical concepts of medical errors and harm data. Stories bring life to cold statistics of harm that can ignite passion and prompt action. [Denham, 2009e, Denning, 2005] Great leaders can use storytelling to engage the heart and the
mind, so that they can put the hands to work. Leading organizations use stories of their own patients who have been harmed in their care. Safety leaders have used stories that embed safety principles with great utility [Nance, 2008], and even videos of stories from other hospitals have been found to galvanize resolve of leaders to pursue major objectives that have led to their success. [Pryor, 2007; Pryor, 2008; TMIT, N.D.] Success stories sustain missions and refresh resolve. [George, 2003]

Strategies of Progressive Organizations

- Some organizations have declared that governance board members will spend equal time on financial issues and quality/safety issues in their meetings and activities. Others have established an external multidisciplinary committee that includes external experts and patients and that reviews all incidents. Certain organizations have taken entire leadership teams and much of their staff through training in other industries and in other countries to learn leadership and performance improvement methods.

- High-performing organizations understand three critical issues, described in the literature, that impact execution:
  - Execution is integral to strategy, it is a major responsibility of the leader, and it is core to the organization’s culture, behavior, and reward system. If the strategy is not achievable—that is, not mapped to skills, resources, and assets of the organization—success is unlikely. [Kanter, 1983]
  - The leader must be engaged in the execution of the strategy to adjust goals and priorities or make available additional resources to overcome barriers in a timely manner. [Nance, 2008]
  - The leader has a direct impact on the behaviors of the employees, by joining in the execution of the strategy and clarifying the expected results and aligning the rewards system. The leader must ensure the right person for the right role, and with execution as part of the expected behavior, it becomes part the culture. [Collins, 2001; Bossidy, 2002; Covey, 2006; Gladwell, 2008; IHI, 2009]

Opportunities for Patient and Family Involvement

- Create an environment that supports patient safety by listening to patients and families.
- Include patients and/or family members on boards of governance and on executive walk-rounds. [NPP, 2009]
- Some organizations may even consider including patients and families in root cause analyses, both for cases they are directly involved in and for cases of other patients, to ensure that there is accountability to the community.

Outcome, Process, Structure, and Patient-Centered Measures

These performance measures are suggested for consideration to support internal healthcare organization quality improvement efforts, and may not necessarily address all external reporting needs. This safe practice will affect systems across the organization; thus, the list of impact metrics is long and will grow over time. Some of the metrics for this safe practice are listed below as examples. The force of transparency will drive public reporting of many of them.
**Outcome Measures** include improved discrete clinical practices and processes, as well as the absence of systems failures; improved operational and financial outcomes; and improved workforce-related benefits.

**Process Measures** include compliance with the defined specifications of this safe practice, including documentation of activities such as meetings, assessments, and actions taken.

**Structure Measures** include actions such as the appointment of a patient safety officer or other designated person for such responsibilities, and the creation of multidisciplinary committees, standing meetings, and frameworks that ensure that the activities defined in the safe practice specifications are accomplished.

**Patient-Centered Measures** include (but are not limited to) feedback from patients through satisfaction surveys, and direct input from patients and families to senior administrative management about the dimensions of patient-centered care, such as how well the organization:

- respects patients’ values, preferences, and expressed needs;
- succeeds at fostering continual collaboration, coordination, and integration of care among providers and across conditions and settings;
- makes care information accessible and customized to the patient;
- fosters good communication and education, including self-efficacy and self-management skills for patients and families, and provides easy access to decision support tools;
- prioritizes the physical comfort of patients;
- provides emotional support and the relief of fear and anxiety for patients;
- involves family and friends in care; and
- ensures access to care.

**Settings of Care Considerations**

**Rural Healthcare Settings:** All rural healthcare settings should comply with the relevant specifications of this safe practice. Although small, rural organizations may have more resource constraints than larger urban or suburban organizations, great efficiencies can be realized by participating in the national safety and quality collaborative initiatives of similar organizations. Alliances with these organizations in noncompetitive service areas provide significant opportunities for sharing information and identifying resources.

**Children’s Healthcare Settings:** All children’s healthcare settings should comply with the relevant specifications of this safe practice. Some of the most progressive work in patient safety, leadership structures and systems, and disclosure can be found in these settings.

**Specialty Healthcare Settings:** All specialty healthcare settings should comply with the relevant specifications of this practice. National alliances and collaborative initiatives provide rich opportunities to realize efficiencies in information and resource sharing.

**New Horizons and Areas for Research**

That leadership is critical to patient safety is clear to academics, frontline caregivers, and patients. Leaders should become aware of the performance gaps that can harm patients;
should be held accountable for taking actions that will close those gaps; should invest in the ability of their organizations to improve in these areas; and should clearly understand how they can create an environment in which explicit actions affecting patient safety will become a priority. More research is needed to help design the structures and systems that must be established to support leaders. Research in the development of the necessary concepts, tools, and resources should be undertaken, including efforts that focus on the application of concepts in high reliability, [Hines; 2008] tools such as performance dashboards, and resources such as educational programs for governance board members and leadership teams, and near-real-time risk management support. The World Health Organization’s (WHO) 19-item checklist for surgical patient safety has been estimated to save one in 144 surgical patients’ lives. [Haynes, 2009] Although further research is needed to validate other system checklists and composite activities that reduce harm to patients, it is critical that even non-clinical governance and administrative leaders become aware of such powerful tools. [Gawande, 2009] Finally, governance, administrative, and clinical leaders must recognize the critical need for investment in midlevel and upper administrative management who are in desperate need of skills and knowledge in order to fulfill their roles in translating vision and strategy into action and results. They need training in people skills of talent recruitment and management, applied leadership skills to practically move their troops to new destinations, healthcare systems knowledge to know how their silo activities help or hurt organizational performance, and performance improvement know-how. The future will be owned by those who improve at improving.

Other Relevant Safe Practices

All NQF safe practices are influenced by the safe practice of Leadership Structures and Systems.

Notes


JCR, 2010: Joint Commission Resources (JCR). 2010 Comprehensive Accreditation Manual: CAMH for Hospitals: The Official Handbook. Standards LD.03.03.01; LD.03.02.01; LD.03.01.01; LD.04.04.05; and PI.01.01.01. Oak Brook (IL): Joint Commission Resources; 2010.


SAFE PRACTICE 2:
CULTURE MEASUREMENT,
FEEDBACK, AND INTERVENTION

The Objective

Ensure that organizations are measuring their patient safety culture, providing feedback to all levels of the organization, and, most importantly, undertaking interventions that generate improvements that reduce patient harm.

