Patient Safety

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Patient safety

" so long as it involve human , health care will never be free of ***error***

....but it can be free of ***injury*** *"Donald berwick*

Donald Berwick

WHAT IS THE MEAN OF PATIENT SAFETY ?

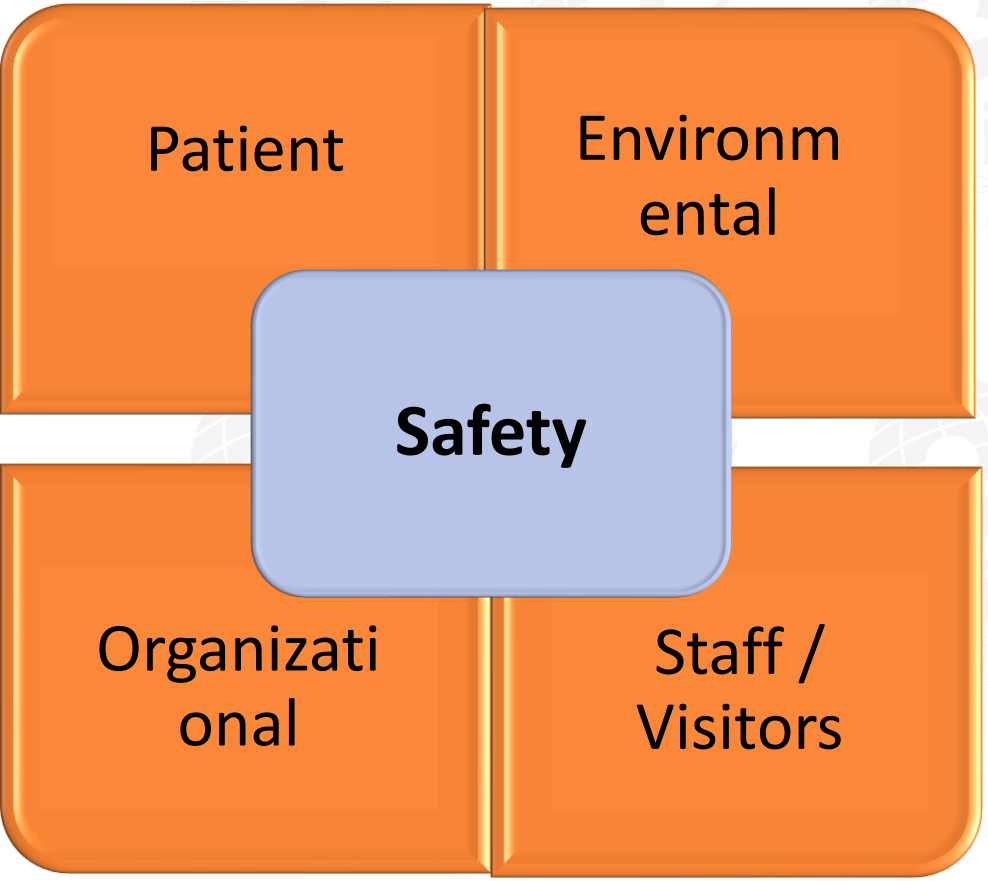
Patient safety defined as " a discipline in the healthcare sector that applies safety science methods toward the goal of achieving a trustworthy system of healthcare delivery .

Patient safety is also an attribute of health care system :

- ***it minimize*** *the incidence and impact of .*
- ***maximizes*** *the recovery from , adverse events ."*

AHRQ

Basic patient safety concepts



- **Safety** (**do no harm**) is **the** most basic dimension of performance necessary for the **improvement** of healthcare quality.
- **Safety** is the underlying reason for **risk management, infection control**, and **environmental management programs, qualified clinical practitioners and support staff.**
- **Patient safety is a subset of safety**

So , we need to know difference between

Medical error

Commission

Omision

Hazard VS risk

Adverse event

Sentinel event

Never event

Near miss

Introduction to patient safety

In 1999, IOM published *To Err is Human* report (estimated the number of hospital deaths related to preventable medical errors was possibly as great at 98,000 per year).

In 2000, *Crossing the Quality Chasm*, laying the groundwork for a patient safety culture.

The goal in quality and patient safety is to prevent death and injury from preventable medical errors through system wide changes through:

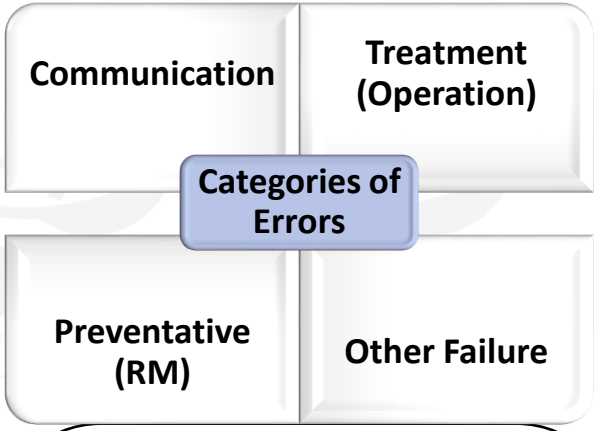
1. **developing strategies to recognize, prevent and mitigate harm from errors inherent in complex systems**
2. **Learning from events**
3. **using that information to improve or prevent new events**

Not all errors result in harm or injury, The key is to differentiate between individual factors and factors attributed to the system or process design, then redesign the process to reduce or eliminate errors and latent conditions.

What DOES THE IOM REPORT STATE THAT WE SHOULD DO?

The causes of medical errors:

1. **the decentralized and fragmented nature of health care delivery (Poor Communication).**
2. **Poor reporting (blame culture)**
3. **the errors are results of faulty systems, processes, and conditions that lead individuals to make mistakes, or at least fail to prevent mistakes.**



- **The focus should be on the process itself and the individual who made the error should learn from the mistake**
- **health systems need to be designed to make it harder for individual to make a mistake, and easier to do the correct thing.**

•Four-tiered approach to developing a strategy to improve patient safety:

1. **Create leadership tool to increase the knowledge base about patient safety (Create Safety Culture)**
2. **Identify and learn from errors by developing a nation-wide public mandatory reporting system**
3. **Raising performance expectations and standards for improvements in patient safety (100% IPSGs)**
4. **Implementing patient safety systems to ensure safe practices at the delivery area.**

……

Lays out a comprehensive strategy that **government**, health care providers, industry, and consumers can use to begin reducing medical errors.

Create a **Center for Patient Safety** that would set national patient safety goals and track the progress being made in meeting those goals

Patient Safety	▪ Patient safety is a discipline in the healthcare sector that applies safety science methods toward the goal of achieving a trustworthy system of healthcare delivery. Patent safety is also an attribute of health care systems; it *minimizes* the *incidence* and *impact* of, and *maximizes* the *recovery from, adverse events*. (AHRQ 2009)
	▪ Patient safety seeks *high reliability of a system* that is filled with risk. Therapeutic interventions are where medical errors occur, and where *patient safety* must be focused
Medical Error	▪ An act of omission or commission in planning or execution that contribute or could contributes to an unintended result (Outcome). ▪ Omission (failure to do the right thing) and Commission (doing the right thing wrong), as well as planning and completing a process.

Commission	Omission
• Doing something wrong • Example: ordering medication for a patient with a documented allergy	• Failing to do the right thing • Example: failing to prescribe medications to prevent blood clots in patients at high risk for clots

Risks VS hazard

A Hazard: *is a potential source of harm or adverse health effect on a person or persons.*

risk *: is the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard*

Example *:*
If there was a spill of water in a room then that water would present a slipping ***hazard*** *to persons passing through it.*
If access to that area was prevented by a physical barrier then the hazard would remain though the risk would be minimized .

Medical Errors

- Medical error: is an unintentional preventable تقديم mistake in the provision of care that has an actual or potential adverse impact on the patient.

Medical error :

*“ an act of **omission** or **commission** in planning or execution that contribute or could contributes to an **unintended result***

Omission

سهو/اغفال

Failure to do the right thing

Commission

ارتكاب

Doing the right thing wrong

Medical Errors

سهو/ إغفال

- **Medical error is** *"an act of* ارتكاب *omission* (failure to do the right thing) *or commission* (doing the right thing wrong) *that contribute or could contributes to an unintended result.*

Error of Commission

- An act of **doing something wrong** that leads to an undesirable outcome or significant potential for such an outcome.

Example:

- Ordering a medication for a patient with a documented allergy to that medication.

Error of Omission

- An act of **failing to do the right thing** that leads to an undesirable outcome or significant potential for such an outcome.

Example:

- Failing to prescribe VTE prophylaxis for a patient after hip replacement surgery

Definitions

ERRORS OF OMISSION

ERRORS OF COMMISSION

- In healthcare, an error has been defined by the IOM as:
  - the failure of a planned action to be completed as intended (error of execution تنفيذ) or the use of a wrong plan to achieve an aim (error of planning)
  - An error may be an act of commission ارتكاب or an act of omission سهو/ إغفال

- A medication error has been defined as:
  - any error occurring in the medication use process

Omission

- Failure to administer an ordered dose (not late dose).
- Omitted dose is not an error when:
  - cannot take anything by mouth (NPO).
  - providers are waiting for drug level results.
  - patient refuses.

Errors
When actions are intended but not performed

Mistakes
Errors in planning actions

Skill-based errors (slips and lapses)
Errors in executing correctly-planned actions

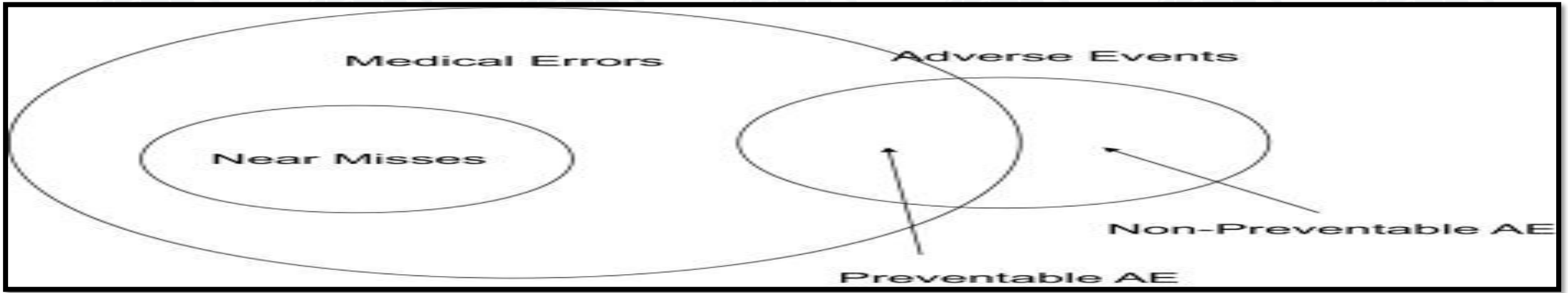
1. Knowledge-based errors
2. Rule-based errors
3. Action-based errors (slips) زلة
4. Memory-based errors (lapses) هفوة

Medical Errors

- A Medical error may or may not result in adverse events.
  - Such as when a patient receives the wrong medication but there is no harm to the patient.

Patient safety Error

Adverse Event	▪ unintended injury to patients caused by medical management ... that results in measureable disability, prolonged hospitalization, or both (preventable adverse events). ▪ not all adverse events are a result of error
Sentinel Event	▪ never event, an unexpected occurrence involving death or serious physical or psychological injury or the risk thereof. ▪ With every sentinel event, a Root Cause analysis (RCA) must be completed in a timely manner with implementation of an action plan.
Near Miss	▪ potential medical error, which is caught prior to the administration to a patient (by chance). ▪ it is best to complete a Failure Mode Effectiveness Analysis (FMEA) or a Root Cause Analysis (RCA)



Adverse event

*" **unintended injury** to patient caused by medical management …. That result in measurable **disability** , **prolonged hospitalization or both** "*

Since not all adverse events are a result of error, many prefer to use the term ***preventable adverse events.***

Adverse event

- Adverse event is an unintended injury caused by medical management rather than the underlying condition of the patient that results in measureable disability, prolonged hospitalization, or both" .

Adverse event

- Since not all adverse events are a result of error, An adverse event attributable to error is a "preventable adverse event."
- Adverse events have been classified as either

- Preventable: due to error.
- Not preventable.

Adverse Event - Definition

- Adverse Event (AE)
  - Injury caused by medical management resulting in measurable disability, not due to underlying illness
- Types of AEs
  - Preventable = due to error
  - Unpreventable

Definition:

Near Miss:

An event or situation that could have resulted in an adverse event but did not (occur) either by chance or through timely intervention.

Example: Epinephrine was almost administered instead of Lidocaine but uncovered during the final check of the nurse.

- For a near miss, it is best to complete a Failure Mode Effectiveness Analysis (FMEA) or a Root Cause Analysis (RCA)

Sentinel event :

"… an unexpected occurrence involving ***death or serious physical or psychological injury***."

A special Cuse variation falling outside the normal control limit of the process care

What is a sentinel event?

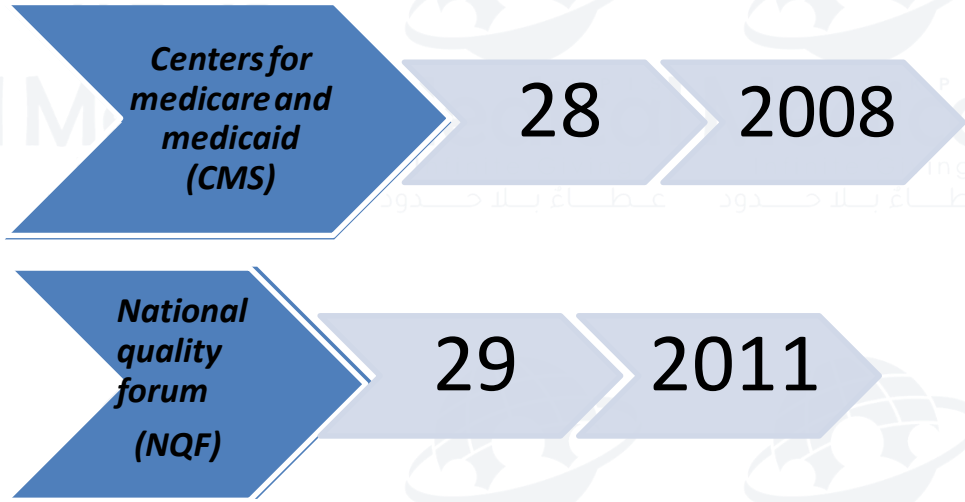
- An unexpected occurrence involving death, physical or psychological injury or the risk thereof (any process variation for which recurrence carries a significant risk of a serious adverse outcome)
- Sentinel means a signal for immediate investigation and response with implementation of an action plan

SENTINEL

- Sentinel events signal the need for immediate investigation and response; an intensive in-depth analysis.
- Another name for a sentinel event is a **never event.** A never event is an event that should never happen.
- The National Quality Forum (NQF) changed the 'never event' term to 'Serious Reportable Events (SRE)'.

: Never event serious reportable event NQF

*"Is an event that should **never happened** and if it does **, immediate investigation** and remediation is required"*



SPTA الجمعية السعودية للعلاج الطبيعي Saudi Physical Therapy Association

KPIS Medical Infinite Giving عطاءٌ بلا حدود

Table 2-1 Serious Reportable Events in Healthcare—2011 Update

1. ***Surgical or Invasive Procedure Events***
   a. Surgery or other invasive procedure performed on the wrong site
   b. Surgery or other invasive procedure performed on the wrong patient
   c. Wrong surgical or other invasive procedure performed on a patient
   d. Unintended retention of a foreign object in a patient after surgery or other invasive procedure
   e. Intraoperative or immediately postoperative/postprocedure death in an American Society of Anesthesiologists Physical Status Classification System Class 1 patient
2. ***Product or Device Events***
   a. Patient death or serious injury associated with the use of contaminated drugs, devices, or biologics provided by the healthcare setting
   b. Patient death or serious injury associated with the use or function of a device in patient care, in which the device is used or functions other than as intended
   c. Patient death or serious injury associated with intravascular air embolism that occurs while being cared for in a healthcare setting
3. ***Patient Protection Events***
   a. Discharge or release of a patient/resident of any age who is unable to make decisions to anyone other than an authorized person
   b. Patient death or serious injury associated with patient elopement (disappearance)
   c. Patient suicide, attempted suicide, or self-harm that results in serious injury while being cared for in a healthcare setting
4. ***Care Management Events***
   a. Patient death or serious injury associated with a medication error (e.g., errors involving the wrong drug, wrong dose, wrong patient, wrong time, wrong rate, wrong preparation, or wrong route of administration)
   b. Patient death or serious injury associated with unsafe administration of blood products
   c. Maternal death or serious injury associated with labor or delivery in a low-risk pregnancy while being cared for in a healthcare setting
   d. Death or serious injury of a neonate associated with labor or delivery in a low-risk pregnancy
   e. Patient death or serious injury associated with a fall while being cared for in a healthcare setting
   f. Any Stage III, Stage IV, and unstageable pressure ulcers acquired after admission/presentation to a healthcare setting
   g. Artificial insemination with the wrong donor sperm or wrong egg
   h. Patient death or serious injury resulting from the irretrievable loss of an irreplaceable biological specimen
   i. Patient death or serious injury resulting from failure to follow up or communicate laboratory, pathology, or radiology test results
5. ***Environmental Events***
   a. Patient or staff death or serious injury associated with an electric shock in the course of a patient care process in a healthcare setting
   b. Any incident in which systems designated for oxygen or another gas to be delivered to the patient contain no gas, the wrong gas, or are contaminated by toxic substances
   c. Patient or staff death or serious injury associated with a burn incurred from any source in the course of a patient-care process in a healthcare setting
   d. Patient death or serious injury associated with the use of physical restraints or bedrails while being cared for in a healthcare setting

