Medical Error Reduction
A Key to Quality Care

2 contact hours

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**Purpose**

The purpose of *Medical Error Reduction: A Key to Quality Care* is to educate healthcare professionals about medical errors, why they occur, how to evaluate the reasons they occur, and how to prevent them in the future. This course also examines quality initiatives and their impact on medical error reduction.

**This course meets the Florida State Requirement for education on medical error reduction for nurses in Florida.**

**Objectives**

*After successful completion of this course, you will be able to:*

- Identify the incidence of medical errors
- Discuss the barriers to reducing medical errors
- Define root cause analysis
- Identify types of errors
- Define sentinel event
- Describe the purpose of national and international quality initiatives
- Describe several quality initiatives aimed at reducing medical errors

**Glossary**

Some common terms and definitions that are used in healthcare quality are important to understand as you progress through this course. Feel free to return to this page to remind yourself of the meanings of these terms.

**Adverse Drug Event**

Any incident in which the use of a medication (drug or biologic) at any dose, a medical device, or a special nutritional product (for example, dietary supplement, infant formula, medical food) may have resulted in an adverse outcome in a patient (Joint Commission, 2010b).

**Adverse Event**

An injury caused by medical management rather than by the underlying disease or condition of the patient (IOM, 1999).

**Medical Error**

The failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim (IOM, 1999).

**Near Miss**

Any process variation that did not affect an outcome but that a recurrence could cause a serious adverse outcome (Joint Commission, 2010a).

**Root Cause**

The most fundamental reason for the failure or inefficiency of a process (Joint Commission, 2010b).

**Root Cause Analysis**

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A process for identifying casual or basic factors that help determine underlying factors of an error. The analysis should focus on systems and processes, not on individual performance (Joint Commission, 2010a).

**Sentinel Event**
An unexpected occurrence involving death or serious physical or psychological injury or the risk thereof. The phrase or the risk thereof includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome. The terms “sentinel event” and “medical error” are not synonymous; not all sentinel events occur because of an error and not all errors result in sentinel events (Joint Commission, 2013b).

**To Err is Human**
In 1999 the Institute on Medicine (IOM) released a landmark report that changed the face of healthcare. The report “To Err is Human” provided data on hospital deaths that occur each year due to preventable errors. The report compared deaths from medical errors to deaths from other causes:

- HIV/AIDS: 17,000
- Car Accidents: 44,000
- Medical Errors: 48,000 - 98,000

This report spawned the quality revolution in healthcare that is seen today in initiatives like The Joint Commission National Patient Safety Goals (NPSGs), The Center for Medicare and Medicaid Services “Never Events,” the work of The Institute for Safe Medication Practices (ISMP), and the National Database of Nursing Quality Indicators (NDNQI®).

**Update for Today**
Two hundred thousand Americans die from preventable medical errors today, including facility-acquired conditions (Andel, 2012). According to a report from the Office of the Inspector General in December 2010, a quarter of Medicare beneficiaries admitted to a hospital are victims of medical harm (and that’s only patients age 65 and above or those on disability).

Approximately 5,000 beneficiaries per month suffer a “never event,” and 180,000 die from medical errors annually (Levinson, 2010 in Andel et al., 2012). Newer studies from Health Affairs in April 2011 suggest that the rate of preventable harm may be up to ten times higher than IOM estimates (Classen et al., 2011 in Andel et al., 2012).

Although many years have passed since the IOM report, experts are still having a difficult time developing a concrete picture of the problem but clearly the toll is high in terms of death, injury, and loss (Andel et al., 2012).

Recent national health reform legislation the Patient Protection and Accountable Care Act (PPACA) has several quality improvement provisions including restructuring the way health care is delivered in the United States through accountable care organizations (ACOs) and value-based purchasing. The Centers for Medicare & Medicaid Services (CMS) has stopped reimbursement for preventable readmissions and hospital–acquired conditions (HACs), such as central line infections.