The Problem

Since achieving its own high-risk designation from the Institute of Medicine (IOM) a decade ago, healthcare has intensified its activities to measure safety culture and to develop interventions to improve it. [Kohn, 2000] While a universal definition or model of safety culture has not emerged, several definitions have gained popularity. One such definition of safety culture is “the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to and style and proficiency of an organization’s health and safety management.” [Health and Safety Commission, 1993] Another definition more succinctly describes safety culture as “the way we do things around here.” [Helmreich, 1998] Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures. [Health and Safety Commission, 1993; Denham, 2007] There are no estimates on the frequency of medical errors or adverse events resulting from deficient or suboptimal safety culture, but it is known to be a contributing factor to their occurrences. [Pizzi, 2001] An organization’s safety culture determines the degree of personal risk an individual provider will take to protect the safety of his or her patients, thereby maximizing the safety of the unit and hospital. Its contribution to medical errors and adverse outcomes becomes elevated in relation to other factors when the perceived risk of being blamed or punished for mistakes is high. [Denham, 2007]

The severity of harm resulting directly from the effects of poor safety culture is unknown and possibly immeasurable. [Pizzi, 2001] However, history shows us that the consequences of poor safety culture can range from no harm (i.e., safe operations) to death. Safety improvements in aviation and steel production illustrate the positive effects of a strong safety culture on organizational performance. [Clark 1991; Spears, 1999; Helmreich, 1999]

Safety culture and the preventability of medical errors or adverse events are difficult to measure because they change continually over time. Survey instruments may be used to measure safety climate, which has been described as a “snapshot” of an organization’s safety culture. Safety climate is the measurement of the workforce’s attitudes and perceptions of the current environment or prevailing conditions at a point in time. [Flin, 2000] There are numerous surveys that measure patient safety climate. [Colla, 2007] While many hospitals are actively using or implementing safety improvement strategies based on culture measurement, the effectiveness of such strategies has not been proven. [Ginsburg, 2005; Nakajima, 2005; Thomas, 2005; Fleming, 2008; McKeon, 2008; Pronovost, 2008; Zimmerman, 2008] The need persists for systematic quantitative and qualitative analyses of interventions to create a safe culture. [Pizzi, 2001]

Currently, there is no standard to estimate the cost of poor safety culture to a clinical unit, a hospital, or a hospital system. However,
IOM firmly established that the safety culture of the U.S. healthcare system is deeply flawed and is the root cause of substandard care delivery.

Safe Practice Statement

Healthcare organizations must measure their culture, provide feedback to the leadership and staff, and undertake interventions that will reduce patient safety risk. [AHRQ, 2009; AHRQ, N.D.; JCR, 2010]

Additional Specifications

- At least annually, leaders should assess the organization’s safety and quality culture using a survey tool that is selected with consideration of validity, consistency, and reliability in the setting in which it will be applied and that is conceptualized around domains that are applicable to performance improvement (PI) initiatives/efforts such as teamwork, leadership, communication, and openness to reporting. [Deilkås, 2008; IHI, 2009; Relihan, 2009]
  - Survey a census of units or service areas that in aggregate deliver care to more than 50 percent of the patients receiving care.
  - Measure service lines or units where there is a high patient safety risk.
  - Identify and prioritize culture PI targets; provide adequate resources to address performance gaps over a specified period of time.
  - Survey a valid sample to allow unit-level analysis and facilitate improvement.

- Critical care areas and services and high-volume and high-risk areas should be surveyed (e.g., emergency department, outpatient surgical services, diagnostic centers) and should include, in the aggregate, ambulatory totals to determine which of these areas should be targeted initially. [Donnelly, 2009; Kaafarani, 2009; Pater, 2009]

- The results of the culture survey process should be documented and disseminated widely across the enterprise in a systematic and frequent manner. [Audet, 2008; Chadwick, 2009; Hutchinson, 2009] The interventions component of this safe practice will be satisfied if the survey findings are documented and have been used to monitor and guide performance improvement interventions. [Pronovost, 2005a; Sexton, 2006; Sexton, 2007; Pringle, 2009]

- The organization should document that the results of the survey process, as defined in the Leadership Structures and Systems safe practice and by the activities defined in the Teamwork Training and Skill Building and the Identification and Mitigation of Risks and Hazards safe practices, have been provided to governance and senior medical leaders. [IHI, N.D.]

Applicable Clinical Care Settings

This practice is applicable to Centers for Medicare & Medicaid Services care settings, to include ambulatory, ambulatory surgical center, emergency room, dialysis facility, home care, home health services/agency, hospice, inpatient service/hospital, outpatient hospital, and skilled nursing facility.

Example Implementation Approaches

- Organizations measure culture by using proprietary surveys and/or those found in the public domain. What is important is that the leadership and those implementing
these surveys understand their aims and their limits, and ensure that they are building feedback processes and interventions into their designs.

Some organizations are undertaking cultural measurement in certain subsets of the workforce against performance improvement goals to reduce specific adverse events. Although not enterprise wide, such subset assessments of culture tied to safety outcomes are valuable, and due to the narrower scope may be more easily done on a quarterly basis to inform performance improvement activities.

Using validated surveys to assess culture should be done at the unit or care area level across the entire organization. The unit level needs assessment, then guides leadership for resource needs and quality improvement. [Pronovost, 2005b; Sexton, 2005; Rose, 2006; Huang, 2007]

Strategies of Progressive Organizations

Some organizations have embraced culture measurement, feedback, and interventions with vigor. They are measuring culture in an organization-wide fashion, linking broad performance improvement programs to patient safety performance gaps, and correlating the outcomes to culture measurement. Staff turnover, retention, job satisfaction, and teamwork can be correlated with operations and financial impact.

Outcome Measures should be correlated with other patient safety measures that are related to clinical care. Staff turnover, staff retention, job satisfaction, and teamwork can be correlated with operations and financial impact.

Process Measures include survey response rates, the percentage of total staff surveyed, reliability, consistency, representation, and other measures pertinent to the survey tools used. These metrics relate to the domains assessed and other considerations pertinent to the survey groups.

Structure Measures pertain to the structural elements put into place to ensure that the information gained from the survey is used to reduce patient harm.

Patient-Centered Measures are in their infancy and would not be used directly in the measurement of culture through surveying staff; however, any correlations that can be made between an organization’s culture and patient-centered care should be made with a consideration of the following dimensions drawn from IOM’s report Crossing the Quality Chasm: A New Health System for the 21st Century.

Encourage patients to share their stories/experiences with staff at staff meetings or grand rounds.

Outcome, Process, Structure, and Patient-Centered Measures

These performance measures are suggested for consideration to support internal healthcare organization quality improvement efforts, and may not necessarily address all external reporting needs.

