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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. The Florida State Requirement is as follows:

64B9-5.011 Continuing Education on Prevention of Medical Errors.

To receive Board approval, each course on prevention of medical errors shall consist of a minimum of at least two (2) hours of classroom or an equivalent home study program and shall include at a minimum the following subject areas:

(1) Factors that impact the occurrence of medical errors;
(2) Recognizing error-prone situations;
(3) Processes to improve patient outcomes;
(4) Responsibilities for reporting;
(5) Safety needs of special populations;
(6) Public education.

Rulemaking Authority 456.013(7) FS. Law Implemented 456.013(7) FS. History–New 5-2-02, Amended 1-10-16.

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 (RCA)
- 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

Introduction:

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®).

Medical Error Statistics

Two hundred fifty thousand Americans die from preventable medical errors today, including facility-acquired conditions (Allen & Pierce, 2016). 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 (Andel, Davidow, Hollander, & Moreno, 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). One of the reasons that a concrete picture cannot be developed is the person who is responsible for the error may not report it, possibly out of fear of punitive action or because they do not understand an error has been committed, especially if no harm has come to the patient. It is the responsibility of the bedside nurse, unit leadership, administration, and the organization to report errors. The more accurate the reporting, the more accurate the picture and the more efficacious the outcomes.

The Patient Protection and Accountable Care Act (PPACA) has several quality improvement provisions including restructuring how 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:
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

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

Creating a Culture of Safety

Until recently healthcare had a culture of "Name and Blame." Rather than look at systems and system breakdowns, the finger was pointed at one person and the blame placed there. Additionally, with the prevalence of malpractice lawsuits, a culture of covering up errors was encouraged. Self-reporting or reporting of others was discouraged.

Just Culture

Healthcare leadership, educators, and providers are now taking steps to create and maintain a culture of safety without blame, or Just Culture. Just Culture 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 (Agency for Healthcare Research and Quality (AHRQ), 2016).

The Agency for Healthcare Research and Quality (AHRQ) acknowledges that there are some errors that still need to be handled immediately and with punitive action; however, these incidences should

not be the norm. The following quote from the AHRQ, 2016 Patient Safety Primer defines Just Culture:

> A just culture focuses on identifying and addressing systems issues that lead individuals to engage in unsafe behaviors, while maintaining individual accountability by establishing zero tolerance for reckless behavior. It distinguishes between human error (e.g., slips), at-risk behavior (e.g., taking shortcuts), and reckless behavior (e.g., ignoring required safety steps), in contrast to an overarching "no-blame" approach still favored by some. In a just culture, the response to an error or near miss is predicated on the type of behavior associated with the error, and not the severity of the event. For example, reckless behavior such as refusing to perform a "time-out" prior to surgery would merit punitive action, even if patients were not harmed (ARHQ, 2016).

Test Yourself:

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 based on the severity of the event and not the behavior associated with the error

The correct answer is: C.
Rationale: In a just culture, the response to an error or near miss is predicated on the type of behavior associated with the error, and not the severity of the event. For example, reckless behavior such as refusing to perform a "time-out" prior to surgery would merit punitive action, even if patients were not harmed (ARHQ, 2016).

High Reliability Organizations

There are several quality improvement methods that can be applied in healthcare. These approaches have been adapted from aviation, business, technology and other industries which are high reliability organizations. Commitment to safety establishes a culture of safety with the following key components:

1. Acknowledgment of the high-risk nature of an organization's activities and the determination to achieve consistently safe operations
2. A blame-free environment where individuals can report errors or near misses without fear of reprimand or punishment
3. Encouragement of collaboration across ranks and disciplines to seek solutions to patient safety problems
4. Organizational commitment of resources to address safety concerns

A culture of safety requires diligence and attentiveness to the microsystems within the facility. Sustaining this very necessary work requires team work, safety teams, structured communication, and buy-in from grassroots to administrators.

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 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 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, Bates, Cullen, & Cooper, 1995). A blame free environment without retribution for reporting, facilitates the accurate and thorough collection of data that is crucial to develop a system 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).

This course will focus on some of the current strategies to reduce medical errors and build a culture of safety.

RCA

Root Cause Analysis (RCA) 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 RCA, to determine the *cause* of a system failure.

This method is based on evidence, not blame. The focus is on the system and what breakdowns occurred in the system for the error to occur. By focusing on the system and staff behavior, and not blaming an individual, an organization can make true, sustained improvements in processes, rather than fixing one single incident.

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

Test Yourself:
A RCA focuses on:

A. The System
B. Fixing single events
C. The individual at fault

The correct answer is: A.
Rationale: 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.

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 RCA of errors if the organization is interested in solving problems once and for all (Think Reliability, 2013).