**Test Yourself Q1:**
Recent national health reform legislation aims to improve quality of patient care by:

A. Eliminating value-based purchasing.
B. Eliminating reimbursement for preventable hospital acquired conditions (HACs)
C. Ensuring that Medicaid beneficiaries receive better care than privately-insured patients.

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The correct answer is: B. The Centers for Medicare & Medicaid Services (CMS) has stopped reimbursement for preventable readmissions and hospital-acquired conditions (HACs), such as central line infections.

**Medical Errors in the News**

Dennis Quaid’s infant twins received the incorrect dose of heparin (Reuters, 2007). Emily James (age 2) died in 2006 after successful chemotherapy treatment after receiving the incorrect type of saline solution (Emilyjerryfoundation, 2010).

A nurse caring for a 16 year old laboring patient administered an epidural sedative via IV instead of an antibiotic. The infant was able to be resuscitated but the patient died (Landro, 2010). These highly publicized incidents demonstrate that medical errors can and do occur in many healthcare settings.

**The Culture of Healthcare**

**Name and Blame**

Until recently healthcare had a system of “Name and Blame.” Rather than look at systems and system breakdowns, the finger was pointed at one person and the blame placed there.

**Fear of Lawsuits**

With the prevalence of malpractice lawsuits, a culture of covering up errors was encouraged. Fear of reporting (self-reporting or reporting of others) was discouraged.

**Hierarchical System**

The hierarchy within organizations, especially with physicians and other caregivers, made people fearful of reporting errors.

**Identifying the Causes of Errors**

Healthcare leadership, educators, and providers are taking the critical first step in creating and maintaining a culture of safety without blame. A culture that fosters critical thinking and a ‘systems’ approach to error reduction and prevention, with shared accountability for the safety of patients, is paramount to making improvements in patient safety.

While issues of individual malpractice must be appropriately dealt with, most errors occur as a result of a chain of events set in motion by faulty system design that either induces errors or makes them difficult to detect, rather than a lack of care or concern on the part of the caregivers (Leape, 1995).

**Test Yourself Q 2:**

The name and blame culture is counterproductive to reducing medical errors because:

A. It facilitates identifying the root of the problem.
B. It is the most accurate method to investigate incidents.
C. The cause of the problem is usually due to systems, not individuals.

The correct answer is: C. The name and blame culture points fingers at one person and the blame is placed there, rather than looking at systems and system breakdowns.

**The Systems Approach**
There are a number of quality improvement methods that can be applied in healthcare. These approaches have been adapted from aviation, business, technology and other industries. Most can be placed under the heading of a systems approach to quality.

In a systems approach, the pieces of the system are evaluated to determine the reason for the error. Whether the particular quality improvement program follows the methods of Continuous Quality Improvement (CQI), Six Sigma, or another method, the philosophy is similar – most errors are the result of a number of system problems and determining the root cause of breakdowns in the system will decrease or eliminate the error.

Health Information Technology (IT) is playing an ever-important role in the care of patients today. Many components of health IT have significantly improved the quality of health care and reduced medical errors. However, concerns about harm from the use of health IT have emerged. The U.S. government is currently investing billions of dollars toward meaningful use of effective health IT, so all Americans can benefit from the use of electronic health records (EHRs) by 2014 (Institute of Medicine [IOM], 2011).

IT can better help patients if it is user-friendly and easy to implement and maintain.

Root Cause Analysis
Regardless of the particular type of systems approach, one common theme is asking the question “Why?” in order to determine the real reason (root cause) a particular error occurred.

Continuing to ask the question “why” drills down and extracts the factors contributing to the occurrence. The most effective method to determine the root cause of an event should focus on “why it happened,” not “who” caused it to happen.

This method is based on evidence, not blame. The focus is on the system, and what breakdowns occurred in the system in order for the error to occur. By focusing on the system, and not blaming an individual, an organization can make true, sustained improvements in processes, rather than fixing one single incident. For many years, industries outside of healthcare have successfully implemented a systems based approach and have improved both processes and outcomes.

Test Yourself Q3:
A root cause analysis focuses on:
   A. The System.
   B. Fixing single events.
   C. The individual at fault.