Table 2-1 Serious Reportable Events in Healthcare–2011 Update (*continued*)

6. *Radiologic Events*

a. Death or serious injury of a patient or staff associated with the introduction of a metallic object in the MRI area

7. *Potential Criminal Events*

a. Any instance of care ordered or provided by someone impersonating a physician, nurse, pharmacist, or other licensed healthcare provider

b. Abduction of a patient/resident of any age

c. Sexual abuse/assault on a patient or staff member within or on the grounds of a healthcare setting

d. Death or serious injury of a patient or staff member resulting from a physical assault (i.e., battery) that occurs within or on the grounds of a healthcare setting

1- Of the followings NOT example for sentinel event

A. PT attempt suicide
B. Hemolytic Drug reaction
C. death of patient due to medication error
D. surgery on wrong part of the body

2- Of the followings NOT example for sentinel event
A. PT threating to suicide within 24 after admit
B. hemolytic TRANSFUSION reaction
C. death of patient due to medication error
D. surgery on wrong part of the body

1- Of the followings NOT example for sentinel event
A. PT attempt suicide
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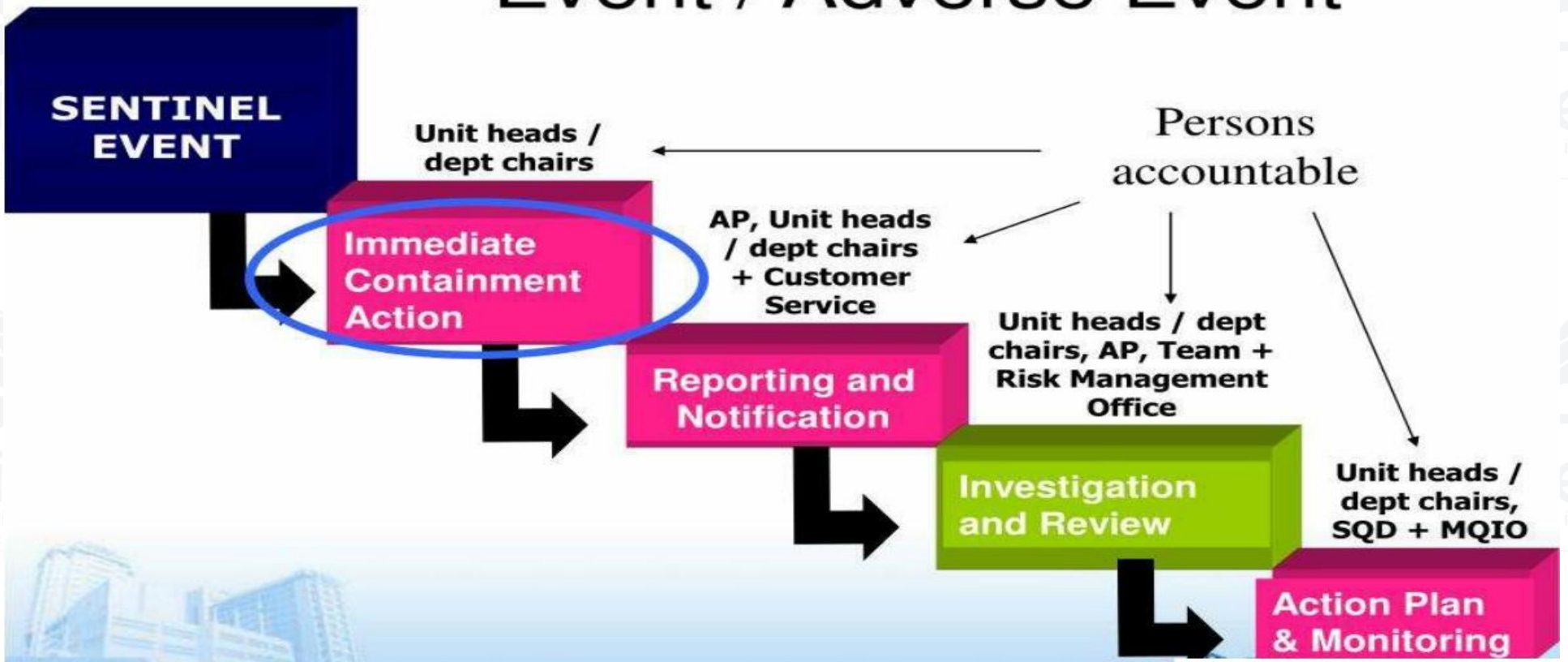
How to Deal with a Sentinel Event / Adverse Event



Sentinel event proces

- *It is considered **special cause variation .***

- *When occurs , **RCA should be conducted** to know the root cause .*

- *According to TJC stated that the top four root causes were **human factors , leadership , communication and assessment .***

The IOM, *To Err is Human* Report

- story

The IOM, *To Err is Human* Report

- Was released to stimulate the healthcare industry to develop a patient safety culture and thus to decrease medical errors and Preventable adverse events.

The IOM, *To Err is Human* Report

- The majority of medical errors are not results of 'individual recklessness'. More often, the errors are results of faulty systems, processes, and conditions that lead individuals to make mistakes, or at least fail to prevent mistakes.

Four categories of errors were identified in the IOM report

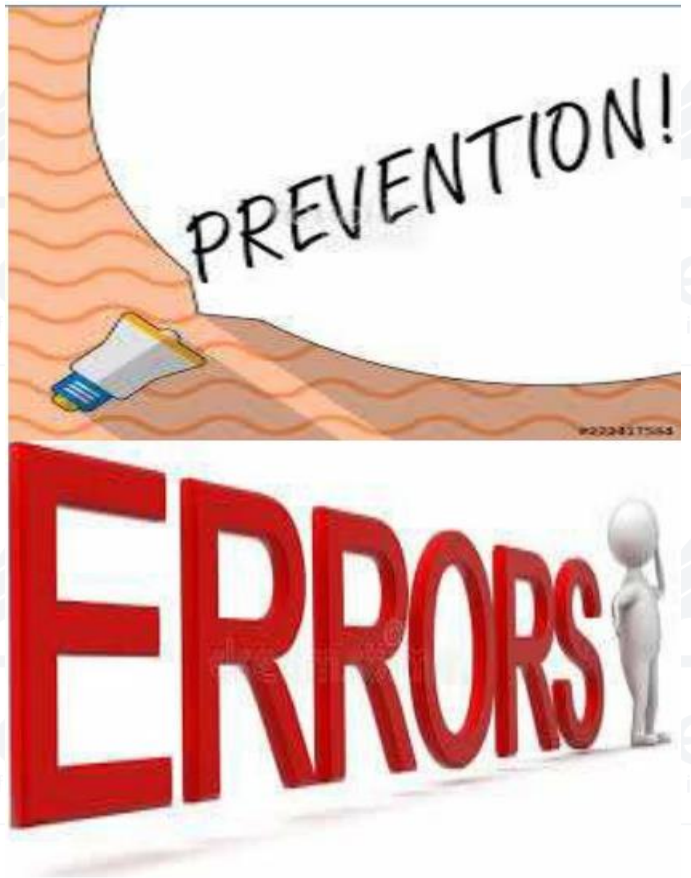
1. The communication errors include an error or delay in the diagnosis, failure to order indicated tests.

Four categories of errors were identified in the IOM report

2. The treatment errors include an error in the performance of a procedure or test, an error in the administration of the treatment, an error in the dose or method of using a drug, and/or inappropriate care.

Four categories of errors were identified in the IOM report

3. Preventative errors include failure to provide prophylactic treatment and/or inadequate monitoring or follow-up of treatment.



Four categories of errors were identified in the IOM report

4. And lastly, other *Errors* include equipment failure, and other system failures.

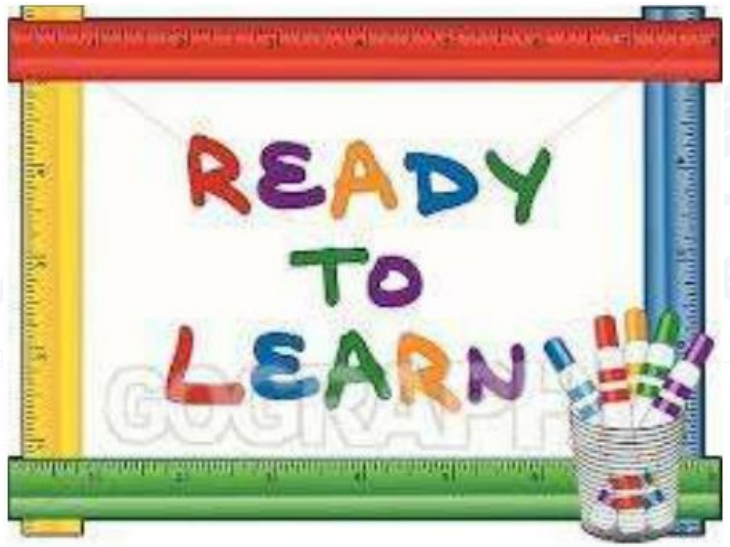
The IOM (2000) laid out a **four-tiered approach** to developing a strategy to improve patient safety

1. Establish a national focus to create leadership tools, research, and protocols to increase the knowledge base about patient safety.

The IOM (2000) laid out a **four-tiered approach** to developing a strategy to improve patient safety

2. Identify and learn from errors

by developing a nation-wide public mandatory reporting system as well as encouraging healthcare staff, practitioners, and the organization to participate in voluntary reporting systems.



The IOM (2000) laid out a **four-tiered approach** to developing a strategy to improve patient safety

3. Raising performance expectations and standards for improvements in patient safety through the professional organizations, group purchasers, and so forth within healthcare.

The IOM (2000) laid out a **four-tiered approach** to developing a strategy to improve patient safety

4. Implementing patient safety systems in healthcare organizations and systems to ensure safe practices at the delivery area.

- The IOM felt that if these known improvements were utilized, 50% of medical errors would have been reduced by 2004, five years after the report was released.

- Unfortunately, Agency for Healthcare Research and Quality (AHRQ) annual reports continue to indicate that deaths related to error remain similar to the statistics cited in 1999, even over fifteen years later.

- The 2013 National Healthcare Quality Report states the prevalence of harm associated with hospital stays from 2000-2007 was 25.1 per 100 admissions, and the number of preventable adverse events among adults (excluding obstetrics) per year in U.S. hospitals was 3,023,000 in 2009 (AHRQ, 2013).

Patient Safety Practices

- Patient Safety Practices were recommended for Implementation by AHRQ (AHRQ, 2013).

Patient Safety Practices

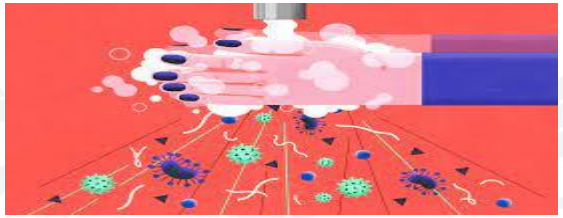
- AHRQ defines a Patient Safety Practice (PSP) as a process or structure that reduces the probability of adverse events occurring in the healthcare system across a range of diseases and procedures.

Patient Safety Practices

- The PSPs were evaluated on the evidence of the outcomes of the safe practices.

Strongly encourage implementation

- Hand hygiene.



- Barrier precautions to prevent healthcare-associated infections.

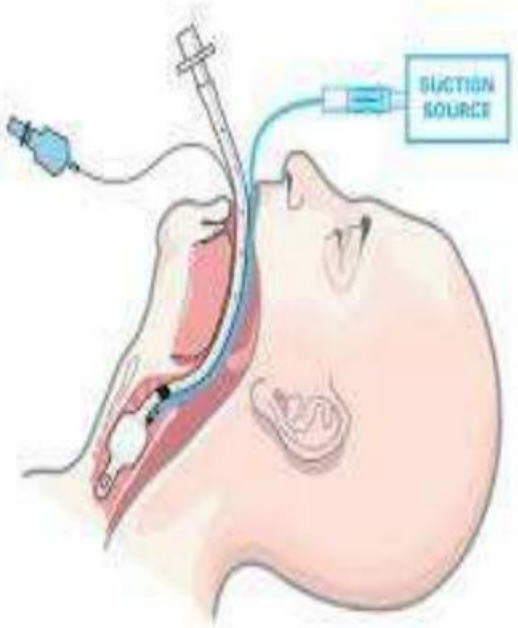
- Do Not Use" list of hazardous abbreviations.

Strongly encourage implementation

- Preoperative checklists and anesthesia checklists.
- Use of real-time ultrasound for central line placement.
- Bundles that include checklists for central line insertion and care.

Strongly encourage implementation

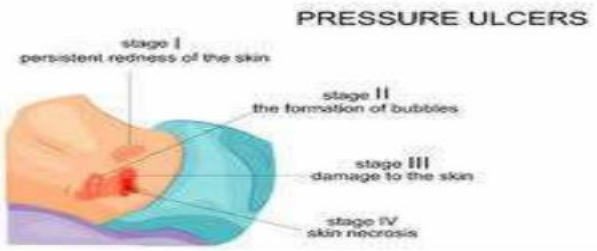
- Bundles that include head-of-bed elevation, sedation vacations, oral care with chlorhexidine and subglottic-suctioning endotracheal tubes.



Strongly encourage implementation

- Interventions to reduce urinary catheter use, including catheter reminders, stop orders, or nurse-initiated removal protocols.

- Multicomponent interventions to reduce pressure ulcers.



- Interventions to improve prophylaxis for VTE.

Encourage Implementation

- Multicomponent interventions to reduce falls.
- Use of clinical pharmacists to reduce adverse drug events.
- Computerized provider order entry (CPOE).

Encourage Implementation

- Medication reconciliation.
- Obtaining informed consent to improve patients' understanding of the potential risks of procedures.
- Use of surgical outcome measurements.

Encourage Implementation

- Practices to reduce radiation exposure from fluoroscopy and computed tomography scans.
- Documentation of patient preferences for life-sustaining treatment.
- Rapid response systems.

Encourage Implementation

- Utilization of complementary methods for detecting adverse events/medical errors to monitor for patient safety problems.

- Team training.
- Use of simulation exercises in patient safety efforts.

Table 2-5 Safe Practices for Better Healthcare—2010 Update	
Safe Practice	**Practice Statement**
Safe Practice 1: Leadership Structures and Systems	Leadership structures and systems must be established to ensure 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.
Safe Practice 2: Culture Measurement, Feedback, and Intervention	Healthcare organizations must measure their culture, provide feedback to the leadership and staff, and undertake interventions that will reduce patient safety risk.
Safe Practice 3: Teamwork Training and Skill Building	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.
Safe Practice 4: Identification and Mitigation of Risks and Hazards	Healthcare organizations must systematically identify and mitigate patient safety risks and hazards with an integrated approach to continuously drive down preventable patient harm.
Safe Practice 5: Informed Consent	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.

National Quality Forum. *Safe Practices for Better Healthcare—2010 Update: A Consensus Report* (abridged version). Washington, DC: Author; 2010.

Safe Practice 6: Life-Sustaining Treatment	Ensure that written documentation of the patient's preferences for life-sustaining treatments is prominently displayed in his or her chart.
Safe Practice 7: Disclosure	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.
Safe Practice 8: Care of the Caregiver	Following serious unintentional harm resulting from 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.
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 its effectiveness is regularly evaluated with respect to patient safety; • senior administrative nursing leaders, such as a chief nursing officer, are 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; and • 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 staff are competent, and that they have had adequate orientation, training, and education to perform their assigned direct care duties.

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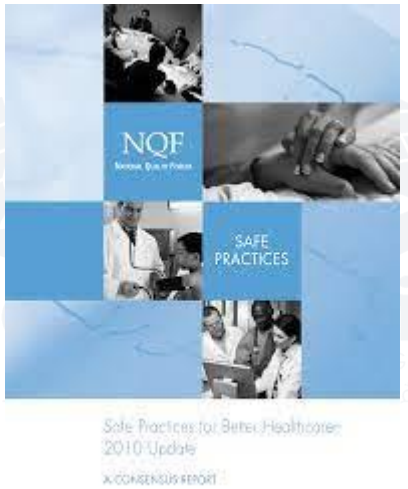
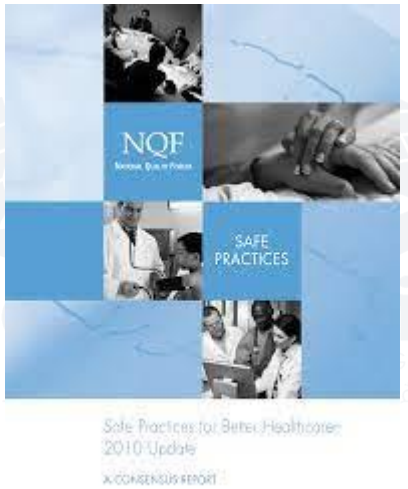


Safe Practice 11: Intensive Care Unit (ICU) Care	All patients in general ICU (both adult and pediatric) should be managed by physicians who have specific training and certification in critical care medicine ("critical care certified").
Safe Practice 12: Patient Care Information	Ensure that care information is transmitted and appropriately documented in a timely manner and in a clearly understandable form to patients and 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.
Safe Practice 14: Labeling of Diagnostic Studies	Implement standardized policies, processes, and systems to ensure accurate labeling of radiographs, laboratory specimens, or other diagnostic studies so the right study is labeled for the right patient at the right time.
Safe Practice 15: Discharge Systems	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 there is confirmation of receipt of the discharge information by the independent licensed practitioner who will assume responsibility for care after discharge.

National Quality Forum. *Safe Practices for Better Healthcare—2010 Update: A Consensus Report* (abridged version). Washington, DC: Author; 2010.