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.

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

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

The correct answer is: C.
Rationale: 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 RCA.

Fishbone Diagram
A common tool used to assist with a RCA 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.

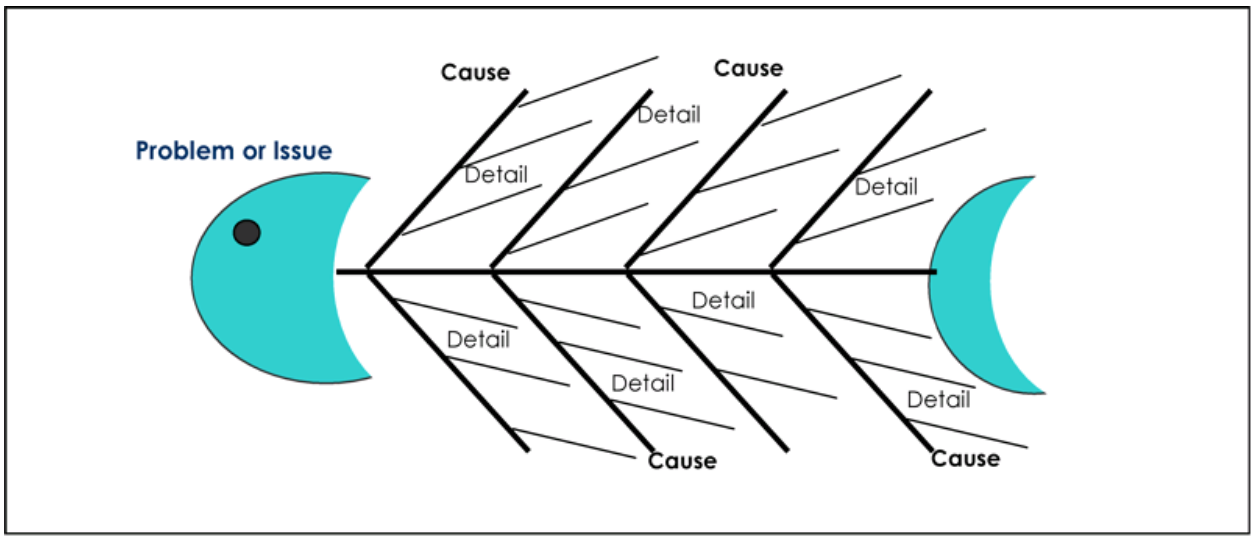
Causes
The large bones of the fish represent categories that may be one or more causes of the incident.

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.



Test Yourself:
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.
Rationale: The fish-bone diagram is a common tool used to assist with a RCA, 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 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 RCA on sentinel events. However, RCA 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 RCA.

Taking Action
Although RCA is critically important, you need to act. 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 RCA 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
Analysis of medical errors 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 develop a culture of safety.

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
- Patient Falls
- Ventilator Associated Events

Did You Know?

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).

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 sends 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

Per the AHRQ, Patient Safety Primer, Medication Errors, 2015, medication errors account for almost 70,000 emergency department visits and 100,000 hospital admissions annually. Additionally, 5 percent of hospitalized patients are affected by medication errors; making medication errors one of the most common inpatient errors.

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.

Recommendations of Reducing Medication Errors

The following **r**ecommendations may help reduce medication errors.

- Two Patient IDs
  - Use two patient identifiers (e.g. name and date of birth)
- Computerized Ordering Systems
  - Use computerized ordering systems (e.g., systems capable of warning of drug interactions and overdoses, integrating with laboratory findings, and improving communication between providers)
  - Improve or add warnings on medications with higher potential for harm (high-alert), such as insulin, narcotics, and potassium chloride

- Electronic Dispensing Medication Cabinets
  - Utilize dispensing medication cabinets to control medication dispensing
- Barcodes
  - Use barcodes to match medications to patients
- Avoid Verbal Orders
  - Allow verbal orders only under certain circumstances and have providers sign these orders as soon as possible
  - Read back the order to the provider
- Involve Pharmacists
  - Increase involvement of pharmacists to advise physicians in prescribing medications
- Limit Access
  - Limit access to high-alert medications (e.g., removing them from floor stock)
  - Ensure high-alert medications are not side by side in medication drawers
- Standardize Procedures
  - Standardize ordering, preparation, and administration of high-alert medications
- Smart pumps
  - Utilize smart pumps for administering intravenous medications and fluids
  - Ensure smart pumps are programmed for the correct patient population and medication guardrails
- Standardize Abbreviations
  - Establish a “do not use” list of abbreviations
  - Write out unit of measure - units not U
  - Do not use trailing zeroes - 2 not 2.0
  - Use preceding zeroes - 0.5 not .5

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 (ISMP), U.S. Pharmacopeia (USP), and the Food and Drug Administration (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). For example: DOPamine or DOBUTamine. 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 (TJC), 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

Limit interruptions during specific aspects of the medication delivery process

Test Yourself

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.
Rationale: 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 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 RCA 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.