The correct answer is: A. The focus is on the system, and what breakdowns occurred in the system in order for the error to occur. By focusing on the system, and not blaming an individual, an organization can make true, sustained improvements in processes, rather than fixing one single incident.

Lessons Learned: The Aviation Industry
One example is the aviation industry. The aviation industry utilizes a systems approach and encourages the reporting and analysis of near misses and errors. When designing aircrafts, engineers must first consider what the aircraft will be used for in order to determine the goals of the aircraft. Only once these goals are clearly defined, can best solutions to systems issues be formulated (Think Reliability, 2013). Similarly, in healthcare organizations, clear goals of improved
patient safety and the delivery of high-quality patient care must be established, before systems can be put into place to achieve these goals.

In the aviation industry, root cause analyses are performed when air travel incidents occur. This means that the organization does not blame an individual engineer or technician, but looks at the system as a whole to determine what needs to be changed within the system to improve aircraft safety. The first question asked is *what* caused the event; rather than *who* caused the accident (Leape, 1994). A blame free environment without retribution for reporting, facilitates the accurate and thorough collection of data that is crucial to develop a systems based plan of action to prevent errors.

Listen to the language in your organization for evidence of a systems approach. In such an approach, questions asked do not include answers such as “right” or “wrong,” but rather looks at systems in terms of “good, better and best” (Think Reliability, 2013).

**Cause and Effect Principle**
An accurate definition of the cause and effect principle is “For every effect there are causes.” This subtle change in terminology produces a significant improvement in our analyses of problems. As organizations experiment with this approach they recognize the very nature of how they communicate and solve problems changes. The focus of the analysis changes from who’s “right” to what are the specific cause and effect relationships (plural) that created this incident. Organizations realize quickly that the conventional root cause approach is nothing more than a search for the “right-answer” to a systems problem.

The systems approach to investigating and solving problems is fundamental because it is based on this principle of cause and effect (Think Reliability, 2013).

**Root Cause Analysis**

*Root cause analysis* is a systems approach method that dives into the question of “why” an error occurred. In establishing cause and effect, we need to perform a root cause analysis, to determine the *cause* of a system failure.

A good analogy is gardening. In caring for our gardens, we understand that we need to remove the root of a weed rather than just the weed itself, if we want to eliminate weeds in the yard on a long-term basis. Similarly, healthcare organizations must perform root cause analysis of errors if the organization is interested in solving problems once and for all (Think Reliability, 2013).

Root cause analysis serves to:
- Bring key stakeholders and the groups and/or individuals involved in the error-prone process together
- Facilitate communication in a non-threatening atmosphere. Usually a facilitator is involved in the process.
- Avoid assigning blame for a problem or error.

In a root cause analysis the team drills down to the root of the problem and brainstorms factors that could have caused the error to occur.

**Digging Deeper**
Determining the root cause of a problem does not happen in one meeting. Often more than one meeting is necessary to drill down to gather more information, add different team members who might be critical to the process, and to drill down to the true cause.

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During the analysis it is important to keep asking the question “why” to identify the factors (details) that may be affecting the problem or issue. The team should continue to ask why until there is no more useful information. The results will most likely reveal the basis for or the “root” cause(s) of the problem or issue.

**Test Yourself Q4:**
What is the most important question to ask when trying to determine the root cause of a problem?

A. Who?
B. What?
C. Why?

The correct answer is: C. The team should ask why until there is no more useful information. The results will most likely reveal the basis for or the “root” cause(s) of the problem or issue. Asking who or what do not lead to a root cause analysis.

**Threat and Error Management Template**

**Introduction**
Lessons learned in the aviation industry can be applied to the healthcare industry. The following is a template for threat and error management (Helmreich, Musson, & Sexton, 2001).

**Understand History**
Understand the organization’s history and issues.

**Diagnose Conditions**
Diagnose the error-inducing conditions by obtaining accurate data on current practices (including confidential reporting systems, surveys of personnel, and observations of normal practices).

**Change the Culture**
Change the organizational culture to a safety culture, which recognizes the inevitability of error and actively seeks to identify and reduce latent threats.