Safe Practice 16: Safe Adoption of Computerized Prescriber Order Entry	Implement a computerized prescriber order entry system built upon the requisite foundation of reengineered evidence-based care, an assurance of healthcare organization staff and independent practitioner readiness, and an integrated information technology infrastructure.
Safe Practice 17: Medication Reconciliation	The healthcare organization must develop, reconcile, and communicate an accurate patient medication list throughout the continuum of care.
Safe Practice 18: Pharmacist Leadership Structures and Systems	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.
Safe Practice 19: Hand Hygiene	Comply with current Centers for Disease Control and Prevention (CDC) hand hygiene guidelines.
Safe Practice 20: Influenza Prevention	Comply with current 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.
Safe Practice 21: Central Line–Associated Bloodstream Infection Prevention	Take actions to prevent central line–associated bloodstream infection by implementing evidence-based intervention practices.
Safe Practice 22: Surgical Site Infection	Take actions to prevent surgical site infections by implementing evidence-based intervention practices.

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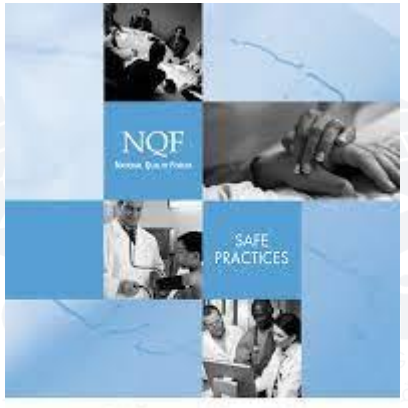
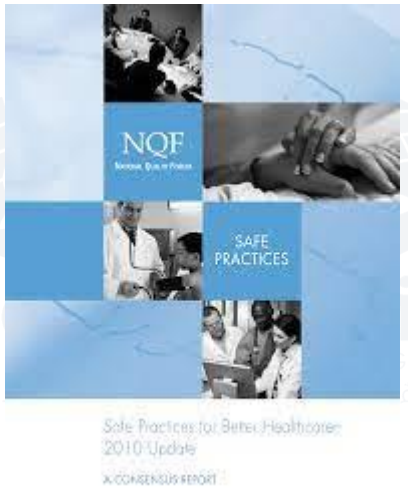


Safe Practice 23: Care of the Ventilated Patient	Take actions to prevent complications associated with ventilated patients—specifically, ventilator-associated pneumonia, venous thromboembolism, peptic ulcer disease, dental complications, and pressure ulcers.
Safe Practice 24: Multidrug-Resistant Organism (MDRO) Prevention	Implement a systematic MDRO eradication program built on the fundamental elements of infection control, an evidence-based approach, assurance of hospital staff and independent practitioner readiness, and a reengineered identification and care process for 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 *S. aureus* should be evaluated for inclusion on a local system level based on organizational risk assessments.
Safe Practice 25: Catheter-Associated Urinary Tract Infection Prevention	Take actions to prevent catheter-associated urinary tract infection by implementing evidence-based intervention practices.
Safe Practice 26: Wrong Site, Procedure, and Person Surgery Prevention	Implement the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery™ for all invasive procedures.
Safe Practice 27: Pressure Ulcer Prevention	Take actions to prevent pressure ulcers by implementing evidence-based intervention practices.

National Quality Forum. *Safe Practices for Better Healthcare—2010 Update: A Consensus Report* (abridged version). Washington, DC: Author; 2010.

Safe Practice 27: Pressure Ulcer Prevention	Take actions to prevent pressure ulcers by implementing evidence-based intervention practices.
Safe Practice 28: Venous Thromboembolism Prevention	Evaluate each patient upon admission, and regularly thereafter, for risk of developing venous thromboembolism. Use clinically appropriate, evidence-based methods of thromboprophylaxis.
Safe Practice 29: Anticoagulation Therapy	Organizations should implement practices to prevent patient harm resulting from anticoagulant therapy.
Safe Practice 30: Contrast Media-Induced Renal Failure Prevention	Use validated protocols to evaluate patients at risk for contrast-media-induced renal failure and gadolinium-associated nephrogenic systemic fibrosis, and use a clinically appropriate method to reduce the risk for adverse events based on the patient's risk evaluations.
Safe Practice 31: Organ Donation	Hospital policies consistent with applicable law and regulations should be in place and address patient and family preferences for organ donation, as well as specify the roles and desired outcomes for every stage of the donation process.
Safe Practice 32: Glycemic Control	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.
Safe Practice 33: Falls Prevention	Take actions to prevent patient falls and reduce fall-related injuries by implementing evidence-based intervention practices.
Safe Practice 34: Pediatric Imaging	When computed tomography imaging studies are undertaken on children, "child-size" techniques should be used to reduce unnecessary exposure to ionizing radiation.

National Quality Forum. *Safe Practices for Better Healthcare—2010 Update: A Consensus Report* (abridged version). Washington, DC: Author; 2010.



Patient safety and leadership

Government & Accreditation Efforts

Patient safety and Quality improvement Act 2005:
established Patient Safety Organizations (PSOs) to standardize event data collection and reporting to the PSO without the fear of legal discovery or disciplinary action (**Culture of reporting**).

The Centers for Medicare and Medicaid Services (CMS):
began withholding Medicare **reimbursement**
Condition of participation

National Committee for Quality Assurance (NCQA) and URAC:
modified their Quality Management standards to meet the call for "regulators and accreditors to require health care organizations to **implement meaningful patient safety programs**", and to focus greater attention on **performance measures of patient safety** for both health care organizations and health care professionals

IOM initiatives:
Err is human 1999 .
Crossing the quality chasm which lead to
adopt dimensions of STEEEP

Patient Safety Goals and Safe Practices	WHO Collaborating Centre for Patient Safety Solutions
In 2003, The Joint Commission established National Patient Safety Goals for all healthcare organizations that they accredited based on past sentinel event information, and they include specific recommendations and/or approved alternative approaches	WHO Collaborating Centre for Patient Safety Solutions was established in 2005 to identify, evaluate, adapt, coordinate, disseminate and accelerate improvements in patient safety worldwide In 2009, the WHO developed a 19-item Surgical Safety Checklist to decrease errors and adverse events during surgery.

- **National Quality Forum (NQF):**
  1. identifying a core list of preventable, serious adverse events.
  2. The NQF has identified measures for medication safety, healthcare associated infections, falls, pressure ulcers, surgical complications, workforce issues, and other subjects

Table 3: NQF's Phase 1 Endorsed Patient Safety Measures

NQF's Phase 1 Endorsed Patient Safety Measures
(0138) National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcomes Measure
(0139) National Healthcare Safety Network (NHSN) Central Line-associated Bloodstream Infection (CLASBI) Outcomes Measure
(0555) INR Monitoring for Individuals on Warfarin
(0556) INR for Individuals Taking Warfarin and Interacting Anti-infective Medications
(0541) Proportion of Days Covered (PDC): 3 Rates by Therapeutic Category
(0684) Percent of Residents with a Urinary Tract Infection (Long-Stay)
(2337) Antipsychotic Use in Children Under 5 Years Old
(2371) Annual Monitoring for patients on Persistent Medications

The Institute for Healthcare Improvement (IHI)	AHRQ Patient Safety Indicators
1-IHI's goal for patient safety is to work with others "to build safety into every system of care, ensuring that patients receive the safest, most reliable care across the continuum 2-system level reliability for patient safety, and to build measures and early warning systems for patient safety, as well as for transparency. 3-The tool that IHI utilizes to accurately identify adverse events and to measure their rate over time is called the Global Trigger Tool	The AHRQ Patient Safety Indicators (PSIs) are a set of risk-adjusted measures that screen for potential in-hospital complications and adverse events following surgeries, procedures, and childbirth The indicators are divided into two domains, hospital-level indicators and area-level

International patient safety goals

Goal 1: Identify Patients Correctly

- Ask for two identifiers including the FULL NAME , and MEDICAL RECORD NUMBER
- Verify patient identification before all invasive and diagnostic procedures.
- Patient identification wristbands for inpatients.
- "Time-out" before starting all surgical and invasive procedures (preventing wrong site, wrong procedure, wrong patient surgery)
- Not use these for identification
  - ✓ Patients room numbers, locations

Goal 2: Improve Effective Communication

Improve Effective Communication

- ✓ **Effective communication**, which is timely, **accurate, complete, unambiguous, and understood by the recipient**, reduces errors, and results in improved patient safety.
- ✓ Reporting the **critical test results,**
- ✓ **Verbal and telephone** orders that includes: writing down & reading back
- ✓ A standard communication method including asking and answering questions during hand-offs
- ✓ **SBAR**
- ✓ Inappropriate abbreviations, symbols and wordings

Handovers of Patient Care within a Hospital Occur

- between health care providers, such as between physicians and other physicians or health care providers, or from one provider to another provider during shift changes;
- between different levels of care in the same hospital such as when the patient is moved from an intensive care unit to a medical unit or from an emergency department to the operating theatre; and
- From inpatient units to diagnostic or other treatment departments, such as radiology or physical therapy.

Goal 3: IMPROVE SAFETY OF HIGH-ALERT MEDICATIONS

- **High-Alert Medications** are:

- Medications involved in a high percentage of errors and/or sentinel events

- Medications that carry a higher risk for adverse outcomes

- Look-alike/sound-alike medications

- **REQUIRMENTS:**
- Policies and/or procedures are developed to address the identification, location, labeling, and storage of high-alert medications
- List of High-Alert medication in the Hospital

Goal 3: IMPROVE SAFETY OF HIGH-ALERT MEDICATIONS

- Top five high alert medications are:

1. Insulin

2. Narcotics

3. Injectable potassium chloride (phosphate) concentrated

4. Intravenous anticoagulants

5. Sodium chloride solution above 0.9 %

Goal 3: IMPROVE SAFETY OF HIGH-ALERT MEDICATIONS

- Examples of SOUND ALIKE Medications

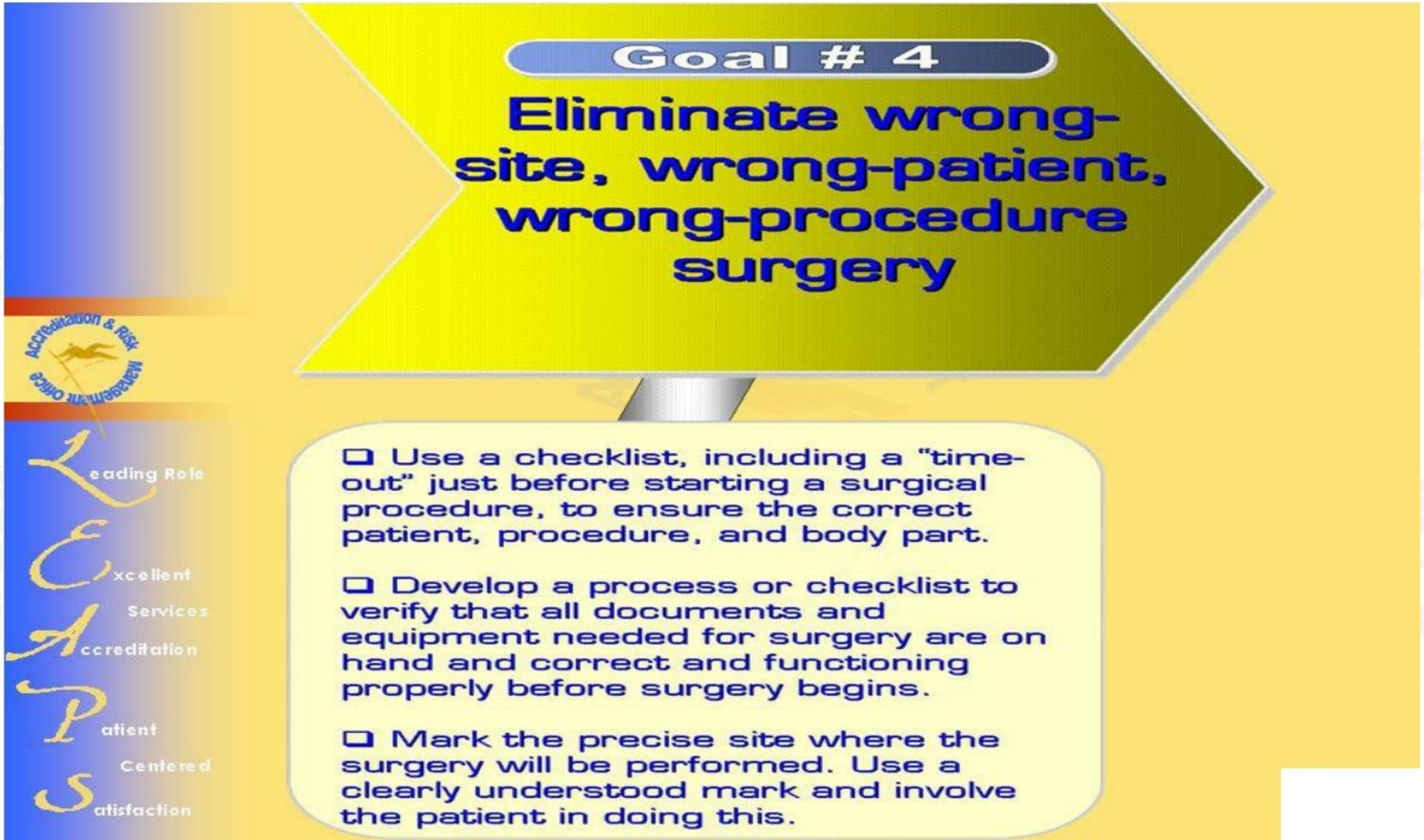
Folinic Acid	Folic Acid
Zinnat	Zantac
Parlodel	Panadol
Tazocin	Prazocin
Lasix	Losec
Aldactone	Aldomet
Ranitidine	Loratidine
voltarin	ventolin

SOUND ALIKE
LOOK ALIKE

Look alike examples

Goal 3: IMPROVE SAFETY OF HIGH-ALERT MEDICATIONS

- Example of LOOK ALIKE Medications:


Goal # 4
Eliminate wrong-site, wrong-patient, wrong-procedure surgery
Accreditation & Risk Management Office
Leading Role
Excellent Services
Accreditation
Patient Centered
Satisfaction
Use a checklist, including a "time-out" just before starting a surgical procedure, to ensure the correct patient, procedure, and body part.
Develop a process or checklist to verify that all documents and equipment needed for surgery are on hand and correct and functioning properly before surgery begins.
Mark the precise site where the surgery will be performed. Use a clearly understood mark and involve the patient in doing this.

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WHO Surgical Safety Checklist

The World Health Organisation (WHO)published the WHO Surgical Safety Checklist and Implementation Manual in 2008 in order to increase the safety of patients undergoing surgery.

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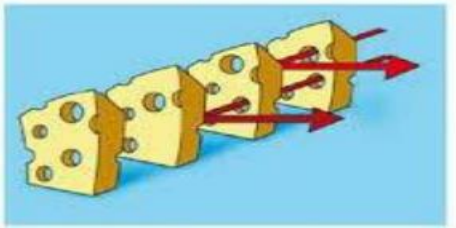
SO THAT ERRORS DON'T COST YOU DEARLY...

1 Pre-procedure check-in (in pre-operative area of OT)
Identity; procedure and procedure site; consents; surgery orders; pre-anaesthesia assessment; imaging and blood test reports; pre-medication

2 Sign-in (before induction of anaesthesia)
Briefing of all teams about identity, procedure site and consent; anaesthetist review and surgeon review



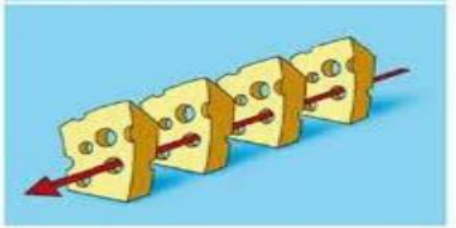


Figure 1&2 Surgical safety operation theatre-swiss cheese

3 Time out (before skin incision)
Critical or unexpected steps of surgery, case duration, anticipated blood loss, additional concerns

4 Sign out (before patient leaves operating room)
Counting of sponge; sharps and instruments; specimen identification and labelling; noting down key concerns for recovery and patient management

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Before induction of anesthesia

SIGN IN

- ☐ **Patient has confirmed:**
  - Identity
  - Site
  - Procedure
  - Consent
- ☐ **Site marked** ☐ **Not applicable**
- ☐ **Anesthesia safety check completed**
- ☐ **Pulse Oximeter on patient and functioning**

Does patient have a Known allergy?

☐ NO ☐ YES

Difficult airway/aspiration risk?

☐ NO ☐ YES, and equipment/ assistance available

Risk of >500ml bood loss (7ml/kg in children)?

☐ NO ☐ YES, and adequate intravenous access and fluids planned

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Before skin incision

TIME OUT

- ❑ **Confirm all team members have introduced themselves by name and role**
- ❑ **Surgeon, Anesthesia Professional and Nurse verbally confirm:**
  - Patient - Site - Procedure

Anticipated critical events:

- ❑ **Surgeon reviews:** What are the critical or unexpected steps, operative duration, anticipated blood loss?
- ❑ **Anesthesia team reviews:** Are there any patient-specific concerns?
- ❑ **Nursing team reviews:** Has sterility (including indicator results) been confirmed? Are there equipment issues or any concerns?

Has antibiotic Prophylaxis been given within the last 60 minutes?

- ❑ YES ❑ Not applicable

Is essential imaging displayed?