The Central Line Bundle is a group of evidence-based interventions for patients with central catheters that are done in the same space and time. 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)
The Central Line Bundle includes the following:
- Hand Hygiene
- Full barrier precautions during line placement (gown, mask, cap, sterile gloves)
- The use of 2 percent chlorhexidine for skin antisepsis

- Avoid femoral line insertion in adults (femoral lines are a preferred site in pediatrics)
- Assess daily to determine if catheter is still needed

As hospitals work to implement this bundle, they are finding that RCA 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, CLBSI can be decreased in other healthcare settings.

Ventilator Associated Pneumonias
Because providers and institutions concerns surrounding ventilator associated pneumonias, changes were made that will affect how pulmonary events are identified, reported and benchmarked.

In 2002, the Centers for Disease Control and Prevention (CDC), defined ventilator associated pneumonia (VAP), a bundle of practice was developed to prevent VAP, and the Centers for Medicare and Medicaid made VAP a never event. However, the use of the bundle and definition did not prove to be sensitive or specific for VAP. Recently, in response to the findings, the CDC established a task force to develop a surveillance strategy for reporting and benchmarking ventilator events. The taskforce work culminated in a new term, ventilator associated event (VAE). This new term groups all the conditions that result in a significant and sustained deterioration in oxygenation, defined as a greater than 20% increase in the daily minimum fraction of inspired oxygen or an increase of at least 3 cm H_2O in the daily minimum positive end-expiratory pressure (PEEP) to maintain oxygenation. Both infectious and non-infectious conditions may fulfill this definition.

A new bundle of care has also been developed by medical institutions across the nation. Components of this bundle may include:

- Head-of-bed elevation (30º to 45º)
- Mouth/endotracheal tube care (oral cleansing with chlorhexidine)
- Lung protective ventilator strategies (for acute respiratory distress syndrome [ARDS] and non-ARDS patients)
- Early discontinuation of mechanical ventilation
- Appropriate analgesia and sedation (especially avoiding benzodiazepines)
- Daily interruption of sedation
- Early mobilization, with or without ambulation
- Deep venous thrombosis prophylaxis
- Gastrointestinal prophylaxis
- Balanced intravenous fluid administration

(Raoof & Baumann, 2014)

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.

Patient Falls: RCA
Through the RCA 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 to alert the staff; put appropriate risk signage in the patient rooms; and teach the staff proper lifting techniques.

Quality Initiatives
The report from the Institute of Medicine (IOM) in 1999 started the quality movement, but it was only the beginning. Several 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)
The Institute for Safe Medication Practices (ISMP)
Centers for Medicare & Medicaid Services (CMS)

Sentinel Events
Identified and reportable sentinel events include the following:

- Accidental Death
- Suicide
- Infant Death
- Wrong Infant Discharge
- Abduction
- Rape
- Blood Transfusion Errors
- Wrong Surgery
- Foreign Object in Patient
- Severe neonatal hyperbilirubinemia (bilirubin > 30 milligrams/deciliter)
- Radiation Overdose

The Joint Commission NATIONAL Patient Safety Goals (NPSGs):
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:

- Use Two unique patient identifies (do not use room number)
- Eliminate transfusion errors
- Read back verbal/phone orders to ensure accuracy
- Develop a “do not use” list of abbreviations
- Reconcile patient medications on admission, transfer, and discharge
- Eliminate hospital acquired conditions
- Prevent operating room fires
- Prevent falls
- Eliminate alarm fatigue

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 world-wide 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***.”
The following list delineates the CMS and NQF 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

Case Study

You are working on a medical/surgical unit and have volunteered to be the point person to help reduce medication errors on your unit. This is your first involvement in quality management and you are eager to learn all you can regarding the incidence of errors and the magnitude of errors occurring on your unit and within your institution. One of the issues you have heard while working on the floor is that nurses are afraid to report errors and near-misses for fear of being disciplined or losing their job. You need to investigate the policy surrounding medication error reporting to see if you can change the nurses' perception.

You go to the manager of Quality Management to become educated on the policy. You are not sure what it means to have a "Culture of Safety". The Quality Manager asks you to define the culture of "name and blame" and "just culture".

If you replied:
Name and Blame: Being pointed out as being the person who made a mistake and being disciplined for making the mistake no matter the magnitude of the mistake or the reason for making the mistake.