Opportunities for Patient and Family Involvement

Include patient and family members in culture of safety survey measurement. [NPP, N.D.]
1. respect for patients’ values, preferences, and expressed needs;
2. continuous collaboration, coordination, and integration of care among providers and across conditions and settings;
3. accessible and customized information;
4. communication, education (including self-efficacy and self-management skills for patients and families), and easy access to decision support tools;
5. the provision of physical comfort to patients;
6. the offering to patients of emotional support and relief from fear and anxiety;
7. the involvement of family and friends in care; and
8. access to care.

Settings of Care Considerations

**Rural Healthcare Settings:** All rural healthcare settings should comply with the relevant specifications of this safe practice. Although small and rural organizations may have more resource constraints than larger urban or suburban organizations, great efficiencies can be realized by participating in the national safety and quality collaborative initiatives of similar organizations. Alliances with these organizations in noncompetitive service areas provide significant opportunities for sharing information and identifying resources.

**Children’s Healthcare Settings:** All children’s healthcare settings should comply with the relevant specifications of this safe practice. National alliances and collaborative initiatives provide rich opportunities for efficiencies in information and resource-sharing about culture measurement and transformation.

**Specialty Healthcare Settings:** All specialty healthcare settings should comply with the relevant specifications of this safe practice. National alliances and collaborative initiatives with similar specialty facilities offer special opportunities to compare performance in culture measurement and improvement.

**New Horizons and Areas for Research**

One of the most important new horizons in culture measurement and improvement is the dimension of leadership. Although a growing number of studies tie systems failures in healthcare organizations to an overemphasis on financial performance, many administrative leaders are uncomfortable managing a highly clinical business and continue to neglect opportunities for performance improvement. As culture measurement continues to be refined and correlated with workforce performance—and, in turn, safety and quality—new dimensions and opportunities for improvement will be identified. Researchers are investigating direct correlations between an organization’s unit- or area-specific teamwork climate and overall nurse retention, for example.

**Other Relevant Safe Practices**

Safe Practice 1: Leadership Structures and Systems; Safe Practice 3: Teamwork Training and Skill Building; and Safe Practice 4: Identification and Mitigation of Risks and Hazards, are directly relevant. All practices involving performance improvement projects, and those projects in which teamwork is important, are also relevant.


SAFE PRACTICE 3: TEAMWORK TRAINING AND SKILL BUILDING

The Objective
Establish a proactive and systematic approach to developing team-based care through teamwork training and team-led performance improvement interventions that reduce preventable harm to patients.

The Problem
Team error is defined as human error made in group processes. [Sasou, 1999] Team errors are individual or shared errors that are not detected, indicated, or corrected by the team. [Sasou, 1999] Care has become fragmented and requires successful team communication to prevent system failures. Organizations are treating sicker patients at ever faster rates with treatments that are becoming increasingly complex. The aviation industry has determined that between 50 and 80 percent of all incidents and accidents can be directly attributed to human error involving poor group decision-making, ineffective communication, inadequate leadership, and poor task or resource management. [Freeman, 1991; US GAO, 1997] Comparable findings are now being reported in healthcare.

The frequency of medication errors, delays in treatment, and wrong-site surgeries is due primarily to communication failure. [Denham, 2008] with this being the primary root cause of approximately 70 percent of sentinel events reported to The Joint Commission from 1995 to 2004. Breakdowns in team communication are also the second most frequently cited root cause of operative and postoperative events and fatal falls. [Smith, 2005] A systematic review of emergency department closed claims determined that fundamental teamwork behaviors would have prevented or mitigated the adverse event in 43 percent of reviewed cases. [Risser, 1999]

The severity of harm resulting from teamwork failures can range from no harm to patient death. Common patient care errors resulting from such breakdowns include incorrect treatment, delays in treatment, and missed treatment. [Smith, 2005] Seventy-five percent of communication-related sentinel events reported to The Joint Commission between 1995 and 2004 resulted in patient death. [Smith, 2005] Poor team communication has been found to be a root cause in 80 percent of perinatal deaths and injuries, [TJC, 2004] and in 40 percent of maternal deaths and 45 percent of near miss morbidities. [Geller, 2004]

The preventability of team errors is not yet known; more evidence is needed to quantify the effectiveness of team training and skill building to improve patient safety. The aviation industry has demonstrated that Crew Resource Management (CRM) training has a positive impact on participants’ reactions and attitudes about its importance and perceived value, and it improves individual aviator knowledge and behaviors. [Salas, 2001] While it is suspected that CRM training has played a major role in this improvement in air safety, sufficient research has not been conducted to demonstrate its specific impact. [Salas, 2001] The importance of teamwork in promoting high-quality healthcare and preventing medical errors has been described in the Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS) [AHRQ, N.D.c] training resources, [TEAMWISE, N.D.a] which are sponsored jointly by the Agency for Healthcare Research and Quality and the Department of Defense. [Clancy, 2007; AHRQ, 2009]
The cost of communication failures to the healthcare industry is unknown and difficult to determine. A study of international risk managers agrees that up to 80 percent of malpractice claims are attributed to failures in communication and/or a lack of interpersonal skills, usually on the part of the physician. [Woods, 2006]

Safe Practice Statement

Healthcare organizations must establish a proactive, systematic, organization-wide approach to developing team-based care through teamwork training, skill building, and team-led performance improvement interventions that reduce preventable harm to patients. [AHRQ, N.D.b; IHI, 2009; JCR, 2010]

Additional Specifications

Effective Team Leadership: Training programs should systematically address and apply the principles of effective team leadership and team formation. [Salas, 2008] Leadership at all levels of an organization should be fostered.

Effective Teamwork Training: Every organization should provide teamwork and communication training through basic and detailed programs. [Salas, 2008; Clark, 2009]

- Basic Teamwork Training: Basic training should be provided annually to governance board members, senior administrative leaders, medical staff (both those who are independent and those who are employed by the organization), midlevel management, and frontline nurses. [Denham, 2006a; Denham, 2006b] The subject matter should include sources of communication failures, hand-offs, and team failures that lead to patient harm. The length and modality of training should be established by the organization. Participation should be documented to verify compliance. [Salas, 2008]

- Detailed Teamwork Training: All clinical staff and licensed independent practitioners should receive detailed training consisting of the best available teamwork knowledge; however, staff of clinical areas that are deemed to be at high risk for patient safety issues should receive such training first. The clinical areas that are prioritized should focus on specific patient safety risks. The subject matter should include the principles of high reliability, human factors applied to real-world care processes, interpersonal team dynamics, hand-offs, and specific communication methods. [Frankel, 2006; McKeon, 2009] Focus should be placed on the development and application of structured tools. Detailed training should include a specified period of combined instruction and interactive dialogue regarding the application of the knowledge determined and documented by the organization. If all staff cannot be trained within one year, a goal should be set to train all clinical service area staff and caregivers over multiple years.