- ❑ YES ❑ Not applicable

Before patient leaves operating room

SIGN OUT

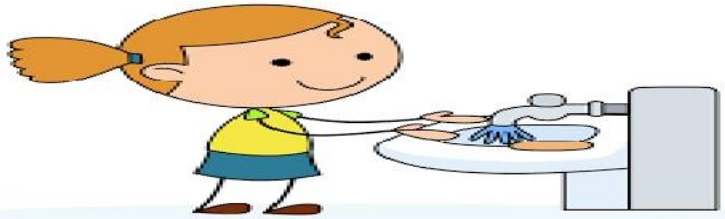
Nurse verbally confirms with the team:

- ☐ **The name of the procedure recorded**
- ☐ **That instrument, sponge, and needle counts are correct** (or not applicable)
- ☐ **How the specimen is labelled** (including patient name)
- ☐ **Whether there are any equipment problems to be addressed**
- ☐ **Surgeon, Anesthesia Professional and Nurse review the key concerns for recovery and management of this patient**

How To Run The Checklist: In detail

World Health Organization

- **Sign in**
  - Before induction of anaesthesia
  - Ready to go back to the theatre
- **Time out**
  - Before skin incision
  - Safe to start operation or procedure
- **Sign out**
  - Before patient leave operating room
  - Safe to end operation and safe to send patient to next point of care



IPSG5

REDUCE RISK OF HEALTH CARE-ASSOCIATED INFECTIONS

- In an effort to reduce HAI's, the organization utilizes up-to-date evidence based published hand hygiene guidelines
  - World Health Organization (WHO)
  - Center For Disease Control And Prevention (CDC)
- The guidelines of hand hygiene and disinfection are completely implemented in all hospital areas

Goal 5: Reduce the Risk of Health Care–Associated Infections

- Infection prevention and control.
- Catheter-associated urinary tract infections, blood stream infections and pneumonia (often associated with mechanical ventilation).
- Central to the elimination of these and other infections is proper hand hygiene.
- Hand hygiene guidelines
- CDC – Bundles

*CDC: Centers for Disease Control and Prevention

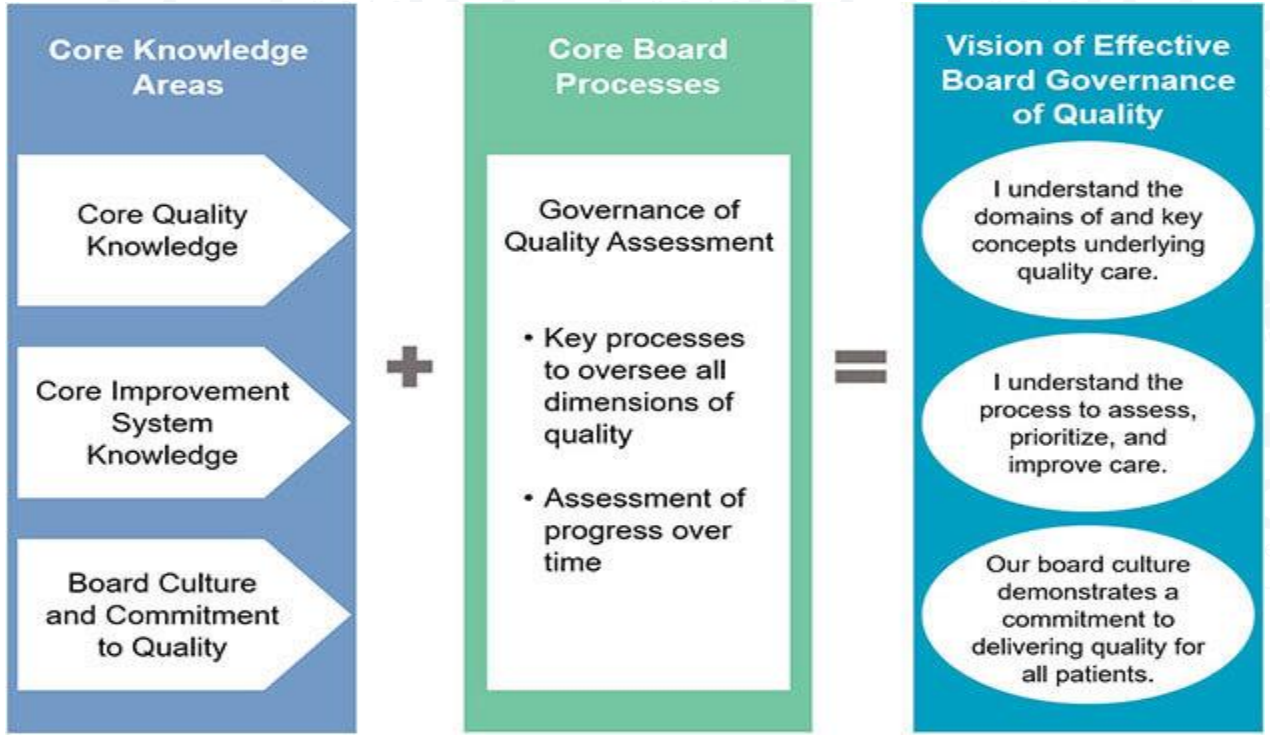
6-REDUCE THE RISK OF PATIENT HARM RESULTING FROM FALL

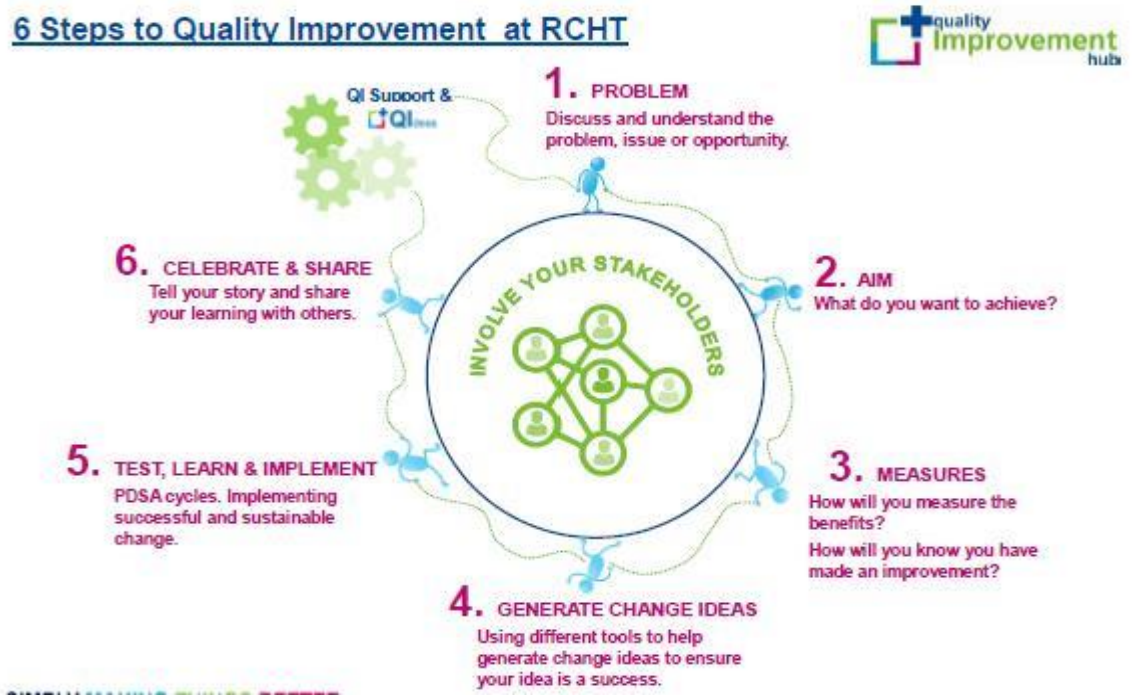
Requirement:

The organization develops an approach to reduce the risk of patient harm resulting from falls.

- 1. Policies to reduce the risk of patient harm resulting from falls.
- 2. Implement initial assessment of patients for fall risk and reassessment when indicated.
- 3. Implement measures to reduce fall risk for those assessed to be at risk.

Patient safety must be integrated by leadership into strategic planning. Institute for Healthcare
Improvement (IHI)77 outlines six things all boards can consider in their effort to improve quality and reduce harm:





- 1. Learning, starting with the board: Develop capability as a board. Learn how the best boards work
- with executives and physician leaders to reduce harm. Set an expectation for similar levels of
- education and training for all staff.
- 2. Establishing executive accountability: Oversee the effective execution of a plan to achieve aims to
- reduce harm, including executive team accountability for clear performance improvement targets.
- 3. Setting aims: Set a specific aim to reduce harm this year. Make an explicit public commitment to
- measurable quality improvement (e.g., a reduction in unnecessary mortality and harm), establishing a
- clear aim for the facility or system.

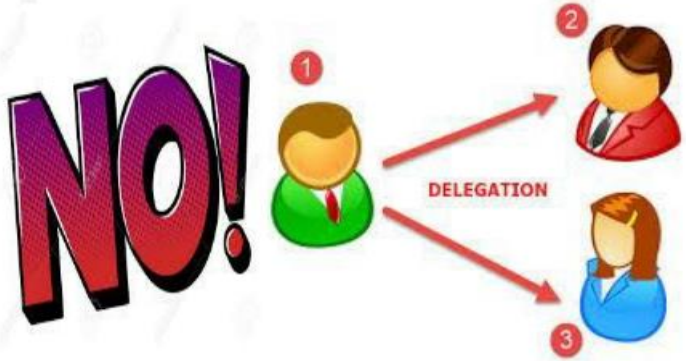
- 4. Establishing and monitoring system-level measures: Identify a small group of organization-wide
- measures of patient safety (e.g., facility-wide harm, risk-adjusted mortality), update the measures
- continually, and make them transparent to the entire organization and customers.

- 5. Gathering data and hearing stories: Select and review progress toward safer care as the first agenda
- item at every board meeting; progress is grounded in transparency and a desire to put a human face on harm data.

- 6. Changing the environment, policies, and culture: Commit to establishing and maintaining an environment that is respectful, fair, and just for all who experience pain and loss because of avoidable harm and adverse outcomes.

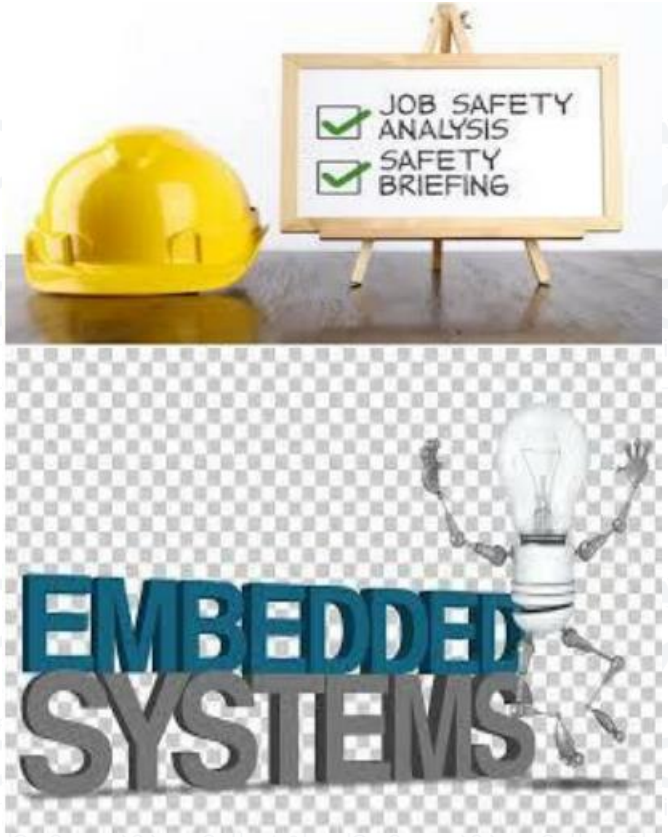
Leaders in patient safety

- Leadership is the critical success factor for an effective patient safety program.
  - The governing board's responsibility for ensuring and improving care, safe and harm-free care . This cannot be completely delegated to the medical staff and executive leadership.



Leaders in patient safety

- The leaders must:
  - be educated about patient safety.
  - be given ongoing safety briefings.
  - understand how processes must be embedded with patient safety goals.



- ps should be **strategic priority** by the leaders of the organization

-IHI consider leadership to be the **critical success** factor for an effective patient safety program .

-eight steps recommended for leaders to follow archive patient safety and high reliability in their organization

1)establish ps as **strategic priority**

2)Engage **key stakeholders**

3)Communicate and **build awareness**

4) Establish , oversee and communicate system level aim

5) **Measure** harm over time

6) **Support** staff and patients / families impacted bymedical error and harm

7) **Align** system strategy , measures and improvement projects

8) Redesign care processes to increase **reliabililty**

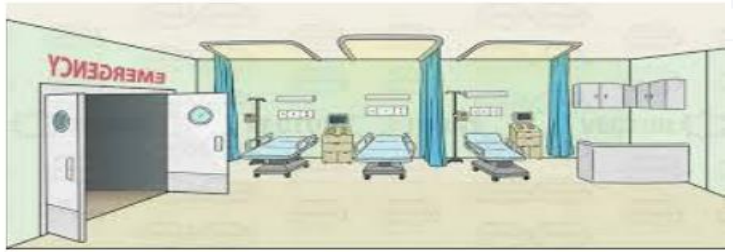
Leaders in patient safety

The following steps for leaders to follow to achieve patient safety and high reliability in their organizations

1. *Establish Patient Safety as a Strategic Priority;*

- Has a vision of PS culture.
- Should be found in all of the plans of the organization.

- Supportive patient safety culture.
- The organization's infrastructure.



Leaders in patient safety

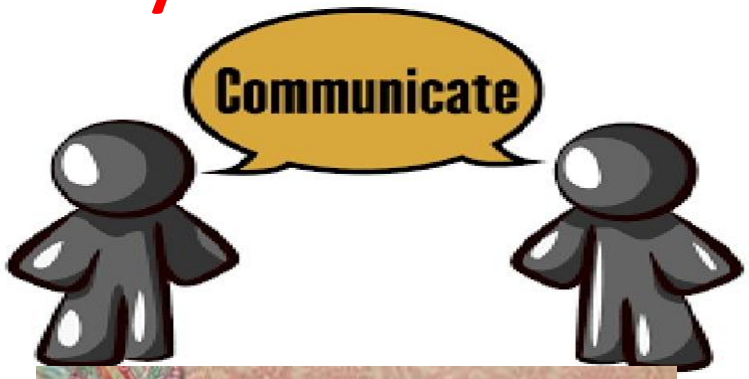
2. Engage Key Stakeholders:

- engage the Governing Board, leaders, physicians, staff, patients and families in discussions ; need to be educated about patient safety.

Leaders in patient safety

3. Communicate and Build Awareness:

- leader rounds throughout the organization .



Leaders in patient safety

4. Establish, Oversee, and Communicate System-Level Aim:

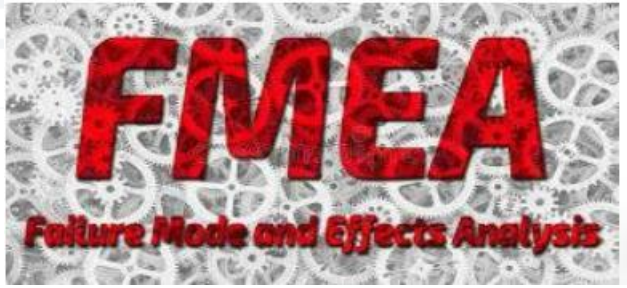
- The leaders should develop a strategic plan
- Identified system-level goals need to be communicated throughout the organization .

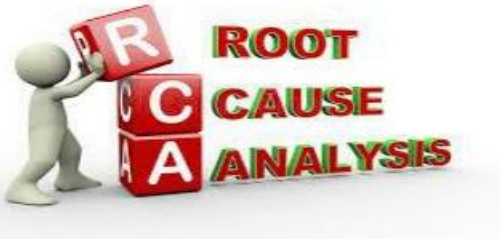
Leaders in patient safety

5. Encourage error management;

Measure Harm Over Time:

- Utilize a dashboard or balanced scorecard to observe data over time for important factors. This might include mortality rates, triggers for adverse events, etc.





Leaders in patient safety

6. Support Staff and Patients/Families Impacted by Medical Errors and Harm:

- Disclosure of information and an apology to the patient/family .

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Leaders in patient safety

7. Align System Strategy, Measures, and Improvement

Project. Align resources to achieve goals.

Leaders in patient safety

8. Redesign Care Processes to Increase Reliability:

e.g.

- The use of rapid response teams, CPOE systems with decision support.
- The standardization of care with guidelines and pathways. (adherence to evidence based medicine).

Leaders in patient safety

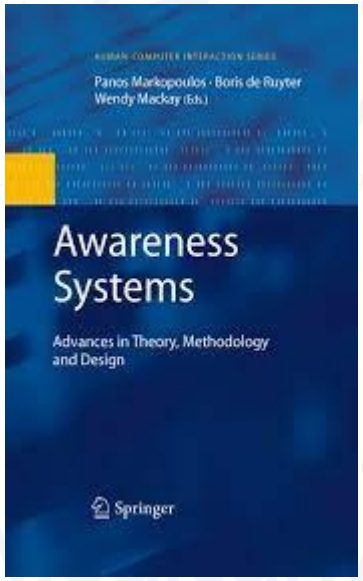
9. Personal example.

10. Encourage the identification and management of risks

- Commitment
- Taking actions by creating structures, processes, and programs that allow a culture of safety and quality to flourish
- Focus plan on improving patient safety
- Provide accurate and usable information related to safety
- Use data
- Education that focuses on safety
- Team approach
- Openly discuss issues of safety and quality.
- Include patients
- Creating and implementing a process for managing disruptive and inappropriate behaviors.

- Conduct Patient Safety Leadership Walk Rounds
- Create a Reporting System
- Designate a Patient Safety Officer
- Involve Patients in Safety Initiatives
- Provide Feedback to Front-line Staff
- Relay Safety Reports at Shift Changes & Simulate Possible Adverse Events

- **Awareness Structures and Systems**
- Awareness structures and systems provide leaders with continuous information about potential risks, hazards, and performance gaps that may contribute to patient safety issues.
- These structures and systems include
- (a) identification of risks and hazards
- (b) culture management, feedback, and intervention
- (c) direct patient input
- (d) governance board and senior management briefings and meetings.