**Train Staff**
Train staff in effective teamwork, decision-making, and error management as well as technical aspects of the job.

**Provide Feedback**
Provide feedback and reinforcement for effective teamwork and error management.

**Recognize Needs**
Recognize the continuing need for accurate data on threat and error management and ongoing training in threat and error reduction countermeasures.

**Root Cause Analysis**

**Fishbone Diagram**

**Introduction**
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A common tool used to assist with a root cause analysis is a Cause and Effect Diagram, also known as a Fishbone Diagram. Click on the red or green moving icons to learn more about fishbone diagrams.

**Problem or Issue**
The head of the fish represents the problem or issue to be studied.

**Causes**
The large bones of the fish represent categories that may be one or more causes of the incident.

**Details**
The small bones of the fish represent details that may have contributed to the incident.

**Categories**
The categories of problems and issues are flexible but common ones in healthcare are:
- People
- Environment
- Materials
- Methods
- Equipment

(Institute for Healthcare Improvement, 2011)

*These categories are examples. Others may be appropriate for your particular setting. The categories help organize ideas. It is important, however, that each major category is mutually exclusive in order to avoid confusion.

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**Test Yourself Q5:**
A fish-bone diagram is used to:
A. Show cause and effect  
B. Offer solutions to common healthcare problems  
C. Provide a visual representation of a solution

The correct answer is: A. The fish-bone diagram is a common tool used to assist with a root cause analysis, and is also known as a Cause and Effect Diagram. The head of the fish represents the problem or issue to be studied, the large bones of the fish represent categories that may be one or

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more causes of the incident, and the small bones of the fish represent details that may have contributed to the incident.

**Sentinel Events**
A sentinel event is “an unexpected occurrence involving death or serious physical or psychological injury or the risk thereof” (Joint Commission, 2013a). Such events are called "sentinel" because they signal the need for immediate investigation and response.

The Joint Commission has mandated that organizations conduct a root cause analysis on sentinel events. However, root cause analysis can be used for any system problem identified within an organization, not just sentinel events.

Issues like long stays in the emergency department, prolonged down-time between surgical procedures, common patient satisfaction complaints; even late patient stays can be evaluated and resolved using a process that includes root cause analysis.

**Taking Action**
Although root cause analysis is critically important, you need to take action. Start by making an action plan.

The first step should be taking measurements to see the issue or problem in its current state. Then define clear steps to remedy the situation and communicate these steps to all concerned.

Once you have taken the first steps, measure again to see if the action plan was successful. Periodic measurement over time will show if changes were sustained. (Joint Commission, 2010a)

**Creating Change**
Healthcare settings around the country are using root cause analysis to evaluate problems or issues and find solutions.

The process isn’t always easy, but by focusing on “systems” and not on individuals, lasting changes can be made to the quality of patient care.

**New Beginnings**
Root cause analysis has led to:
- Removal of concentrated IV potassium from patient care areas
- Change in labeling of different concentrations of heparin
- Standardization of colored wrist bands to avoid confusion about their meaning
- Changing the placement of look-alike medications in the pharmacy setting
- Implementation of fast-track systems in the ED to avoid delays in care

These are just a few of the changes you might see. Thousands of others are being made as organizations work to improve all aspects of quality of care.

**Major Improvements**
Since the IOM report came out in 1999, many organizations have been working diligently to improve the quality of patient care. Some of the biggest changes have been made in the areas of:
- Medications errors
- Wrong site surgery
- Central line associated bloodstream errors

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Medication Errors
The Institute for Safe Medical Practices (ISMP) works closely with the U.S. Food and Drug Administration (FDA) to track and prevent medication errors. It keeps a list of nearly 700 look alike or sound alike drugs that may be confused with one another. It also tracks high alert medications such as insulin, narcotics, opiates and blood thinners, drugs where mistakes can be most deadly. On average, the Institute of Medicine says patients on average experience one medication error a day. In addition to its medication safety newsletters, ISMP has historically sent out urgent advisories to subscribers about serious errors or information requiring immediate attention to ensure that the healthcare community has the opportunity learn about emerging safety issues in real time (ISMP, 2013a).