- Effective Teamwork Skill Building: To develop the characteristics of “team-ness,” [TEAMWISE, N.D.b] individuals should build their teamwork and communication skills by establishing a shared mental model, using structured and critical language, understanding communication hand-off methods, and using effective assertion behaviors such as “stop-the-line” methods. Individuals and teams also should develop the skills necessary to monitor team performance continuously over time. Organizations should employ methods to verify the demonstration of teamwork skills. [Manser, 2009] A specified number of care units or service line areas and length of training should be set and documented by organization leadership each year with initiatives for building and measuring teamwork skills.
Effective Team-Centered Interventions: In order to generate the greatest impact, team-centered performance improvement initiatives or projects should target the work “we do every day.” The units and service lines selected should be prioritized based on the risk to patients, which in turn should be based on the prevalence and severity of targeted adverse events. The interventions should address the frequency, complexity, and nature of teamwork and communication failures that occur in those areas. Each year, every organization should identify a specific number of teamwork-centered intervention projects it will undertake, such as those cited below and in the Example Implementation Approaches section. Ideally, team-centered interventions should be undertaken in all areas of care. [Baker, 2005]

Specific Team Performance Improvement Projects: Organizations should select high-risk areas for performance improvement projects; these include emergency departments, labor and delivery, intensive care units, operating rooms, ambulatory care, and other procedural care units. Performance targets and strategies to close known performance gaps should be identified. Such performance improvement initiatives should have the components of education, skill building, measurement, reporting, and process improvement. [IHI, 2004]

- Rapid Response Assessment: Annually, organizations should formally evaluate the opportunity for using rapid response systems to address the issues of deteriorating patients across the organization. [AHRQ, N.D.a; IHI, N.D.; Bellomo, 2003; Kaplan, 2009]

- Internal and External Reporting: The performance improvement that is generated by team-centered interventions should be reported to governance boards and senior administrative management. Depending on the projects selected, the organization should submit the information to the appropriate external reporting organizations. [Drozda, 2008]

Minimum Requirements of Practice 3: To meet the minimum requirements of this safe practice, an organization can satisfy the Detailed Teamwork Training, Effective Teamwork Skill Building, and Effective Team-Centered Interventions requirements, defined above, by targeting an organization-determined number of units or service lines initially and additional new units each year, if the Effective Team-Centered Interventions requirements are satisfied, because it is expected that those involved would receive the required training and skill-building experiences. The requirements of the interventions component of the Culture Measurement, Feedback, and Intervention safe practice also will be met if improvement of the culture survey scores is an aim of the specific performance improvement projects that are undertaken.

Applicable Clinical Care Settings
This practice is applicable to Centers for Medicare & Medicaid Services care settings, to include ambulatory, ambulatory surgical center, emergency room, dialysis facility, home care, home health services/agency, hospice, inpatient service/hospital, outpatient hospital, and skilled nursing facility.

Example Implementation Approaches
- Organizations should take a systematic approach and should provide clear leadership (governance boards and senior administrative management), including visible physician leadership and commitment. Teamwork should be a fundamental behavior of the organization, and it should be recognized that systematic and regular reinforcement of the principles of team
performance should occur across the organization. [Salas, 2008] Such fundamentals should be applied through performance improvement projects that target specific patient safety goals.

Organizations that are making a fresh start in establishing the activities required by this safe practice, but are constrained by resources, could consider combining the requirements of the Detailed Teamwork Training and Effective Teamwork Skill Building specifications of Effective Teamwork Training, thus targeting two areas of high risk. Early wins with such projects will help build momentum and reduce resistance, easing the development of additional broader programs.

The didactic elements of training may be delivered through multimedia or distance learning strategies that can be updated with the latest evidence. Documentation of participation can be maintained to verify compliance and to ensure that new and temporary staff receives such training.

Intensive Care Unit (ICU) Team Example Projects: [Reader, 2009] Projects employed by interdisciplinary teams in ICU are creating daily goals to help guide therapy. Nurses are using checklists to ensure that patients who have central catheters receive evidence-based interventions (see the Nursing Workforce safe practice).

Labor and Delivery Team Example Projects: Applying fundamental teamwork skills, common definitions of fetal well-being, and standardized approaches to fetal and maternal monitoring interpretation, as well as practicing for emergencies, is reported to have a dramatic impact on preventable newborn adverse events. A dominant theme in root cause analyses of perinatal deaths and injuries is a breakdown in team function.

Emergency Department Team Example Projects: [Fernandez, 2008a] The emergency department provides fertile ground for opportunities to undertake team training projects, because there are many failures in performance that are preventable in certain high-risk conditions. [Rosen, 2008b] Such projects could implement the principles of high reliability, communication, and communication hand-offs. They could also involve initiatives that confirm the closure of information loops with physicians who are managing patients after an emergency department discharge.

Operating Room Team Example Projects: The operating room is an environment that is conducive to the application of principles of communication, such as briefing, structured language, critical language, and team leadership. [Salas, 2008]

Rapid Response Systems Examples: Many organizations have embraced team-based approaches to early intervention for deteriorating patients. Whether they are intensivist-led, hospitalist-led, or nurse-led programs, many anecdotally report a reduction in codes, in improved mortality rates, and in unplanned ICU admissions. All such programs require critical teamwork skills. For the purposes of compliance with this practice, the establishment of a rapid response team could be considered one of the hospital patient care units’ team-centered intervention projects.

Team Simulation Examples: [Fernandez, 2008b; Rosen, 2008a] Many organizations use simulation for knowledge transfer and skill-building. Low-fidelity simulations, such as scenario-based techniques and the use of standardized patients, may address low-frequency, high-impact scenarios that will allow staff and physicians to practice
teamwork skills. Simulations also may be used to assess teams in action. High-fidelity simulation offers the benefits of procedural competency and risk identification.

- Tactical Team Techniques: Certain techniques that are effective in sustaining gains and accelerating the adoption of teamwork practices and skills include using internally developed coaches and clinical champions, taking advantage of external performance improvement collaborative initiatives, and collaborating with outside experts. Early and clear gains from projects that are led by internal clinical champions provide evidence to the rest of the organization that supports the investment made in teamwork training and team interventions.

**Strategies of Progressive Organizations**

- Many organizations have embedded the development of team-based methods very broadly and systematically across clinical, operational, and financial activities. Some have extensively adopted simulation techniques. Some organizations are exploring the use of virtual teams using telephony and Internet-based tools. Certain progressive organizations have established a “Patient Safety College” that provides Internet-based training for all staff and leaders, allowing them access to training according to their own schedules. Many organizations have participated in the 100,000 Lives Campaign developed and launched by the Institute for Healthcare Improvement and have made team-centered rapid response teams a major feature of their performance improvement programs. Early findings show that these teams are having a dramatic impact. Clearly, this area will be a focus of further research.