Just Culture: Looking at systems and system breakdowns, fostering critical thinking and a 'systems' approach to error reduction and prevention, with shared accountability for the safety of patients. Just Culture acknowledges that there are some errors that still need to be handled immediately and with punitive action; however, these incidences should not be the norm.

You are correct! You know the basics. Now let's put them to work.

Sally Jo was caring for 4 patients, one was in pain, one was ready to be discharged, one had several 0900 medications due, and one was sleeping with family at the bedside. Sally Jo went to the medication room to prepare the medications. She pulled the 0900 medications from the patient's drawer, left them in their original containers with barcode information, and went to the automatic medication dispenser to obtain the pain medicine for her other patient. While she was there, she was interrupted several times with requests from other personnel and inadvertently took out the wrong patient's pain medication. Following the policy of the unit, she identified the patient, barcoded the medications and appropriately gave the 0900 meds. However, when she followed the same steps with the pain medication, she found she had the wrong medication. She retraced her steps, returned the wrong medication and obtained the correct medication and administered it. Should she report it, after all, the wrong medication was not given?

a. Don't report it, no error occurred
b. Don't report it, you will only be disciplined and nothing untoward happened
c. Report it, it was a near-miss, and lessons can be learned from the occurrence

If you answered "a": you are incorrect, an error did occur-the wrong medication was taken out for the wrong patient; it was identified prior to administration, but it is still an error.

If you answered "b": you are incorrect, in a "Just Culture" institution, the person making the error is not blamed, but all aspects of the circumstances are investigated.

If you answered "c": you are correct, While, an error occurred, it did not reach the patient because the system processes worked for the most part. The lesson to be learned is that interruptions occur, but

should be minimized when preparing medications. Double checking the patient and medication before leaving the automated medication dispensing machine, might have helped identify the error quicker. This error was not intentional or due to reckless behavior, therefore, does not merit punitive action.

While learning your role as a quality champion for medication error reduction, one of your colleagues mentioned that she had read about institutions that were High Reliability Organizations (HRO) and wondered if you knew if your organization was one.

You replied:

a. Yes, all healthcare facilities are HRO
b. Yes, your facility is committed to establishing a culture of safety

If you answered “a”: you are incorrect, being an HRO takes commitment, diligence and communication to establish a culture of safety

IF you answered “b”: you are correct, A HRO’s commitment to safety establishes a culture of safety with the following key components:

5. Acknowledgment of the high-risk nature of an organization's activities and the determination to achieve consistently safe operations
6. A blame-free environment where individuals can report errors or near misses without fear of reprimand or punishment
7. Encouragement of collaboration across ranks and disciplines to seek solutions to patient safety problems
8. Organizational commitment of resources to address safety concerns

A culture of safety requires diligence and attentiveness to the microsystems within the facility. Sustaining this very necessary work requires team work, safety teams, structured communication, and buy-in from grassroots to administrators.

You are becoming a great quality champion! Your goals are to reduce medications errors to zero. You know this is a lofty goal, so you begin by educating the staff about the importance of reporting every error, so that you can find the “why the error occurred” and find ways to fix the system process so the error does not reoccur.

As part of your education for the staff, you prepare a just in-time educational project regarding errors and their magnitude. You ask them to match the following definitions to the correct terminology.

Sentinel Event	Unexpected occurrence involving death or serious physical or psychological injury or the risk thereof
Near-miss	Error recognized before reaching the patient
Harmful	Error reached the patient and caused harm
No Harm	Error reached the patient but did not cause harm

Your staff wants to know why you must tell the patient and family about the error, regardless of whether harm occurred. What would your answer be?

a. It is a Joint Commission Requirement
b. Keeping patient's in the know helps prevent errors
c. Your Chief Nursing Officer said you must be transparent

The correct answer is "b": 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).

As you are learning more about medication error reduction you want to update your institution's policy and procedure for medication administration. Which of the following would you include in your policy to ensure your institution is doing all it can to prevent errors?

- Two Patient IDs
- Computerized Ordering Systems
- Electronic Dispensing Medication Cabinets
- Barcodes
- Avoid Verbal Orders
- Involve Pharmacists
- Limit Access
- Standardize Procedures
- Smart pumps and guardrails
- Standardize Abbreviations
- Sound Alike or Look Alike Medications
- TALLMAN lettering

If you selected all the above, you are correct. These recommendations have been shown to reduce medication errors.

Because of your efforts, your unit and institution are well on the way to not only reduce medication errors, but to have a culture of safety and a just culture which will help reduce all errors. Congratulations!

Conclusion

Medical error reduction is a key initiative in healthcare organizations worldwide. The previous "Name and Blame" culture is being replaced by Just Culture focused on analyzing errors, evaluating staff behaviors and intent, 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.

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