- **Accountability Structures and Systems**
- Accountability structures and systems enable leaders to establish direct accountability to the governing Body, senior management, mid-level management, physician leaders, and frontline staff.

Included in these structures and systems are

(a) the patient safety program

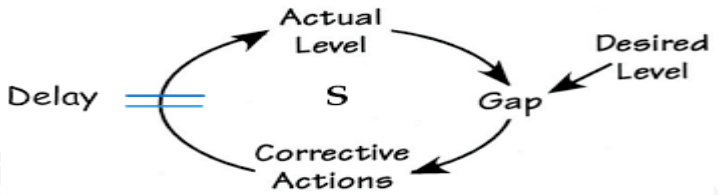
(b) the patient safety officer

(c) direct organization-wide leadership accountability

(d) an interdisciplinary patient safety committee

(e)external reporting activities.

- **Structures and Systems-Driving Ability**
- Structures and systems-driving ability allows leaders to assess the capacity, resources, and competence necessary to implement change in the culture and in patient safety performance.
- This ability includes
- (a)patient safety budgets
- (b) people systems
- (c) quality systems
- (d) technical systems.



- **Action Structures and Systems**
- Action structures and systems enable leaders to take direct and appropriate action. These structures and systems include
- (a) quality and performance improvement programs
- (b) regular actions of governance including confirmation of values, basic teamwork training, and governance board competence in patient safety
- (c) regular actions of senior administrative leadership, including commitment of time to patient safety; culture measurement, feedback, and interventions; basic teamwork training and team interventions; and identification and mitigation of risks and hazards
- (d) regular actions of unit, service line, departmental and mid-level management leaders
- (e) regular actions with respect to independent medical leaders.

- As leaders think about accountability and action, they can foster and reward improvement for the spread of best practices, knowledge and adoption of value-based interventions and innovations in program
- design and redesign. Measures of success should align the incentives for the improvement of patient safety.
- safety practices. A comprehensive discussion of change and innovation can be found in Performance and Process Improvement. Also, see Organizational Leadership for more information about leadership, quality improvement, and strategy.

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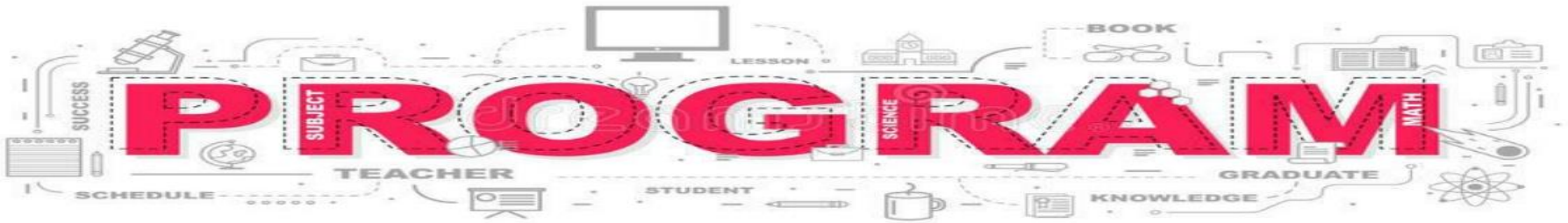


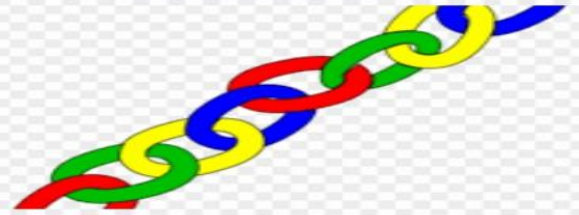
Components of a Patient Safety Program

- Infrastructure: senior leader roles, , PSO, governance teams, software.

Without the support of senior leadership, no program, no matter how well planned and developed, will survive.

Components of a Patient Safety Program

- Linkage with QM functions, alignment with strategic goals.
- Participation by all departments, programs, and services within the organization.



Components of a Patient Safety Program

- Policies and procedures and education to control risk.
- Incident reporting system. (culture of safety / Just Culture)
- Proactive risk identification.

Components of a Patient Safety Program

- Definition of "sentinel event" and communicate the definition throughout the organization.
- A process for response to medical errors and sentinel events.

Components of a Patient Safety Program

- Support systems available for staff that have been involved in an adverse or sentinel event. "second victims"
- Performance measurement.
- Response to system or process failures.

Components of a Patient Safety Program

- Performance improvement.

- The lessons learned should be shared with all staff.

  - Documentation and reporting.

The Components of a Patient Safety Program

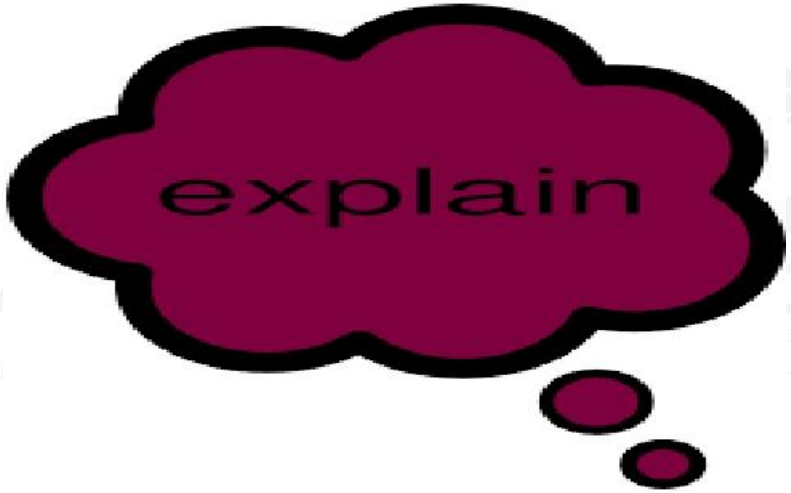
AHRQ Advancing Excellence in Health Care

Patient Safety Plan

- The goals are to move the patient safety program forward.

Patient Safety Plan

- Should define and Describe the organization's commitment and approach to providing a safe environment.

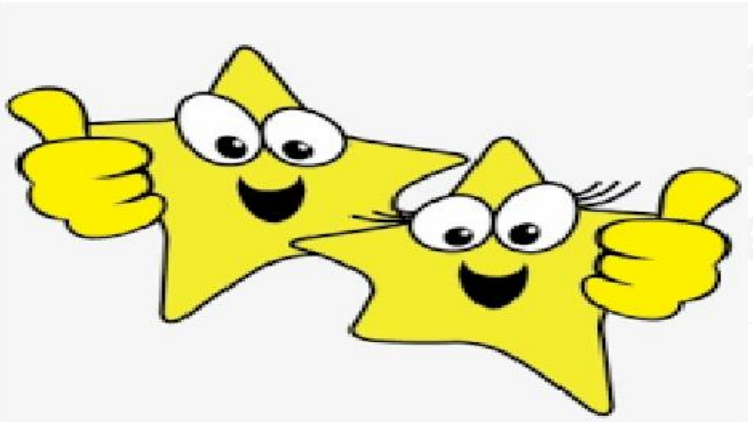


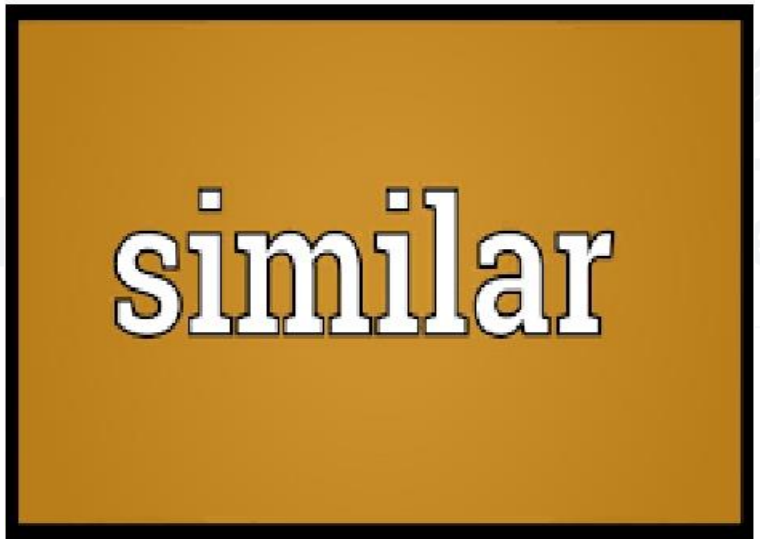
Patient Safety Plan

- May be written as a major component of the performance improvement plan itself. Often this is the best way to insure clear integration.

Patient Safety Plan

- Many of the components are very similar to those in the performance improvement plan.





Written Patient Safety Plan General Components

1. Purpose.
2. Mission, Vision, Values (organization) and Commitment.
3. Goals (strategic) and Objectives.
4. Scope: includes the full range of patient safety issues.

Written Patient Safety Plan General Components

5. Responsibilities: Board of Directors; Quality Council/Patient Safety Team; Medical Staff; Patient Safety Officer; Hospital and Medical Staff Department Directors and Chairs; Employees, Medical Staff Members, and Volunteers; Patients.

Written Patient Safety Plan General Components

6. Important Processes:

Identification of patient safety issues; response to a patient safety incident; event/incident reporting; managing serious, potentially serious, and sentinel events ….etc.

Written Patient Safety Plan General Components

7. Confidentiality.

8. Program Evaluation, at least annually.

Written Patient Safety Plan General Components

9. Regulatory agencies and accrediting bodies with oversight authority, listing of their standards and how the organization documents the compliance with those standards.

Written Patient Safety Plan General Components

10. Reassessments of the program due to changes in legislation, insurance policy.

Written Patient Safety Plan General Components

11. Education efforts related to safety and risk reduction and prevention.

12. Quarterly or Annual written reports to the governing body might include safety issues like:

Written Patient Safety Plan General Components

reports

1. All system or process failures.

2. The number and type of sentinel events.

Written Patient Safety Plan General Components

3. Whether the patients and the families were informed of the event.

4. All actions taken to improve patient safety, both proactively and in response to actual occurrences.

Written Patient Safety Plan General Components

5. The determined number of distinct improvement projects to be conducted annually.

6. All results of the analyses related to the adequacy of staffing.

- External reporting of significant adverse events.

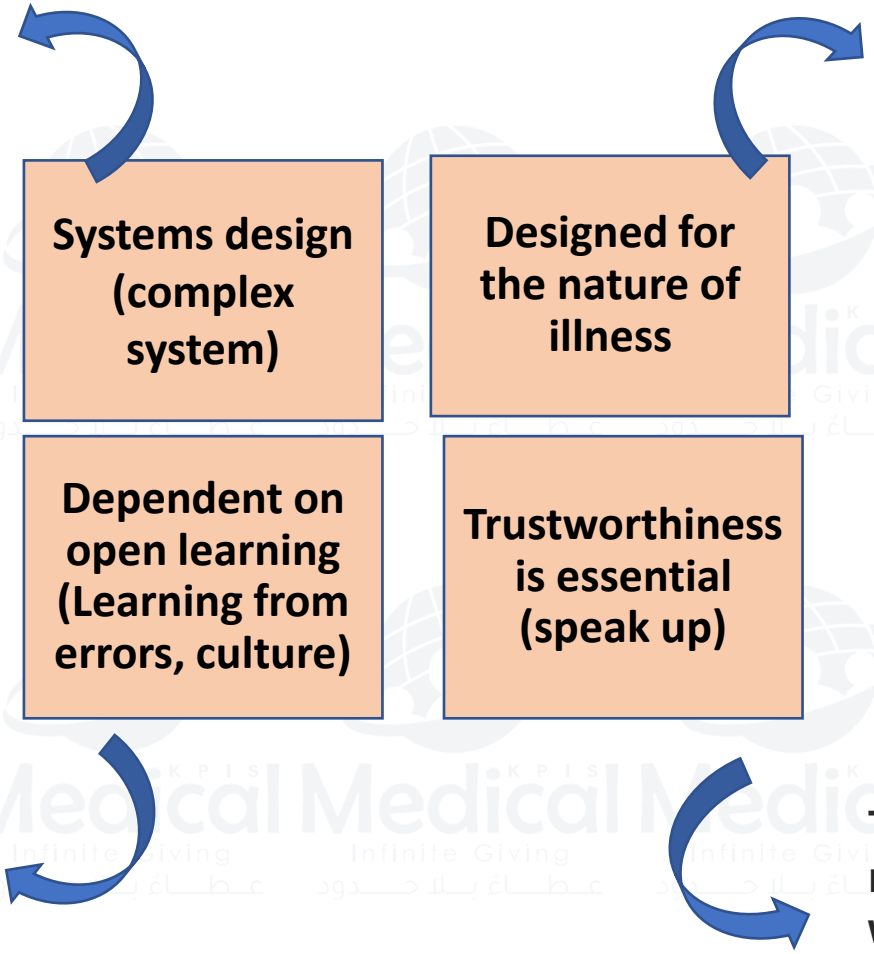
Basic principles of patient safety

1. Patient **safety emerges from systems design**

- The more complex a system is, the more chance there is for error, especially when there are different systems working together. Safety systems have many components.

Basic Principles of Patient Safety

The more complex a system is, the more chance there is for error, especially when there a different systems working together (culture/ environment/ material …etc)



*When a patient comes to a healthcare setting and is already ill, then something in their body has already gone wrong.

*Most conditions are common and thus patients can be treated with standardized protocols and/or guidelines to help minimize error.

*The standardization decreases the opportunities for errors

*There must be a culture of openness among all team members so learning can occur when errors arise.

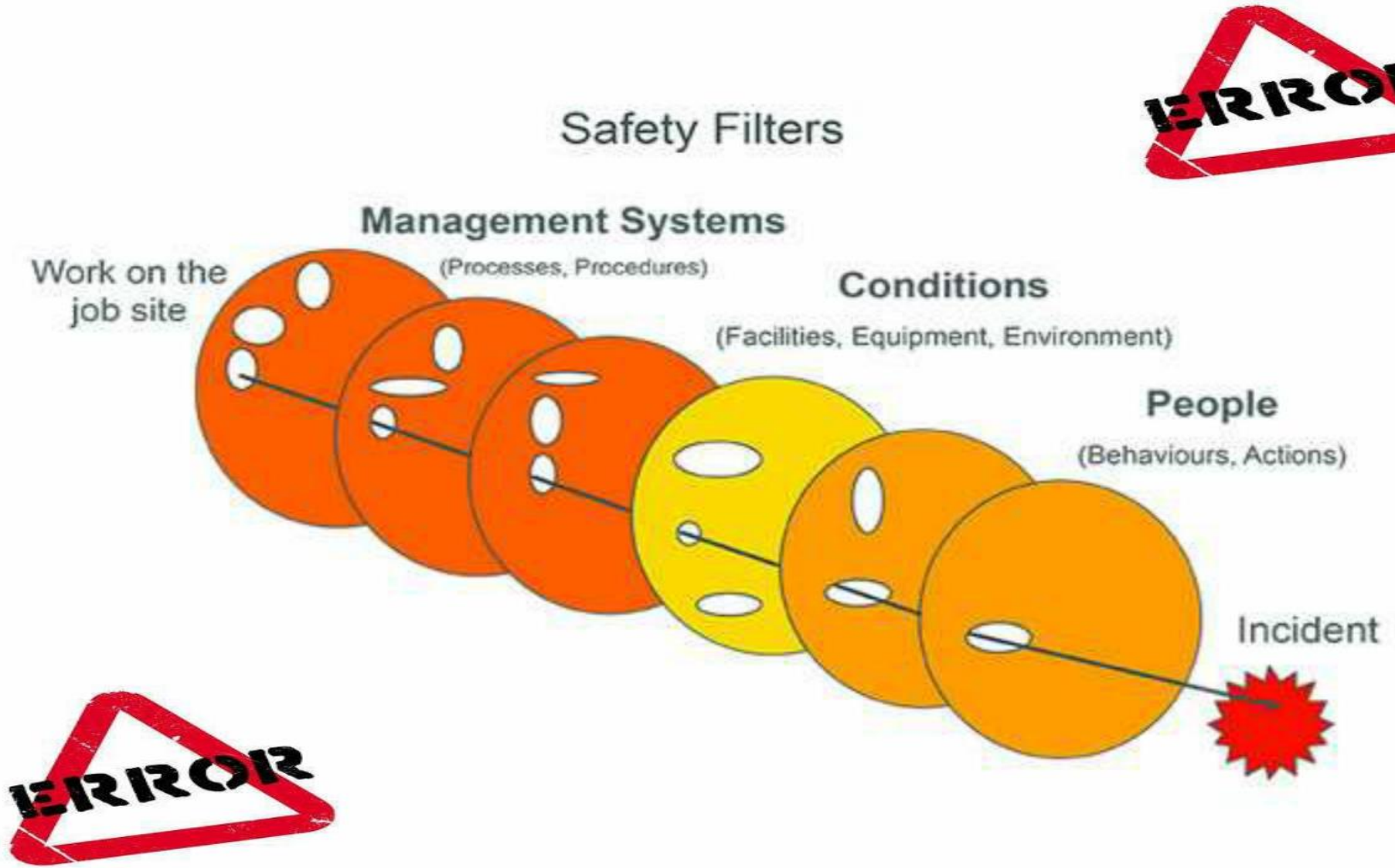
*it also recognizes most errors are caused by flaws in the process rather than the person

The members of the healthcare team must trust each other to speak up when an error or a potential error is identified