**Opportunities for Patient and Family Involvement**

- Include patient and/or family members in teamwork training and planning committees. [NPP, 2009]

- Provide education and support to patients, families, and staff on patient- and family-centered care and on how to collaborate effectively in quality improvement and healthcare redesign. For example, provide opportunities for administrators and clinical staff to hear patients and family members share stories of their healthcare experiences during orientation and continuing education programs.

**Outcome, Process, Structure, and Patient-Centered Measures**

These performance measures are suggested for consideration to support internal healthcare organization quality improvement efforts and may not necessarily address all external reporting needs.

- **Outcome Measures** include patient harm (death, disability, or harm causing unanticipated treatment or increased length of stay), as well as operational and financial outcomes.

- **Process Measures** include the correlation of culture survey measurement with team performance and team domains; the use of observational markers for team behaviors; and the use of other measures based on the performance improvement projects undertaken.
**Structure Measures** include the verification of basic and detailed training programs; the existence of documentation of attendance at those programs; the existence of performance improvement programs with stated performance goals; and the existence of structures for reporting to senior administrative leaders and governance board leaders.

**Patient-Centered Measures** include the verification of the involvement of patients and their families in the team approach to their care, as well as satisfaction with the communication between patients and their caregivers.

**Settings of Care Considerations**

- **Rural Healthcare Settings:** Teamwork is as important in small and rural hospitals as it is in larger urban or suburban hospitals. In fact, a smaller environment may lend itself more readily to team-based approaches to care. High-impact events that occur infrequently offer valuable opportunities to apply team-based methods, and are particularly important patient safety occurrences in settings where the infrequency of the events can cause mitigating diagnostic and treatment opportunities to be missed. Regional alliances with other hospitals offer teamwork opportunities as patients move between care settings.

- **Children’s Healthcare Settings:** All relevant requirements of the practice apply to children’s healthcare settings.

- **Specialty Healthcare Settings:** All relevant requirements of the practice apply to specialty healthcare settings.

**New Horizons and Areas for Research**

Research on the linkage between teamwork behavior and clinical outcomes should provide even more evidence to support investing in team performance improvement. Rapid response systems design and early warning assessment approaches will likely hold promise for the development of improved rapid response practices, as will work in the area of simulation, as noted previously. The WHO 19-item checklist for surgical patient safety has been estimated to save 1 in 144 surgical patients’ lives. [Haynes, 2009] Further research is needed to validate other system checklists and composite activities that reduce harm to patients.

**Other Relevant Safe Practices**

All elements of this safe practice are directly relevant. All practices involving performance improvement projects, and those for which teamwork is important, are relevant.
Notes


SAFE PRACTICE 4: RISKS AND HAZARDS

The Objective

Ensure that patient safety risks and hazards are continually identified and communicated to all levels of the organization, that mitigation activities are aggressively undertaken to minimize harm to patients, and that patient safety information is communicated to the appropriate external organizations. [IHI, N.D.b; Pizzi, 2001]

The Problem

Healthcare organizations are fraught with systems failures that compromise care by making it more fragmented and complex. [Denham, 2006] Opportunities for these organizations to learn from their failures are often impeded by their own structures and cultures. [Reason, 2001]

The frequency with which healthcare systems blame frontline individuals, deny the existence of systemic errors, and fixate on production and financial indicators of performance makes them more vulnerable to adverse events. [Reason, 2001; Denham, 2007] Medical errors have been associated with substantial subsequent personal distress, decreased empathy, and increased probability of making another medical error. [West, 2006] System-related harm to patients is much more frequent than previously thought—especially in older patients. [Levinson, 2008a] Tools are available, [Griffin, 2009] such as the Institute for Healthcare Improvement-recommended Global Trigger Tool, which can be the basis not only for identifying risk and estimating the frequency of adverse events in an organization but also for determining the impact of interventions that focus on reducing adverse events in surgical patients. [Griffin, 2008] The activities of identifying and mitigating risks and hazards are typically not systematically integrated across an organization. Even in hospitals where these systems are in place, clinicians significantly underreport medical errors. [Kaldjian, 2007; Kaldjian, 2008] The numbers of medical errors and adverse events that go unreported are not known. Recent focus on episodes of care and re-hospitalizations reveals that significant harm occurs after discharge from acute-care hospitals, be the discharge to the ambulatory space or to nursing homes. [Jencks, 2009] Reporting activities are mainly retrospective and are not fully communicated to governance boards and senior leadership. Rarely is risk identification fully linked to mitigation activities or performance improvement programs, nor is it routinely tied to the impact of disclosure or non-disclosure of medical errors causing harm. [Denham, 2009a] Rich opportunities for risk identification and mitigation can be harvested from risk management and complaints services, yet these information sources are rarely tapped to prevent patient harm. [Hogan, 2008; Murff, 2006] Traditionally, risk management departments and internal reporting processes have prioritized capital protection and have shielded governance boards and senior administrative management from the details of patient harm and risk. A culture of name, blame, and shame behaviors and the fear of malpractice liability have been major barriers to performance improvement. [TJC, 2008] Consumers, certifying organizations, regulators, and purchasing organizations have responded by driving transparency through the use of public reporting initiatives, thus making transparency a requirement for healthcare organizations. [Apold, 2006; Conway, 2008] Certifying, quality, and purchasing organizations have also declared that zero must be the goal for adverse events such as infections that had
historically not been recognized as the patient safety issues that they are now. [Denham, 2009d; Denham, 2009e]

The severity of harm resulting from the absence of coordinated patient safety programs cannot be accurately estimated. However, recent studies, including one by the Office of the Inspector General, have shown that as many as 15 percent of Medicare beneficiaries experience serious harm in hospitals. [Levinson, 2008a; Levinson, 2008c] It has been reported that the readmission and mortality rates of seniors after acute care hospital admissions may be much higher than previously presumed. [Boutwell, 2008; Denham, 2009c; Jencks, 2009] Organizations that fail to establish error reporting programs are inherently ill-equipped to predict, prevent, and mitigate risks and hazards. They are more susceptible to latent errors that undermine frontline workers and propagate active errors at the sharp end.