One of the most documented and researched areas of medical errors and sentinel events is the prescribing, dispensing and administration of medications to patients.

According to the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP, 2013), a medication error is:
“any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems including: prescribing; order communication; product labeling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use.”
(http://www.nccmerp.org/aboutMedErrors.html).

Medication Errors

Medication errors injure 1.5 million people annually (IOM, 2006). The cost of these errors is estimated at more than 3.5 billion dollars, and that is considered to be a conservative estimate.

As stated earlier, medication errors are typically related to administration processes, from prescribing to dispensing to delivery. Within each of these steps, there exist more processes, each with its own potential for error.

Assumptions are usually made that the person who actually administered the medication is at fault for the error. However, research has demonstrated that the root cause of medication errors is in prescribing, dispensing, and administration.

Recommendations of Reducing Medication Errors

Introduction
The rollouts below list recommendations for reducing medication errors

Two Patient IDs
Use two patient identifiers
(e.g. name and date of birth)

Computerized Ordering Systems
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Use computerized ordering systems (e.g., systems capable of warning of drug interactions and overdoses, integrating with laboratory findings, and improving communication between providers)

**Barcodes**
Use barcodes to match medications to patients

**Avoid Verbal Orders**
Allow verbal orders only under certain circumstances

**Improve Incident Reports**
Improve incident reporting systems

**Involve Pharmacists**
Increase involvement of pharmacists to advise physicians in prescribing medications

**Improve Warnings**
Improve or add warnings on medications with higher potential for harm (high-alert), such as insulin, narcotics, and potassium chloride

**Limit Access**
Limit access to high-alert medications (e.g., removing them from floor stock)

**Standardize Procedures**
Standardize ordering, preparation, and administration of high-alert medications

**Closely Monitor Effects**
Closely monitor the effects of the medication with patient monitoring and laboratory values

**Standardize Abbreviations**
Standardize abbreviations (e.g., writing “units” not “U,” using appropriate decimal places such as writing 2 instead of 2.0 or 0.5 instead of .5)

**Beware of Similar Meds**
Beware of sound alike or look alike medications
With tens of thousands of brand name and generic drugs currently on the market, the potential for error due to confusing drug names is significant. New names that are similar to existing names continue to be approved and medication errors continue to occur despite review before introduction to the market by a number of U.S. and international organizations. At present, the Institute for Safe Medication Practices, USP and the FDA collect and track medication errors and make information available to health care providers and the public (The Joint Commission, 2010b).

Use Tallman lettering to differentiate look-alike medications
Tallman lettering involves highlighting the dissimilar letters in two names to aid in distinguishing between the two (ISMP, 2013b). In addition to ISMP, several studies have shown that highlighting sections of drug names using tall man (mixed case) letters can help distinguish similar drug names, making them less prone to mix-ups. ISMP, FDA, The Joint Commission, and other safety conscious organizations have promoted the use of tall man letters as one means of reducing confusion between similar drug names. To promote standardization, ISMP has created a list of Look-Alike Drug Name Sets With Recommended Tall Man Letters. [http://www.ismp.org/tools/tallmanletters.pdf](http://www.ismp.org/tools/tallmanletters.pdf)
Limit interruptions during specific aspects of the medication delivery process

**Test Yourself Q6:**
Which of the following may INCREASE the risk of medication errors?

- A. Use of verbal orders
- B. Use of barcoding technology
- C. Double-checking medications with another provider

The correct answer is: A. It is advisable to avoid the use of verbal orders. Bar-coding technology and the practice of double-checking medications with another provider are methods to decrease the risk of medication errors.

**Wrong Site Surgery**
The Joint Commission (TJC) has been monitoring wrong site surgery since 1998. In July of 2004, the Universal Protocol for Preventing Wrong Site, Wrong Procedure and Wrong Person Surgery™ was put into effect for use in all Joint Commission accredited hospitals, ambulatory care and office-based surgery facilities. The protocol is applicable to all operative and other invasive procedures performed in TJC accredited organizations, in accordance with a series of requirements designed to reduce the incidence of wrong site surgery.