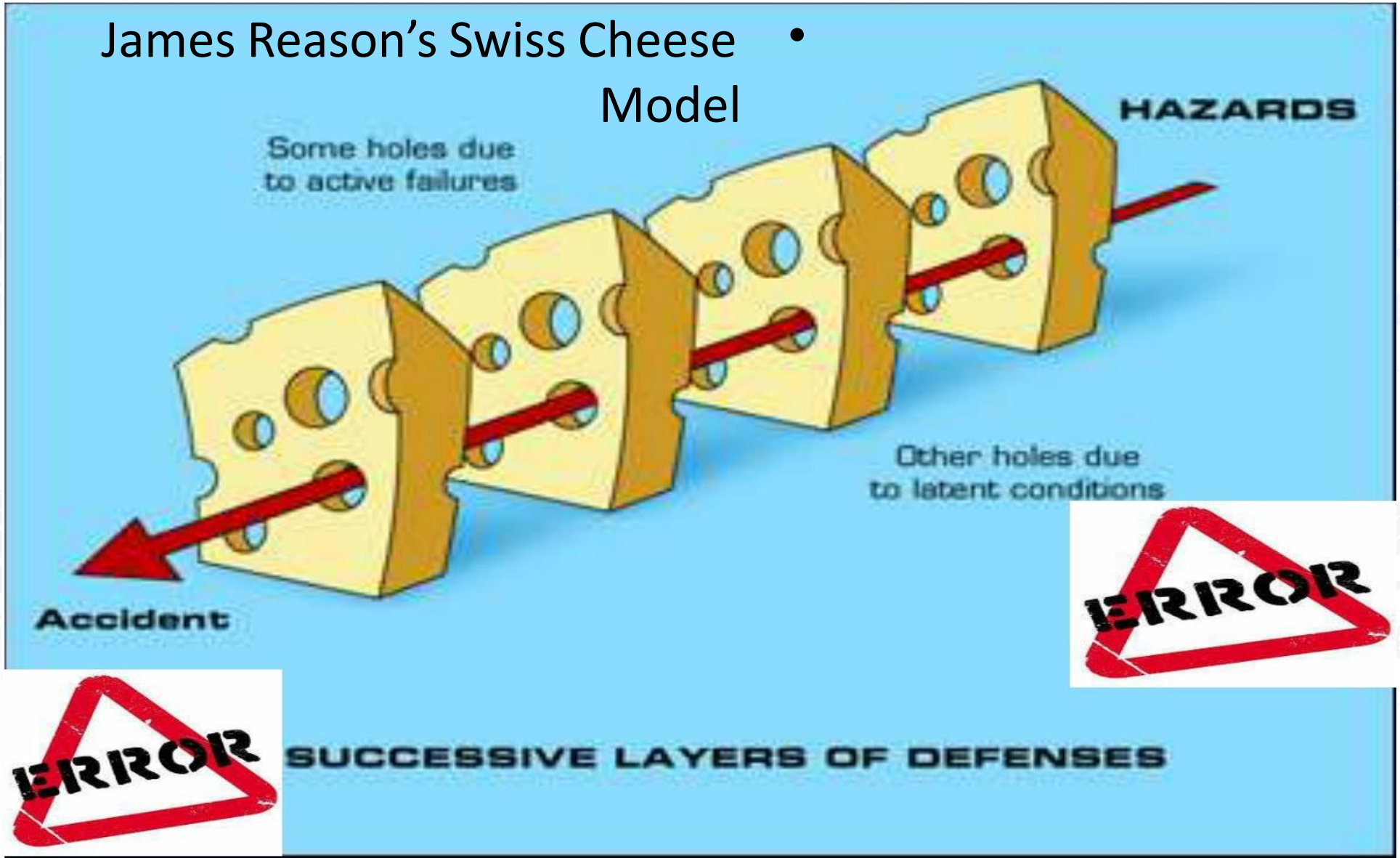
Basic principles of patient safety

1. Patient **safety emerges from systems design**.

- The safety systems are comprised of procedures, the environment, the design of the material used, the training that has been done, and the culture of the team caring for the patient. All of these can contribute to errors.

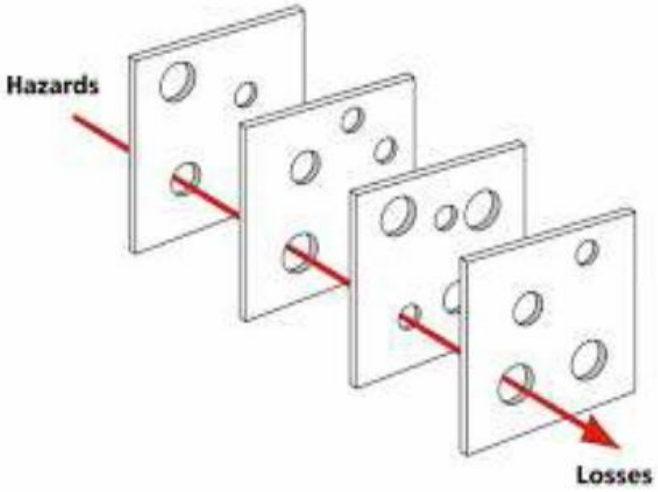

ERROR
Safety Filters
Management Systems
(Processes, Procedures)
Work on the job site
Conditions
(Facilities, Equipment, Environment)
People
(Behaviours, Actions)
Incident
ERROR

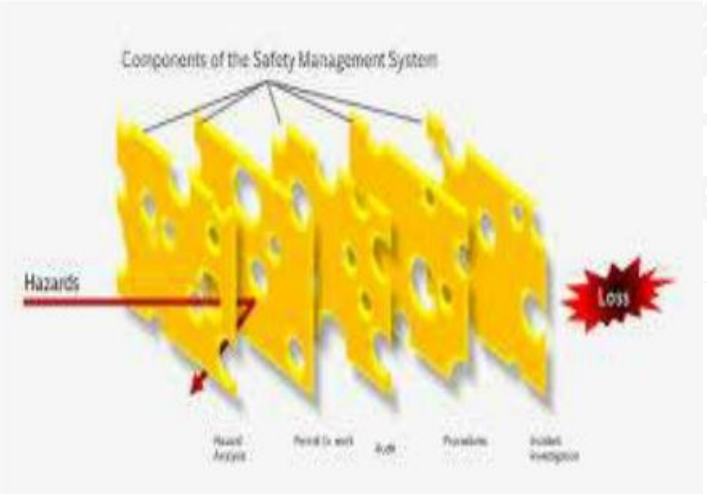
- James Reason's Swiss Cheese Model



James Reason's Swiss Cheese Model

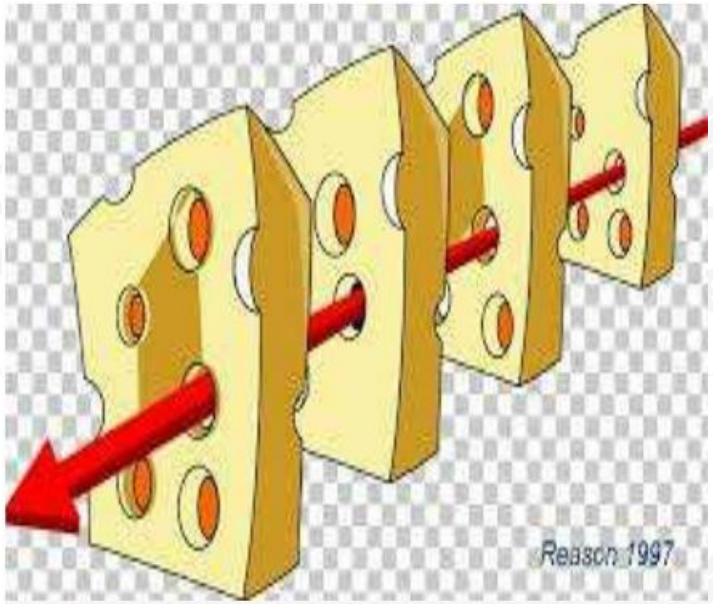
- Each slice of Swiss cheese has holes in it, but the hole location will not be consistent to allow a straight line to be drawn from the front to the back. There is a barrier preventing further passage through the cheese.

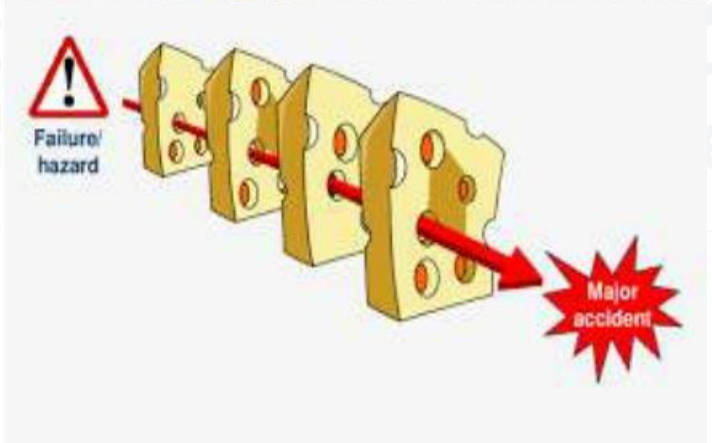




James Reason's Swiss Cheese Model

- Catastrophic errors do not occur in isolation. It is only when the systems align in a certain way, and the fail-safe mechanisms all fail, that the catastrophic event occurs.
  - A number of smaller errors leading up to a catastrophic error.





CLASSIFICATION OF MEDICAL ERRORS

Research on why humans make errors (Reason, 1990) has identified two classes of errors: active and latent.

- **Active errors** (human errors) are those that involve individuals who are actually doing a task, and their effects are felt almost immediately.
- **Latent errors** are errors in system or process design, faulty installation or maintenance of equipment, or ineffective organizational structure. E.g. an undetected design flaw in an airplane (a latent error) may, years after the aircraft was built, cause the pilot to lose control of the plane (an active error) and result in a crash.

Types of Error

Active Failures

- Occur at the point of contact between a human and the system
- Readily apparent
- At the "sharp end"
- Example: pushing an incorrect computer key

Latent Conditions

- Failure of design or organization
- Less apparent
- At the "blunt" end
- Example: facility has multiple types of infusion pumps, increasing likelihood of programming error

Types of Errors

System Errors (Latent)

- Communication Heavy workload/Fatigue
- Incomplete or unwritten policies
- Inadequate training or supervision
- Inadequate maintenance of equipment/buildings

Human Mistakes (Active)

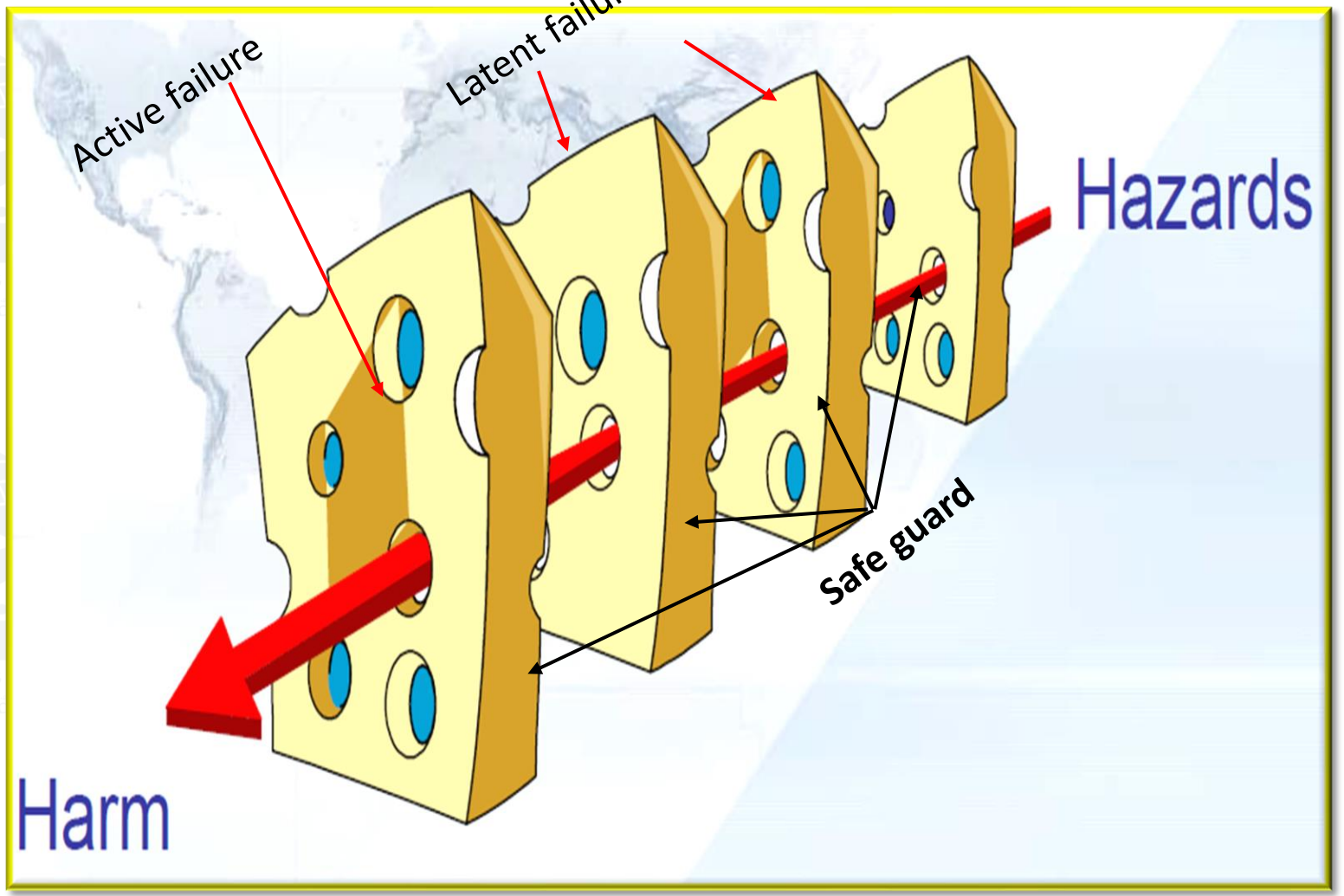
- Action slips or failures (e.g. picking up the wrong syringe)
- Cognitive failures (e.g. memory lapses, mistakes through misreading a situation)
- Violations (i.e. deviation from standard procedures; e.g work-arounds)

Swiss Cheese

catastrophic errors do **not** occur in isolation.

Rather there are **multiple** opportunities for errors to occur.

It is only when the **systems** align in a certain way, and the **fail-safe mechanisms all fail**, that the catastrophic event occurs



A central principle of TQM is that mistakes may be made by people, but most of them are caused, or at least permitted, by faulty systems and processes.

SYSTEMS THINKING IN HEALTHCARE

- *Systems are multiple, interconnected (interrelated) components: people, machines, processes, and data which operate toward a common purpose.*

SYSTEMS THINKING IN HEALTHCARE

- *"The goal of a system is to maximize the output of the whole components (system), not the output of each of its components."*

SYSTEMS THINKING IN HEALTHCARE

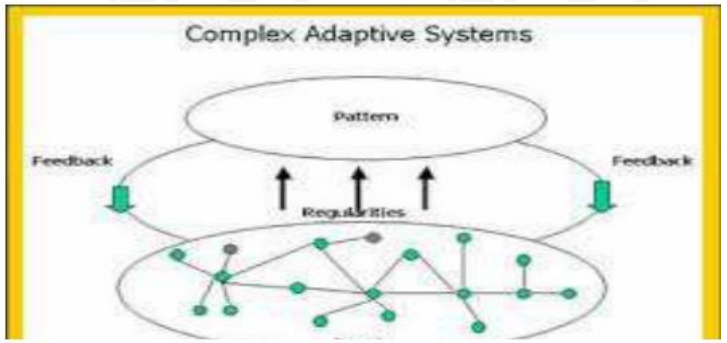
- Health systems are considered "macrosystems." Each clinical unit and support unit is a "microsystem."

Complex System Theory: A "complex adaptive system (CAS)

- A healthcare organization, is:

1. *complex* because it is diverse and comprised of many interconnected elements and

2. *adaptive* because it can learn from experience and change.



Basic principles of patient safety

2. **Patient** safety **is designed for the nature of illness.**

- Patients can be treated with standardized protocols and/or guidelines to help minimize error.
- The standardization decreases the opportunities for errors.

Basic principles of patient safety

3. Patient safety is dependent on open learning.

- When errors occur, the team should learn from those errors.

Basic principles of patient safety

4. Trustworthiness is essential to the concept of patient safety.

- The members of the healthcare team must trust each other to speak up when an error or a potential error is identified.

SPTA
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Saudi Physical Therapy Association

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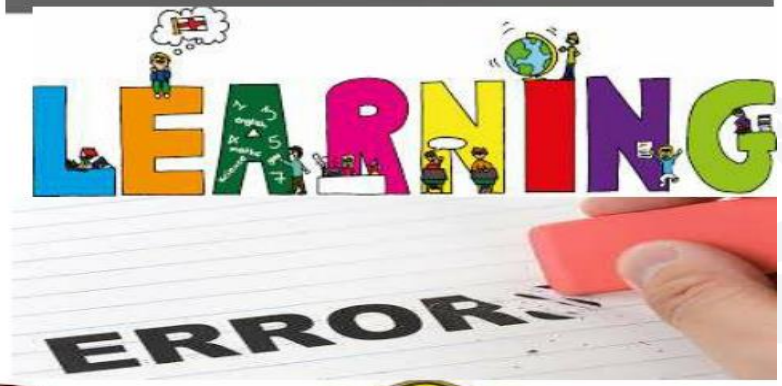
Patient Safety System

- Emphasis is placed on the system of care delivery that:

1. prevents errors;

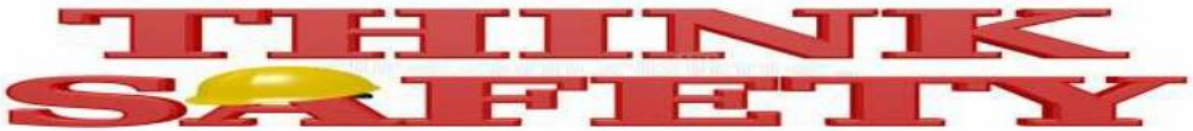
2. learns from the errors that do occur;

3. is built on a culture of safety that involves health care professionals, organizations, and patients.