The preventability of harm by performing risk mitigation strategies has been studied, and healthcare organizations can identify and mitigate patient safety risks and hazards by using a number of internal methods, including retrospective, real-time, and near real-time and prospective risk analysis. [Bagian, 2002; Battles, 2006; Tuttle, 2002; Milch, 2006; Marx, 2003; Wreathall, 2004] Analysis of risk across an organization should be integrated and complemented by the use of information from outside sources. The mitigation of risk should include effective performance improvement activities and the adoption of systems solutions that will close gaps in organization performance and that will correct conditions that put patients at risk. Risks and mitigation opportunities should be communicated internally across the entire organization and externally to the appropriate organizations. The broadening role of patient safety organizations that provide federal protection of information should increase the sharing of adverse event information and lessons learned within an organization. [CMS, 2008b] The identification and mitigation of risks and hazards should be backed by adequate resources to cover the cost of such strategies and should be actively managed and regularly evaluated for effectiveness. [Helmreich, 2000; Carthey, 2001]

The scope of an organization-wide patient safety program includes a focus on the full range of safety issues, including areas of specific risks and hazardous conditions, potential errors and no-harm errors (sometimes referred to as “near misses,” “close calls,” or “good catches”), adverse events requiring unanticipated care, and sentinel events with serious adverse outcomes. [IHI, N.D.a; Reason, 2000; Denham, 2008; JCR, 2010] The risk and hazard identification and mitigation activities are presented in categories; however, these activities should be integrated throughout the organization. [Boothman, 2009; McDonald, 2009] The expanding role of health information technology (HIT) solutions will both create and reduce risk to patients and caregivers. HIT leaders suggest that information is the lifeblood of healthcare and that HIT is the circulatory system. [Blumenthal, 2010] Third-party verification of performance, such as that used to implement measurement of CPOE performance, as defined in the CPOE Safe Practice, using a CPOE “flight simulator” will become more common. [Kilbridge, 2006] Finally, it is the governance, administrative, and clinical leaders who must make sure that risks and hazards are identified and mitigated by their own direct engagement in the process. [Denham, 2009b]
Safe Practice Statement

Healthcare organizations must systematically identify and mitigate patient safety risks and hazards with an integrated approach in order to continuously drive down preventable patient harm.

Additional Specifications

Identification and Mitigation of Risks and Hazards

Risk and Hazard Identification Activities:
Risks and hazards should be identified on an ongoing basis from multiple sources, including independent retrospective, real-time and near real-time, and prospective views. The risk and hazard analysis should integrate the information gained from multiple sources to provide organization-wide context. [AHRQ, 2009a] The organizational culture should be framed by a focus on system (not individual) errors and blame-free reporting and should use data from risk assessment to create a just culture. [IOM, 2004; Nuckols, 2009; Pronovost, 2009b]

- Retrospective Identification: Organizations should use a number of retrospective measures and indicators to identify risk and contributing factors from historical data. Specific steps should be taken to ensure that the lessons learned are communicated across the organization and that they are applied in other care settings, where applicable. Some retrospective identification and analysis activities are triggered by adverse events; [Nuckols, 2009] however, ideally the retrospective identification of risks and hazards should occur regularly, and progress reports should be generated as frequently as they are needed within each year. At least annually, a summary of progress based on an evaluation of the effectiveness of all of the relevant retrospective identification activities/tools listed below should be documented.

1. Serious Reportable Events. Processes for identifying, managing, and analyzing events should be defined and implemented to identify patterns and opportunities for improvement. [AHRQ, N.D.a; AHRQ, N.D.c; Levinson, 2008b; McDonald, 2009]

2. Sentinel Event Reporting. Processes for identifying, managing, and analyzing events should be defined and implemented to identify patterns and opportunities for improvement. [AHRQ, N.D.a; AHRQ, N.D.c; JCR, 2010]

3. Adverse Event Reporting. Processes for identifying, managing, and analyzing events should be defined and implemented to identify patterns and opportunities for improvement. [AHRQ, N.D.a; AHRQ, N.D.c]

4. Root Cause Analysis. The root cause analysis process for identifying the causal factors for events, including sentinel events, should be undertaken. [AHRQ, N.D.b; AHRQ, 2009b; Gupta, 2009]

5. Closed Claims Analysis. This analysis should be undertaken. [Richman, 2009]

6. Enterprise Systems Failures. People systems, technology systems, and quality systems failures beyond those resulting in adverse outcomes should be evaluated.

7. Skill Mix. Because the proportion between highly trained and less-qualified staff can have an impact on patient safety, the organization must regularly review for, evaluate, and address any imbalance. [Rodriguez-Paz, 2009]
8. **Patient Safety Indicators.** Patient safety indicators should be used to generate hypotheses and guide deeper investigation. [AHRQ, 2006]

9. **Retrospective Trigger Tools.** Such tools should be used retrospectively through chart review and near real-time or real-time reviews as mentioned below. [IHI, N.D.c]

10. **External Reporting Source Input.** Such information should be an input to risk-assessment activities. [Reason, 2000]

- **Real-Time and Near Real-Time Identification:** Organizations should evaluate real-time or near real-time tools at least annually for their value in risk identification for the areas identified as high risk for the organization. A concise, thorough assessment of tools such as those noted below and others that become available to the organization should be documented.
  - Trigger tools, manually or technology enabled. [Adler, 2008]
  - Observational tools, permitting direct observation of processes in high-risk areas.
  - Technology tools such as electronic health records.
  - Real-Time Risk Identification Behaviors. Organizations should support the frontline behaviors of real-time risk identification, including workflow design, that enable the early identification of patient risks and hazards and that inspire “stop-the-line” actions that can prevent patient harm.

- **Prospective Identification:** A structured, proactive risk assessment should be undertaken by certain care units to identify risks and hazards in order to prevent harm and error. [Emily, 2009]
  At least annually, an organization should evaluate the prospective or proactive tools and methods, such as the two listed below, in order to identify risks. At a minimum, the organization should perform one prospective analysis per year using the tool or method deemed appropriate by the organization. Specific steps should be taken to ensure that lessons learned are communicated across the organization and that they are applied in other care settings, where applicable. [JCR, 2010]
    - Failure Modes and Effects Analysis (FMEA).

- **Integrated Organization-Wide Risk Assessment:** The continuous, systematic integration of the information about risks and hazards across the organization should be undertaken to optimally prevent systems failures. [Chiozza, 2009]
  Information about risks and hazards from multiple sources should be evaluated in an integrated way in order to identify patterns, systems failures, and contributing factors involving discrete service lines and units. The organization should integrate the information noted below, ensure that it is provided to those designing mitigation strategies and that it is documented and disseminated widely across the organization systematically and frequently, and ensure that the results of mitigation activities are made available to all who were involved in providing source information.
Frequent progress reports should be generated on an ongoing basis, and a summary of such reports should be produced at least annually.