The protocol was developed following root cause analysis for wrong site surgery. Analysis showed a number of issues. However, **lack of communication** or communication problems, was identified as one very major factor in wrong site surgery (Joint Commission, 2001).

**Wrong Site Surgery**
The key, high-level steps of the Universal Protocol are:

1. Pre-procedure verification – of the patient, the surgery, forms, consents, lab, x-ray
2. Mark the procedural site – initial marking involves the patient and an approved licensed practitioner or the surgeon
3. Time out immediately before the start of the procedure – standardized process involving verbal communication, process for resolution of discrepancies

The Universal Protocol is required in all Joint Commission accredited settings and is supported by all the key professional organizations involved in surgery (surgical, perioperative nursing, anesthesia).

**Central Line Associated Bloodstream Infections (CLABSI)**
Through collaborative work in centers across the country, a set of evidence based activities have led to significant decrease in CLABSI in intensive care units.

The Central Line Bundle is a group of evidence-based interventions for patients with central catheters. Implementation of the bundle results in better outcomes than when portions are implemented individually (Institute for Healthcare Improvement [IHI], 2011).

This decrease in infection rates also means a decrease in mortality and the associated costs. These amazing results have been replicated in other organizations. The use of this bundle or other evidence-based practice is now required by the Joint Commission as part of the National Patient Safety Goals (Joint Commission NPSG, 2010).

**Central Line Associated Bloodstream Infections (CLABSI)**
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The Central Line Bundle includes the following:
- Hand Hygiene
- Barrier precautions during line placement
- The use of chlorhexidine for skin antisepsis
- Avoid femoral line insertion
- Assess daily to determine if catheter can be removed

As hospitals work to implement this bundle, they are finding that root cause analysis is needed to determine what is preventing successful implementation of the bundle and/or why infection rates are not decreasing. Hospitals are working alone or in collaboration with others to implement the bundle and to investigate why the bundle is not being implemented.

Central Line Associated Bloodstream Infections (CLABSI)
Various root causes to lack of implementation include:
- Lack of knowledge/education
- Lack of compliance
- Inadequate documentation
- Supplies not readily available

These are only a few of the many possible root causes for non-adherence to the bundle. As the hospitals work through the barriers to implementation, CLABSI can be decreased in other healthcare settings.

Patient Falls
Patient falls are one of the most common adverse events that occur in hospitalized patients. According to the Institute for Healthcare Improvement, falls are one of the major causes of death in the elderly (IHI, 2010) and are the leading cause of injury in hospitalized patients.

The West Virginia Medical Institute, West Virginia’s quality organization, identified patient falls as a key area on which to focus their improvement efforts. A Patient Safety Improvement Corp team was created through an AHRQ and Veteran’s Affair Grant. The focus of the team was to reduce falls in rural West Virginia.

Patient Falls: Root Cause Analysis
Root cause analysis was one of the first steps taken. Through the process, and with the involvement of many team members, the teams identified several root causes. They determined that the facilities could ask patients’ families to provide information about the risk for falls; encourage patients to put on their call light when ambulating to the bathroom in order to alert the staff; put appropriate risk signage in the patient rooms; and teach the staff proper lifting techniques.

Through this program and collaborative effort, the total number of falls in rural West Virginia decreased from 134 per 1000 patient days to 74 per 1000 patient days. Other measures including mean number of falls and falls per facility also decreased substantially (Ruddick, et al., 2010).

Quality Initiatives
The report from the Institute of Medicine in 1999 started the quality movement, but it was only the beginning. A number of key organizations are immersed in the mission to improve quality of patient care:
The Joint Commission – Joint Commission National Patient Safety Goals (NPSG)
The National Quality Forum (NQF)
The Institute for Healthcare Improvement (IHI)
In addition, organizations are involving patients and families in taking preventative measures.

**The Joint Commission (TJC)**
The Joint Commission has identified a number of events, that when they occur, require immediate investigation and action steps. Most of these sentinel events are required to be reported to the Joint Commission, and through this reporting, help create a national database, a true error rate, and allow organizations to share strategies for improvement.