The Safety Thinking…

- Patient safety involves prevention.
- Think of safety at all times, safety is everyone‘s business
- “Safe Practice Saves Lives”
- “Safety culture”, “Non blame culture”
- “System Approach”
- Learn from incident/error & share
- Emphasize & share right practice also



Definition of a Safety of Culture

- A culture of safety is an atmosphere of mutual trust in which all staff members can talk freely about safety problems and how to solve them, without fear of blame or punishment.
- Essential to improving patient safety in any organization.

safety Culture

- ***The safety culture of an organization is comprised of values, attitudes, perceptions, competencies, and behaviors, which determine the commitment to, and proficiency of, an organization's health and safety management.***
- ***safety culture is characterized by communication founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.***
- ***An organization with a culture of fear of retribution***, *will not be very open to reporting errors or potential errors.*
- ***an organization with a recognized 'Just Culture'*** leads to *process changes, not individual retribution, and has a better patient safety culture .*
- ***The safety culture assessment helps*** *identify and measure conditions in healthcare organizations which lead to adverse events and patient harm.*
- ***The outcomes of these efforts may be reflected positively or negatively.***
- ***All healthcare organizations should periodically assess their patient safety culture.***

The assessment diagnoses the current safety culture and tracks changeover time. It raises patient safety awareness, helps prioritize quality strategies, and provides an opportunity for internal and external benchmarking.

Assessment of safety culture within a hospital should be at the unit level.

There is more variability between units in a typical hospital than there is between hospitals. Because interventions to improve safety are implemented at the clinical area level, it is critical to understand culture at that level.

The Agency for Healthcare Research and Quality (AHRQ) *released the Hospital Surveyon Patient Safety Culture(Consumer Assessment for Healthcare Providers and System (CAHPS) Survey) in November 2004 .*

Measurement tool:

- AHRQ free “Hospital survey on patient safety culture”
- The safety culture assessment helps identify and measure conditions in healthcare organizations that lead to adverse events and patient harm.
  - Surveys occurring every two years.

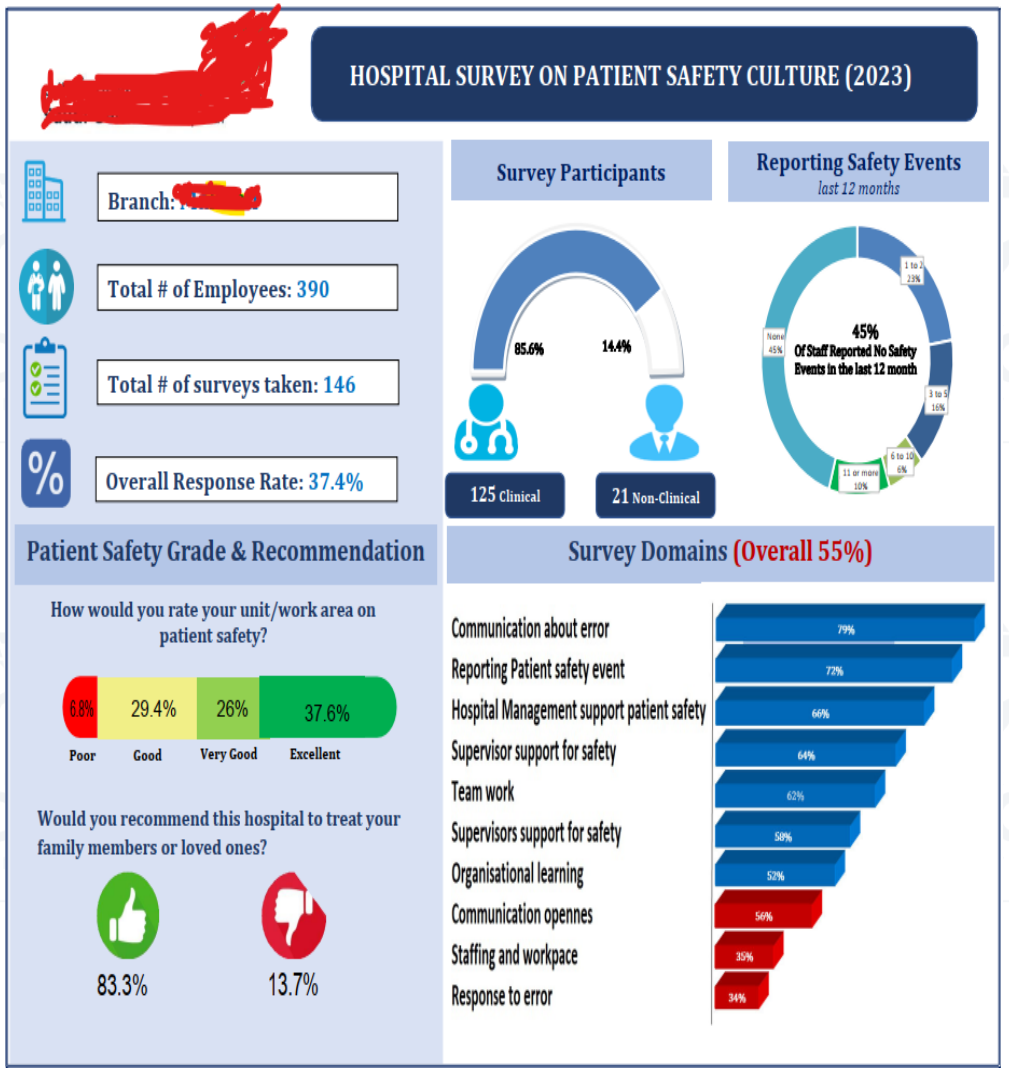
SPIA الجمعية السعودية للعلاج الطبيعي Saudi Physical Therapy Association

KPIS Medical Infinite Giving عطاء بلا حدود

- ***The Agency for Healthcare Research and Quality (AHRQ) released the Hospital Survey on Patient Safety Culture in November 2004 (every two years).***

- ***Why???***

1. ***Raise staff awareness about patient safety***
2. ***Diagnose and assess the current status of patient safety culture***
3. ***Identify strengths and areas for patient safety culture improvement***
4. ***Examine trends in patient safety culture change over time***
5. ***Evaluate the cultural impact of patient safety initiatives and interventions***
6. ***Conduct internal and external comparisons***



Safety Culture

- It is the product of values, competencies, and behavior of the organization that determines the commitment to safety management.

Components of a safety culture include:

- Commitment to safety as the primary priority
- Availability of the necessary resources
- Incentives, and rewards for safety
- Openness about errors and problems
- Commitment to organizational learning
- Unity, loyalty, and teamwork among staff
- Non Punitive Environment (culture of safe reporting) **leads to increase number of reported errors**


Just Culture
Reporting Culture
Learning Culture
Informed Culture
Safety Culture
Flexible Culture

Definition

- It is refer to a safety-supportive system of shared accountability where health care organizations are accountable for the systems they have designed and for responding to the behaviors of their staffs in fair and just manners.

Just Culture

- *"Most serious medical errors are committed by competent, caring people doing what other competent, caring people would do"*
  - Everyone has a job to protect the patient and others and to be part of the solutions to reduce the risk of errors.

Just Culture

- In a 'Just Culture' all employees, practitioners and others understand that the mission and the vision of the organization guides them to do the best that they can in completing their job.

Just Culture

- The IHI estimated that 80% of medical errors are system-driven.
  - A just culture recognizes that professionals should not be held accountable for system failings over which they have no control.

Just culture

A just culture is about ensuring everyone is confident they will be treated fairly when something goes wrong. It recognises that everyone makes mistakes and focuses on changing systems and processes to make it easier for people to do their jobs safely.

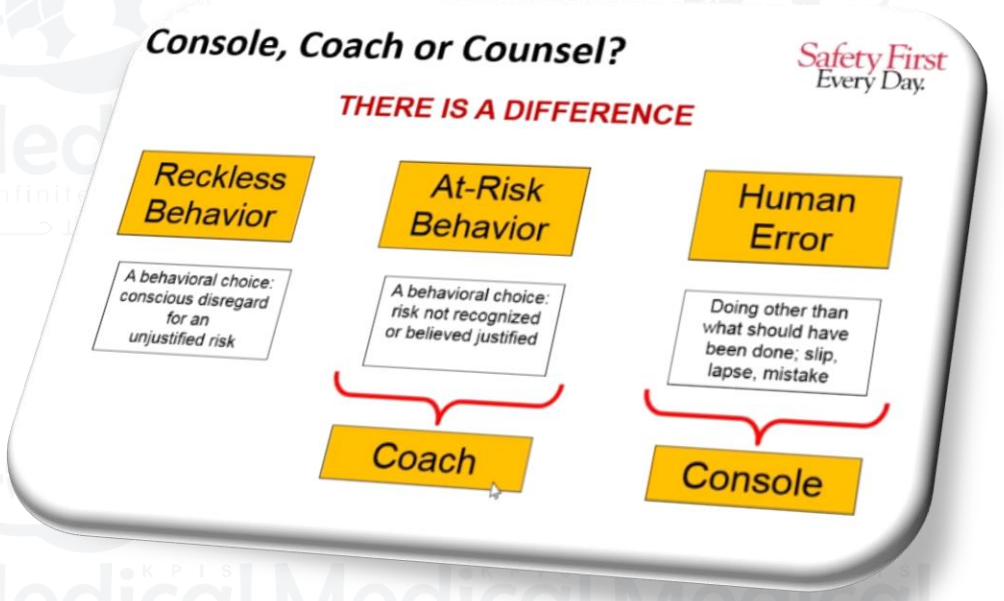
Just Culture

- Just culture defines three possible behavior choices that an individual makes and needs to manage

just Culture

People can and will make mistakes, It does not matter who that person is

- Just culture is recognized that reporting errors leads to process changes, not individual retribution (punishment).
- Everyone has a job to protect the patient and others and to be part of the solutions to reduce the risk of errors.
- most errors are a result of a process and not necessarily the individual, human factors play an important factor in whether an error occurs.
- The Just Culture structure defines what behavior should be undertaken for the individual who directly makes the error.



To Err is Human...

Human Error

غير متعمد

(an inadvertent action, a lapse or a mistake)

Product of our current system design

"I forgot to do the 2- hour check"
starting an operative procedure without a time out

Manage through changes in:

- Processes
- Procedures
- Training
- Design
- Environment

واسى **CONSOLE**

At-Risk Behavior

A Choice: Risk believed insignificant or justified مبرر

"I did a one person transfer with a resident who requires a two-person transfer because the resident needed to use the bathroom and everyone else was busy"

Manage through:

- Removing incentives for at-risk behaviors
- Creating incentives for healthy behaviors
- Increasing situational awareness

علم **COACH**

Reckless Behavior متهور

Conscious disregard of unjustifiable risk

"I knowingly avoided completing a treatment because it is complex and time-consuming"

Manage through:

- Remedial action تصحيحي
- Disciplinary action

PUNISH

"Professionals should not be afraid to make mistakes. They should be afraid of not learning from the ones they do make."

Sidney Dekker, "Just Culture; Balancing Safety and Accountability", 2007

Establish Learning Boards

- The learning board is posted on the unit and utilized to display safety concerns identified by staff
- promotes visibility of specific concerns (transparency).
- This transparency demonstrates to the staff and others that their input is critical to having a well functioning patient safety program.
- Being able to anonymously report concerns in this manner may be valuable for the staff and others to report the safety concerns without fear of reprisal

Learning Board			
Visual	Identified	Active	Resolved
Measures	# of defects identified/ Month	# of defects without action > 30 days	# defects resolved in past 30 days
	Data collection: Count on the first day of each month	Data collection: Monitor and move	Data collection: Count on the first day of each month

For the purpose of improvement, assessment of safety culture in a hospital is best conducted at the level of the

A. individual.
B. unit.
C. hospital.
D. system.

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How should the organization assess its culture of patient safety?

A. Review post-surgical infection rate data

B. Review data collected through incident reports

C. Survey patients admitted in the last 6 months

D. Survey employees and physicians

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An organization has achieved a culture of patient safety when

A.fear of reprisals for reporting incidents has been eliminated.

B. its patient safety goals have been implemented.

C. patient safety training of employees has completed.

D. reports of incidents and near misses have decreased.

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Leadership walk-round

Safety WalkRounds

- A "Safety WalkRound" is a process whereby a group of senior leaders visit areas of a health-care organization and ask front-line staff about specific events, contributing factors, near misses, potential problems, and possible solutions.




Leadership round rules

*1)Should be **preparation** from leadership and unit participants .*

2)Should consist of : leader, scribe , pso , quality professional and director of the unit .

***scriber** : person who capture comments ,concerns and safety events .*

*3) Walk-around should be scheduled based on **staff schedule** not **leader schedule .***

***4)In the morning and after shift change** not agood time due to care for patients*

*5) Should occur in **all shifts** due to all staff has **opportunity to speak up***

6) Should occur weekly for at least a year to reinforce to staff that commitment of leader ship not a one time occurance.

***7)Manager of unit** should know several days in advance that walk- around will be done .*

*8) Important to take **a camera** along walkaround*

***9) Feedback** should be given to the staff*

Patient Safety Leadership Rounds

- The WalkRounds should consist of a senior leader, a scribe, the Patient Safety Officer and/or Quality Professional, and the manager/director of the unit.
- The scribe captures comments, concerns, and safety events.

SAFETY MATTERS

Patient Safety Leadership Rounds

- WalkRounds cannot simply start without preparation of senior leadership and unit participants.
- The manager of the unit/department should know several days in advance that the WalkRounds will be done on that unit/department.

Patient Safety Leadership Rounds

- The WalkRounds should be scheduled based on the staff's schedule and not the leaders' schedules.

- The WalkRounds should occur on all shifts so that all staff members have opportunities to voice their concerns.

Patient Safety Leadership Rounds

- The WalkRounds should occur weekly for at least a year to reinforce to the staff and others that the commitment from the leadership is not a one-time occurrence.

Patient Safety Leadership Rounds

- When the WalkRound team arrives in the area, a brief opening statement/introduction should occur.

- It is also important for leadership to elicit concerns from patients and families during these WalkRounds.

Patient Safety Leadership Rounds

- At the end of the session, there should be a scripted closing statement that indicates that there will be work done to examine the information provided, and identify and prioritize the improvements to be made.

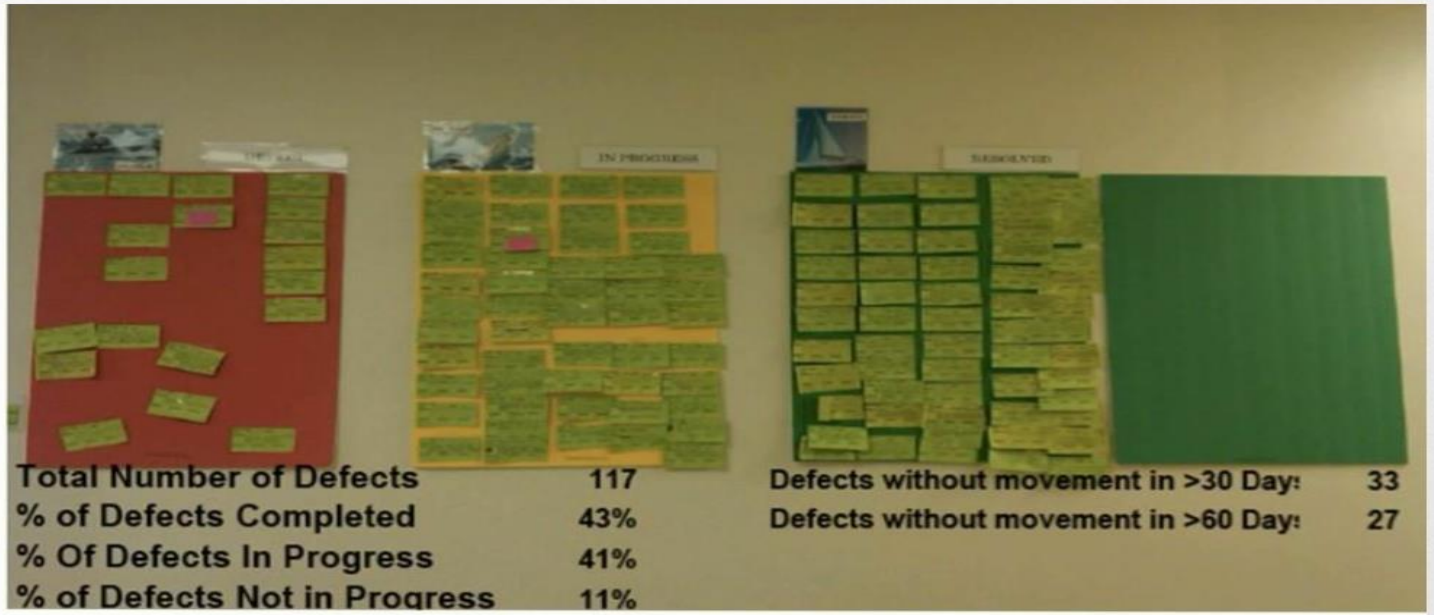
Patient Safety Leadership Rounds

- It is important that there is follow up and feedback to the staff about the issues discussed during the WalkRounds.

Patient Safety Leadership Rounds

- There must be a plan to provide feedback from the rounds to other leaders and staff of the organization.

Learning board



What is a learning board?
How can it help promote transparency?