- Risk management (claims management) services. [Boothman, 2009]
- Complaints and customer services participation.
- Disclosure support system. [McDonald, 2009] (See the Disclosure and Care of the Caregiver safe practices included in this report.)
- Culture measurement, feedback, and intervention. (See the Culture Measurement, Feedback, and Intervention safe practice.)
- Retrospective, real-time and near real-time, and prospective information.
- Anticipated risks for surge in capacity, for example, flu pandemic and natural disaster emergency preparedness. [CDC, N.D.b; CDC, N.D.c; APIC, 2008]

This organization-wide risk-assessment information should be provided to the governance board and senior administrative leadership continuously. The output of the activities of this element should be provided as an input to the activities articulated in the Leadership Structures and Systems safe practice.

• Risk Mitigation Activities: Every organization has a unique risk profile and should carefully design performance improvement projects that target prioritized risk areas. An ongoing, proactive program for identifying and reducing unanticipated adverse events and safety risks to patients should be defined, documented, and implemented. [Damiani, 2009]

• Performance Improvement Programs: The organization should provide documentation of performance improvement programs that bear evidence of the actions taken to close patient safety gaps identified in the Identification and Mitigation of Risks and Hazards safe practice. Such performance improvement programs should include education, skill building, measurement, reporting, and process improvement. [Denham, 2009b]

1. Targeted Performance Improvement Projects: Specific patient safety risks and hazards identified by the activities described above should be targeted through performance improvement projects. [Warye, 2009] Every organization should document the outcome, process, structure, and patient-centered measures of these projects. Organizations should document the projects’ patient safety aims and regularly chart progress toward those aims. Such progress should be reported regularly to governance board members and senior administrative leaders as addressed in the Leadership Structures and Systems safe practice.

2. Systems Solutions: Products, services, and technologies that enable the use of best practices in people systems, technology systems, and quality/safety systems should be considered in order to reduce the potential for patient harm. Performance improvement projects targeting these systems should be documented, and the progress of such projects should be charted and regularly reported to and through senior administrative leaders to governance board members.
3. **Senior Leadership and Governance Engagement**: The direct participation of governance board and senior, mid-level, and line managers in monitoring the progress of all patient safety performance improvement programs should be documented. [Denham, 2005; Pronovost, 2009a; JCR, 2010] Tools such as summary reports, dashboards, or scorecards should be used to ensure that the most important messages are made as clear as possible and that information overload is minimized. Senior administrative leaders and governance board members should be involved in the selection of these monitoring tools for the organization. [Denham, 2009b]

- **Specific Risk-Assessment and Mitigation Activities**: The organization should provide documentation that bears evidence of high performance or of actions taken to close common patient safety gaps for the patient safety risk areas listed below. [Weingart, 2009]

1. **Falls**: The organization should monitor the effectiveness of fall reduction programs, including risk reduction strategies, in-services, patient/family education, and environment of care redesign. [JCR, 2010]

2. **Malnutrition**: The organization should monitor its effectiveness in identifying malnutrition and in taking actions to reduce the potential adverse events that can result from malnutrition. For example, each patient should be evaluated upon admission, and periodically thereafter, for the risk of malnutrition. Clinically appropriate strategies should be employed to prevent malnutrition.

3. **Pneumatic Tourniquets**: The organization should monitor its effectiveness in reducing the harm that can accompany high-risk procedures, including the use of pneumatic tourniquets (if they are used in the organization). For example, whenever a pneumatic tourniquet is used, the patient should be evaluated for risk of ischemia and/or thrombotic complication, and the appropriate prophylactic measures should be utilized.

4. **Aspiration**: Upon admission and regularly thereafter, each patient should be screened for the risk of aspiration. An aspiration risk and prevention plan should be documented in the patient’s record.

5. **Workforce Fatigue**: Because workforce fatigue can have a direct impact on patient safety, every organization should be cognizant of the issue and should include aspects of precursors and alleviation in an annual review of patient safety risk in the organization. [Yeo, 2009]

### Applicable Clinical Care Settings

This practice is applicable to Centers for Medicare & Medicaid Services care settings to include ambulatory, ambulatory surgical center, emergency room, dialysis facility, home care, home health services/agency, hospice, inpatient service/hospital, outpatient hospital, and skilled nursing facility.

### Example Implementation Approaches

- The best way to begin is to have the organization’s leaders partner with frontline caregivers to design the migration path for the adoption of the activities of this safe
practice and to ensure the appropriate links to leadership structures and systems so that information, actions, and resources can flow freely to make patients safer. [NQF, 2010]

Healthcare organizations should consider periodic assessment of the tools used for prospective, near real-time, and retrospective risk identification and mitigation. For instance, organizations may consider annual assessment of such tools, [Griffin, 2009] which are evolving through the innovation of many organizations. Organizations should be aware that the value of the tools used may become clearer with the contribution of ongoing research. [Wu, 2008; Mills 2008; Percarpio 2008]

Additional Interest Areas: New risk identification opportunities are presented through the use of evolving trigger tools, such as the Global Trigger Tool, [Griffin, 2009] which was developed through collaboration among many hospitals and the Institute for Healthcare Improvement. Other areas of additional interest include the use of PRA tools and the evaluation of the impact of disruptive behaviors among caregivers on patient safety. [In the future, organizations may require guidelines for identifying, reporting, and managing behaviors that disrupt patient safety.]

Healthcare organizations should consider exploring new information sources and the use of pattern recognition methods to provide caregiver support as patients transit from care settings and between organizations.

Healthcare organizations may consider evaluating the risk areas identified by purchasers to be high priority to them. Such conditions may include iatrogenic pneumothorax, delirium, and Legionnaires’ disease. [CDC, N.D.a; CMS, 2008a; CMS, 2008c]

Strategies of Progressive Organizations

Some organizations have declared that governance board members must spend equal time in their meetings and activities on financial issues and quality/safety issues, recognizing that governance leaders are often ill-informed about the quality and safety of care delivered by their organizations. [Jha, 2009] In addition, many organizations have embraced patient safety and risk reduction as their primary competitive initiatives, while others are exploring new opportunities for real-time risk and mitigation strategies to create early warning systems that can prevent incipient systems failures. [Nance, 2008] Some are recognizing that risk reduction can be a reconciling principle to pull together their teams and surf the wave of new forces in a dramatically different environment. [Denham, 2009c] Some are taking lessons from other industries and realizing that denial of risk and peril is a path to enterprise failure. [Collins, 2009] Certain organizations use risk assessment indexing to prioritize no-harm and near miss events by measuring the severity of an outcome against the likelihood of the incident occurring. Some academic organizations have created processes whereby frontline care providers and trainees are encouraged and rewarded for regularly submitting near miss and adverse event reporting as a requirement and mandatory component of their training. This has been shown to substantially increase near miss and adverse event data, leading to more robust performance improvement activities to reduce systems harm. [McDonald, 2008]
An example of an effective risk mitigation activity is use of the WHO 19-item checklist for surgical patient safety, which has been estimated to save 1 in 144 surgical patients’ lives. [Haynes, 2009]

High-performing organizations provide feedback to staff on improvements and enhanced performance that resulted from adverse event reporting. [Gallagher, 2009; McDonald, 2009]

Opportunities for Patient and Family Involvement

Listening and open communication, along with an early admission assessment with the patient, and the family when appropriate, is a fundamental first step in reducing risk of harm to the patient.