**Sentinel Events:**

**Accidental Death**
Any patient death, paralysis, coma, or other major permanent loss of function not related to the natural course of the patient's illness or underlying condition.

**Suicide**
The event is one of the following, even if the outcome was not death or major permanent loss of function unrelated to the natural course of the patient's illness or underlying condition:

- Suicide of any patient receiving care, treatment or services in a staffed around-the-clock setting or within 72 hours of discharge

**Infant Death**
Unanticipated death of a full-term infant

**Wrong Infant Discharge**
Discharge of an infant to the wrong family

**Abduction**
Abduction of any patient receiving care, treatment and services

**Rape**
The rape of a patient

**Blood Transfusion Errors**
Hemolytic transfusion reaction involving administration of blood or blood products having major blood incompatibilities

**Wrong Surgery**
Surgery on the wrong patient or wrong body part

**Foreign Object in Patient**
Unintended retention of a foreign object in a patient after surgery or other procedure

**Neonatal Hyperbilirubinemia**
Severe neonatal hyperbilirubinemia (bilirubin > 30 milligrams/deciliter)

**Radiation Overdose**
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Prolonged fluoroscopy with cumulative dose > 1500 reads to a single field or any delivery of radiotherapy to the wrong body region or > 25% above the planned radiotherapy dose

The Joint Commission NATIONAL Patient Safety Goals (NPSGs):

Introduction
First developed in 2002, the Joint Commission’s National Patient Safety Goals (NPSGs) were developed by a panel of experts (The Patient Safety Advisory Group) to help accredited organizations address specific safety concerns in their facilities. These NPSGs have evolved and become an integral part of healthcare organizations today.

Each year the NPSG are evaluated and updated. Several have been removed from the “goals” and moved into the general standards for the Joint Commission. Through the NPSG, the Joint Commission and its accredited organizations have collaborated to improve the quality of patient care.

Here are some of the most common goals among these diverse organizations:

Two Patient IDs
Use two different patient identifiers. Acceptable identifiers may be the individual's name, an assigned identification number on a wrist ID band, home telephone number, or other person-specific identifier. Electronic identification technology coding, such as bar coding that includes two or more person-specific identifiers (not room number) will comply with this requirement (TJC, 2008).

Transfusions
Eliminate transfusion errors

Read Back Orders
Read back of verbal/phone orders to ensure accuracy of the order

Dangerous Abbreviations
The Joint Commission, ISMP and other organizations have identified abbreviations that commonly lead to medication errors. These include:
- QOD, QD (mistaken for each other)
- cc (mistaken for "u" for units)
- Trailing zeros after decimal point (e.g. “50” mistaken for “5.0”)
- No leading zero before decimal point (e.g. “ 5” mistaken for “.5”)

These are only a very few examples of dangerous abbreviations. Your organization will have a list developed of dangerous and unacceptable abbreviations.

Reconcile Medications
Reconcile patient medications during transfers

Prevent Infections
Prevent hospital-acquired infections including:
- Multi-drug resistant organisms
- Central line blood stream infections
- Surgical site infections
Prevent Fire in the OR
Prevent fire in the operating room

Prevent Fire in the Home
Prevent fire in patient home settings

Prevent Falls
Prevent injuries from patient falls

Clinical Alarm Safety (A new NPSG that has a phased implementation in 2014 and 2016). Establishes alarm safety as a critical hospital priority. By Jan 2016, all healthcare organizations must establish policies and procedures for managing alarm signals, including policies on when alarm signals can be disabled and when alarm parameters can be changed. Staff must also be educated about the organization’s alarm system management.

National Quality Forum (NQF)
The National Quality Forum (NQF) is a not-for-profit organization working to improve healthcare in the United States. NQF has a three part mission:

- Setting national priorities and goals for performance improvement
- Endorsing national consensus standards for measuring reporting performance
- Promoting education and outreach activities to help reach these goals
- NQF members include individuals, major organizations, accrediting and certifying bodies, healthcare organizations, and educational organizations.

National Quality Forum (NQF)
One of the key projects of the NQF is a group of NQF-Endorsed® Standards. These include:

- Prophylactic antibiotics discontinued within 24 hours post surgery
- Abdominal aortic aneurism mortality
- Venous thromboembolism (VTE) prophylaxis
- Timely initiation of care
- Transfusion reactions

Institute for Healthcare Improvement (IHI)
IHI is also a not-for-profit organization dedicated to leading healthcare improvements around the world (IHI, 2010).

The work of IHI takes place primarily through education and leadership. They are recognized worldwide for their work and expertise.

Institute for Safe Medication Practices (ISMP)
ISMP is the only not-for-profit organization dedicated to medication error prevention and safe medication usage (ISMP, 2010).

ISMP has been instrumental in changes like identification of look-alike/sound-alike medications, dangerous abbreviations, and medication name confusion (leading to Tall Man lettering).

Their informative and educational newsletters are directed to practitioners and provide specific methods to improve medication practices. Their recommendations have been adopted by organizations internationally.
The Centers for Medicare and Medicaid Services (CMS)
The Centers for Medicare and Medicaid Services (CMS) had identified errors that should “never” happen, and will no longer reimburse organizations for the additional care required to treat the complications or sequelae of the Never Event.

CMS works closely with the National Quality Forum to identify and define these events. The National Quality Forum calls the Never Events "Serious Reportable Events in Healthcare."

CMS Never Events:

Surgical Events
• Wrong patient
• Wrong site surgery
• Unintended retention of a foreign object
• Inter-operative/immediate post-operative death of an American Society for Anesthesiologists (ASA) Class I patient (Class 1 designation represents patients with the lowest amount of surgical risk).

Product or Device Events
• Death or disability from contaminated medications or biologics
• Use of a device for other than what it is intended
• Air embolism

Patient Protection Events
• Infant discharged to wrong person
• Suicide or attempted suicide of a patient
• Death or disability due to a patient leaving a facility without permission

Case Management Events
• Medication errors
• Hemolytic transfusion reactions
• Hypoglycemia
• Hyperbilirubinemia
• Spinal manipulative therapy any of which lead to serious injury or death
• Maternal death in a low-risk pregnancy
• Stage III or IV pressure ulcers
• Artificial insemination from the wrong donor

Environmental Events
• Electric shock
• Burn
• Fall
• Restraints that leads to serious injury or death
• Delivery of another gas through an oxygen delivery line

Criminal Events
• Someone ordering care while impersonating a healthcare professional
• Abduction
• Sexual assault on the grounds of the facility
• Death or serious disability of patient or staff member from an assault on the grounds of the healthcare facility

**Patient Involvement in Medical Error Reduction**
One of the most recent changes in the quality movement is the involvement of patients in reducing medical errors. Organizations believe that involving patients and their families is a critical piece of the quality puzzle.

As noted earlier in the course, families can be one of the best resources for information about patient’s risk for falling. Patient involvement and communication, literally keeping them “in the know,” helps prevent errors. Patients who know the potential risks for error are more involved in their care and can take their own preventative measures (Scobie & Persaud, 2010).

**Patient Involvement in Medical Error Reduction**
Healthcare providers can facilitate patients’ involvement in their own safety through:

• Encouraging patients to ask challenging questions of any and all healthcare providers
• Increasing patients’ knowledge about the inherent risks in the healthcare setting and medication administration

The Joint Commission has a specific program called the “Speak Up” campaign that encourages healthcare providers and patients to increase the involvement of patients in their own care (Joint Commission, 2010c).

**Conclusion**
Medical error reduction is a key initiative in healthcare organizations worldwide. The previous “Name and Blame” culture is being replaced by a culture focused on analyzing errors and making system improvements. Specific initiatives are in place in every healthcare organization to improve the quality of care that patients receive. Find out what initiatives are important to your organization, and learn how you can become involved.

*By reducing the occurrence of medication errors, healthcare professionals can directly improve the quality of patient care and more effectively contain healthcare costs and improve patient satisfaction.*

**References**


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