Healthcare organizations should consider formally encouraging patients and their families to report concerns about safety. Example: mechanisms in place to provide input to trigger a rapid response; that is, global call-in or hotline numbers, online reporting systems, contact person during patient care encounters. [NPP, 2009]

Outcome, Process, Structure, and Patient-Centered Measures

These performance measures are suggested for consideration to support internal healthcare organization quality improvement efforts and may not necessarily address all external reporting needs.

Outcome Measures range from mortality and disability to the occurrence of harm that requires additional treatment. NQF has endorsed a set of serious reportable events that are grouped into six categories: surgical, product or device, patient protection, care management, environmental, and criminal events. The Joint Commission has identified as reportable those serious adverse outcomes that are proximally related to treatment or therapy. Operational and financial outcomes include re-work, efficiencies, malpractice costs, and the indirect costs of preventable patient harm.

Process Measures include assessments, briefings, and evidence of identification and mitigation activities; compliance with organizational policies and procedures, including assessment for falls, malnutrition, and the specific monitoring that is required when a pneumatic tourniquet is used; and changes that are implemented as a result of root cause analysis, FMEA, or other risk identification tools.

Structure Measures include the numerous structural elements presented in the specifications of this safe practice. The dynamic sharing of information between risk management and performance improvement staff and near-real-time reporting to administrative and governance leaders is the ultimate measure of successful adoption of this practice. Accountability is vital—personal, financial, and public accountability must be structurally reinforced. Leaders and staff must be accountable for the flow of information and action—they must own processes. Financial accountability means resource allocation must be made to risk mitigation. Public accountability means public reporting of performance.

Patient-Centered Measures should fall along the following dimensions:

• respect for patients’ values, preferences, and expressed needs;

• continuous collaboration, coordination, and integration of care among providers and across conditions and settings;
• accessible and customized information;
• communication and education, including self-efficacy and self-management skills for patients and families, and easy access to decision support tools;
• the provision of physical comfort to patients;
• the offering to patients of emotional support and relief from fear and anxiety;
• the involvement of family and friends in care; and
• access to care.

Settings of Care Considerations

■ Rural Healthcare Settings: All rural healthcare settings should comply with the specifications of this safe practice. Although small and rural hospitals may be more resource-constrained than larger urban or suburban hospitals, great efficiencies can be gained through participation in the national safety and quality collaborative initiatives of similar organizations. Alliances with similar organizations in noncompetitive service areas provide opportunities for information sharing and resource access. Collaboration with external reporting organizations provides an excellent opportunity for rural and small organizations to identify and mitigate risks proactively.

■ Children’s Healthcare Settings: All children’s healthcare settings should comply with the relevant specifications of this safe practice. Progressive work in risk identification and mitigation is occurring in such settings.

■ Specialty Healthcare Settings: All specialty hospitals should comply with the relevant specifications of this safe practice. National alliances and collaborative initiatives provide rich opportunities for efficiencies in information sharing and resource sharing.

New Horizons and Areas for Research

That leadership is critical to patient safety is clear to academics, frontline caregivers, and patients. Leaders should become aware of the performance gaps that can harm patients; should be held accountable to take actions that will close those gaps; should invest in the ability of their organizations to improve in these areas; and should clearly understand how they can create an environment in which explicit actions affecting patient safety will become a priority. More research is needed to help design the structures and systems that must be established to support leaders. Research in the development of the necessary concepts, tools, and resources should be undertaken, including efforts that focus on the application of concepts in high reliability, tools such as performance dashboards, and resources such as educational programs for governance board members and leadership teams; and near-real-time risk management support. Leadership decision-support systems need to be developed and optimized to balance risk reduction and investment in safety. Risk reduction and mitigation must be factored into clinical, operational, and financial performance for representative hospital situations, allowing healthcare leaders to then customize their decisions to their unique scenarios. Organizations must manage risk and performance information in a manner that will allow them to give finance teams enough confidence to vote “yes” to greenlight
investment in patient safety initiatives—even in an environment where financial resources are in short supply. [Denham, 2009d]

**Other Relevant Safe Practices**

All of the NQF-endorsed safe practices are pertinent to Safe Practice 4: Identification and Mitigation of Risks and Hazards.

**Notes**


May 26, 2010

Dear Healthcare Leader:

We are delighted to announce that the National Quality Forum has graciously given us permission to distribute copies of the *NQF Safe Practices for Better Healthcare – 2010 Update*. This copy has been provided to you in the interest of helping you implement, and/or educate others to adopt the suggestions and implementation examples into your safe practices.

The National Quality Forum is dedicated to providing evidence-based practices as ready-to-use tools to improve safety. The practices in the *NQF Safe Practices for Better Healthcare – 2010 Update* have been evaluated, assessed and endorsed to guide large and small healthcare systems in providing the safest care in every area of patient safety. We give our highest recommendation for them as a valuable resource toward patient safety from hospital bedside to boardroom. It is in the fulfillment of this mission that NQF makes the gift of this to you in your pursuit of your quality journey.

We hope that you will recommend that others purchase the report from NQF. The home page of the National Quality Forum can be accessed at the following link: [http://www.qualityforum.org/](http://www.qualityforum.org/) and an abridged report of the *NQF Safe Practices for Better Healthcare—2010 Update* can be downloaded free online at: [http://www.qualityforum.org/Publications/2010/04/Safe_Practices_for_Better_Healthcare__2010_Update.aspx](http://www.qualityforum.org/Publications/2010/04/Safe_Practices_for_Better_Healthcare__2010_Update.aspx). To obtain the full report for a cost of $29.99, please contact NQF by phone during business hours at 202-783-1300 or via e-mail at info@qualityforum.org and their staff will contact you for payment details.

If you want to have a free copy of the entire set of practices, you may receive one if you fill out a web-based survey that may be filled out at [http://www.safetyleaders.org/2010nqfResearchStudy/index.jsp](http://www.safetyleaders.org/2010nqfResearchStudy/index.jsp).

We want to acknowledge you and your institution for your current efforts in patient safety. We hope you enjoy this important information and find it useful in your future work.

Sincerely,

Charles R. Denham, M.D.
Chairman

The Texas Medical Institute of Technology is a 501c3 not for profit medical research organization dedicated to save lives, save money, and build value in the communities its 3100 Research Test Bed hospitals serve.

[www.SafetyLeaders.org](http://www.SafetyLeaders.org)