- ***Learning boards*** *— digital or analog white boards used to visually display key processes, measures, and improvement tests at the unit level — are essential in promoting operational transparency because they offer a way for people to observe the learning process in action.*
- ***Frontline teams*** *must have the expertise to interact with the boards, so they can understand which parts of a process are working reliably and which are not.*
- *The use of learning boards should be an integral part of daily work.*
- *Leaders must set expectations that managers will create learning boards to highlight and*

communicate about the ongoing activities and work in their areas.

- *organizations must* ***train managers*** *on how to create, use, and respond to the boards.*
- *Senior leaders need to routinely visit work settings to discuss the learning system components of the framework at the learning boards.*
- ***During these visits****, frontline providers and managers have the opportunity to describe the learning board.*


ECOCLASSIC
PALADIN

Leadership round

- ***Increase awareness*** *of safety issues .*
- *Engage* ***senior leader with frontline staff.***
- *Provide opportunity for leadership to openly discuss operational failures, safety and harm from frontline staff*
- *Educate staff about concept like : just culture*
- *Obtain information from staff about* ***barriers to safety***
- *Assure the information collected affected actions*
- ***Elicit*** *information and* ***aggregate*** *in a useful manner*

Objectives (Benefits) of Patient Safety Leadership WalkRounds

- Show their support for reporting of errors.
- Demonstrate commitment to safety.
- Communication about patient safety; leaders talk to staff and encourage reporting of errors.

Objectives (Benefits) of Patient Safety Leadership WalkRounds

- Engage senior leadership with frontline staff about patient safety issues.
- Increase awareness, Fuel culture for change.

Objectives of Patient Safety Leadership WalkRounds

- Openly discuss operational failures, barriers to safety, safety and harm with front line staff.
- Identify opportunities to improve safety.
- Educate staff, senior executives about patient safety concepts such as Just Culture.

Objectives (Benefits) of Patient Safety Leadership WalkRounds

- Allows for resource allocation; the rapid testing of safety improvements.
- Utilize the Learning Board.

Human factors engineering

- Methods for Improving Patient Safety.
- Interactive systems that involve people, tools and technology, and work environments.
- The top three factors that contributed to the errors were cognitive factors.

  Communication failures ranked fourth.

HUMAN FACTOR / ERGONOMICS

Study of the interrelationship between humans , the tools , and equipment they use in the workplace , and the environment in which they work .

- in healthcare , 85 % of errors are the result of systems issues and 15 % are attributable to human factors.

- according to IHI , the key to reliable , safe care does not lie in exhorting individuals to be more careful and try harder .

examples of human factors found to contribute to errors include the following :

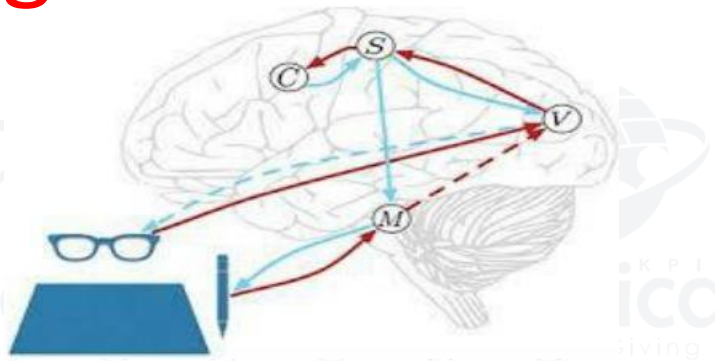
- human interaction with machines
- workload leading to errors and mistakes in providing the best care for patient , when there are not enough staff to handle the work load or work hours are inadequate
- disruptive behavior of healthcare personnel that undermines a culture of patient safety
- fatigue and stress leading to less than expected performance

Human factors engineering

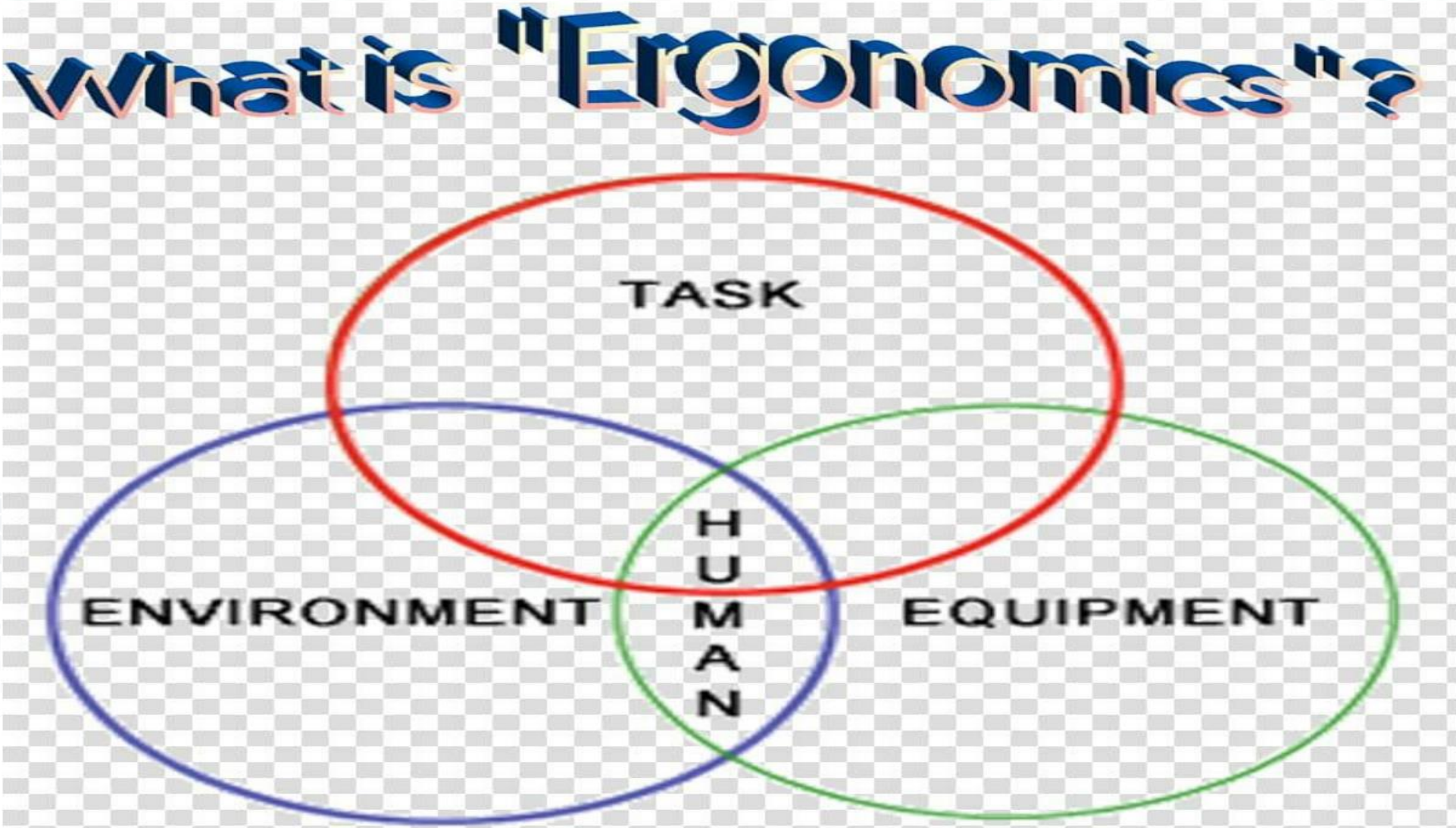
- Since individual human factors are substantial to preventing errors, there must be focus on individuals, in addition to focus on the system.
- Cognitive factors and communication failures are therefore the highest priority areas of focus when working to mitigate these types of errors.

Human factors engineering

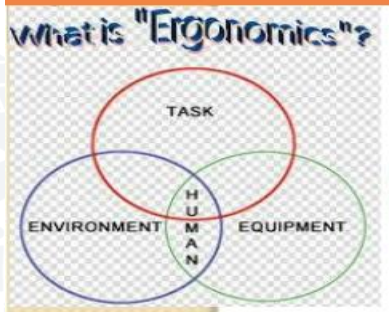
- Identify and address human issues; focus on mitigating the cognitive and perceptual errors, taking into account human strengths and limitations in the system design to ensure safety, effectiveness, and ease of use.



What is "Ergonomics"?



Human Factors



ERGONOMICS - DEFINITION

Human Factors Engineering (HFE)

The study of the interrelationship between humans, the tools, and equipment they use in the workplace, and the environment in which they work.

- **"DESIGNING THE JOB TO FIT THE WORKER , NOT FORCING THE WORKER TO FIT THE JOB"**

- **SCIENCE THAT DEALS WITH DESIGNING AND ARRANGING THINGS SO THAT PEOPLE CAN USE THEM EASILY AND SAFELY**

The aviation industry was one of the first industries to incorporate human factors it into their analyses of never events.

Human and Fatigue :

Fatigue can impact an individual's performance and personality

- Reduce decision-making ability
- Prolong response time
- Increase lapses in attention
- Negatively affect short-term memory
- Lessen ability to multitask
- Increase irritability, moodiness, and depression
- Decrease ability to communicate

the science applied to healthcare fosters these principles in designed work processes :

- *simplify to take steps out of a process .*
- *standardize to remove variation and promote predictability and consistency*
- *use forcing functions and constraints that makes it impossible to do a task incorrectly and creates a hard stop that can not to passed unless actions are changed .check , restrict , or compel to avoid or perform some action.*
- *use redundancies such as double check someone work .*
- *avoid reliance on memory by using tools such as checklist*
- *promote effective team functioning (e.g., teamwork and communication)*
- *automate and use technology carefully .*

Principles of human factors engineering

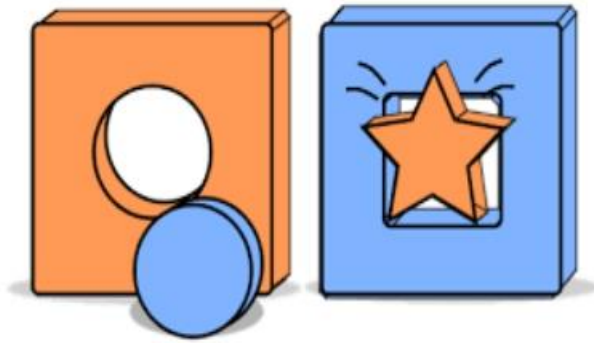
- Simplify.
- Usability testing.
- Standardize.
- Use forcing actions and constraints.
- Use redundancies.

Principles of human factors engineering

- Avoid reliance on memory.
  - Encourage teamwork.
  - Automate carefully.
  - Use visual controls.
  - Mistake proofing.

Mistake proofing

- Mistake proofing, or its Japanese equivalent poka-yoke, is the use of any automatic device or method that either makes it impossible for an error to occur or makes the error immediately obvious once it has occurred.



Mistake proofing

Examples:

1. The elevator will not move if out of load.

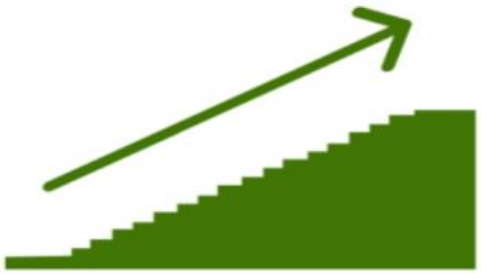
2. Packaging medicines in plastic bags containing a single dose, or "unit dose, “ stops drug overuse.

3. Lock won’t operate when the car doors are open.

Benefits of Poka Yoke

Reduced training time

Improved safety



Promoting culture of continuous improvement

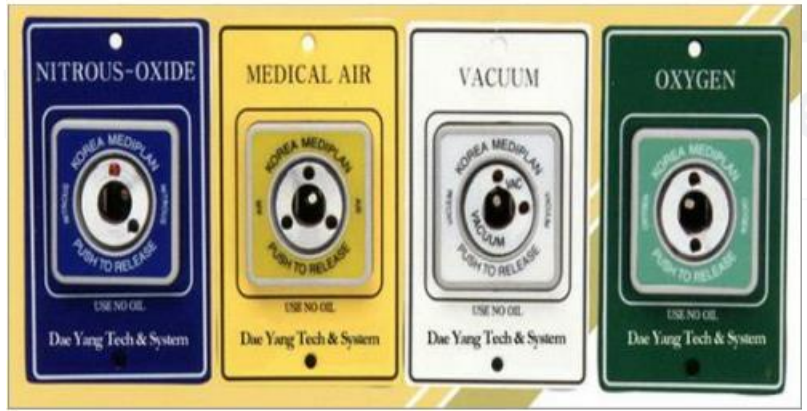
Reduced waste

Higher productivity

Mistake proofing

Examples of Mistake-Proofing in Health Care:

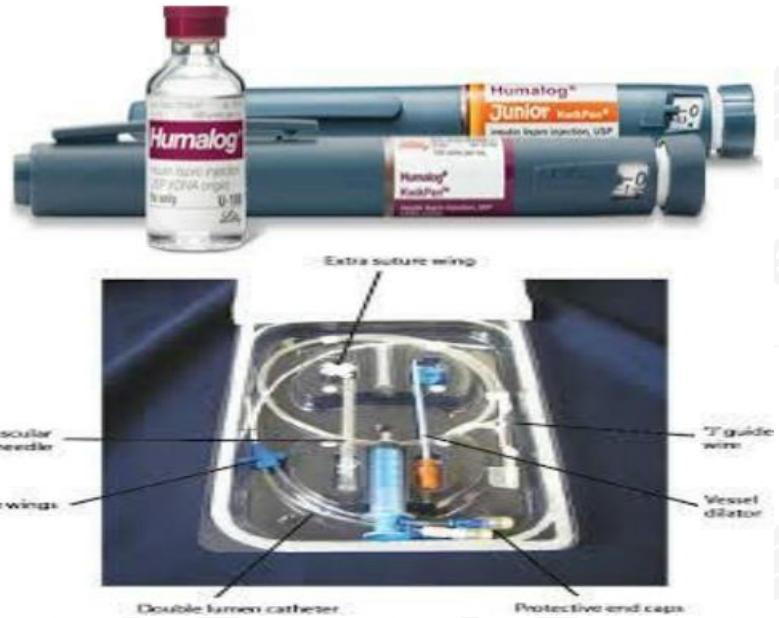
- Infant Abduction Prevention.
- Bar Coding.
- Computer-Aided Nutrition and Mixing
- Private Files.
- Computer Drug Interaction Checker.
- Computerized Physician Order Entry.



Mistake proofing

Examples of Mistake-Proofing in Health Care:

- Plug Protection.
- Unit Dosing.
- Kits.
- Auto Shut-Off Treadmills.
- Needleless Systems.
- Distinct Labeling.



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RED RULES

Know and Comply with Red Rules

What Is A *Red Rule*?

An act having the highest level of risk or consequence to patient or employee safety if not performed exactly, each and every time

"Red" designates the rule as a **safety absolute** with the highest priority for ***exact compliance***

Red Rules Examples

- "No hospitalized patient can undergo a test of any kind, receive a medication or blood product, or undergo a procedure if they are not wearing an identification bracelet.“
- Time Out.

Red rules

- cannot be broken
- few in number
- easy to remember
- associated only with processes that can cause serious harm to employees, customers, or the product line.
- must be followed exactly as specified except in rare or urgent situations.
- Every worker, regardless of rank or experience in the company, is expected to stop the work or production line if the red rule is violated.

Sentinel Event Process

- Sentinel event policy.

- RCA.
- The top four root causes were human factors, leadership, communication, and assessment.

- Action.

- Apology & Disclosure.

Apology and disclosure

- When adverse event occur , the patient deserve to know that and details about it .

- Organization must have formal process for disclosing information and to patient , family and how responsible for ps in organization

- Organization should determine person responsible for disclosure

According to national quality forum and its report " safe practices for better health care " decided that :

- Communication with patient should be **timely** or **within 24** hr from event
- Should include : **what happened , empathetic communication ,expression of regret , ways to prevent recurrence of error .**
- Individual involved in this event either directly or indirectly should be **treated with respect and dignity .**
- Staff involved should be **innocent of intentional harm** until proven otherwise
- Staff involved in error **should be part of RCA** or other investigation .

Apology & Disclosure

- When an adverse or sentinel event occurs, All healthcare organizations must have a formal process for apology and disclosing this information to the patient and as appropriate to family members, and to those responsible for patient safety within the organization.

Apology & Disclosure

- Support systems to assist the patient and providers with this process must be in place.
- Communication with the patient should be timely, within 24 hours of the event if possible.

Apology & Disclosure

- Communication should include the facts about what happened, empathic communication of those facts and expression of regret مدن, a commitment to investigate and, as possible, to prevent future occurrences of the event, and that emotional support of the patient and family will be provided.

Apology & Disclosure

- Caregivers are often called the "second victim" of the event.
- There may be multiple individuals who directly and indirectly contributed to the adverse event occurrence, due to system failures or human error.

Apology & Disclosure

- The individuals involved in the event either directly or indirectly should be treated with respect and dignity كرامة.
- Those involved in the error receive the care they need and to determine if they are "fit to work" for the protection of them and others.

Apology & Disclosure

- The exception would be if they were found to be under the influence of drugs, or alcohol, or if their behavior indicated that they may have intentionally contributed to the error.

Disclosure of medical error- Definition

- "Communication of a health care provider and a patient, family members, or the patient's proxy that acknowledges the occurrence of an error, discusses what happened, and describes the link between the error and outcomes in a manner that is meaningful to the patient." Fein et al.: Journal of General Internal Medicine, March, 2007: 755-761
- Disclosure of medical error is not a single conversation; rather, it needs to occur over time, in a series of conversations. Straumanis, 2007

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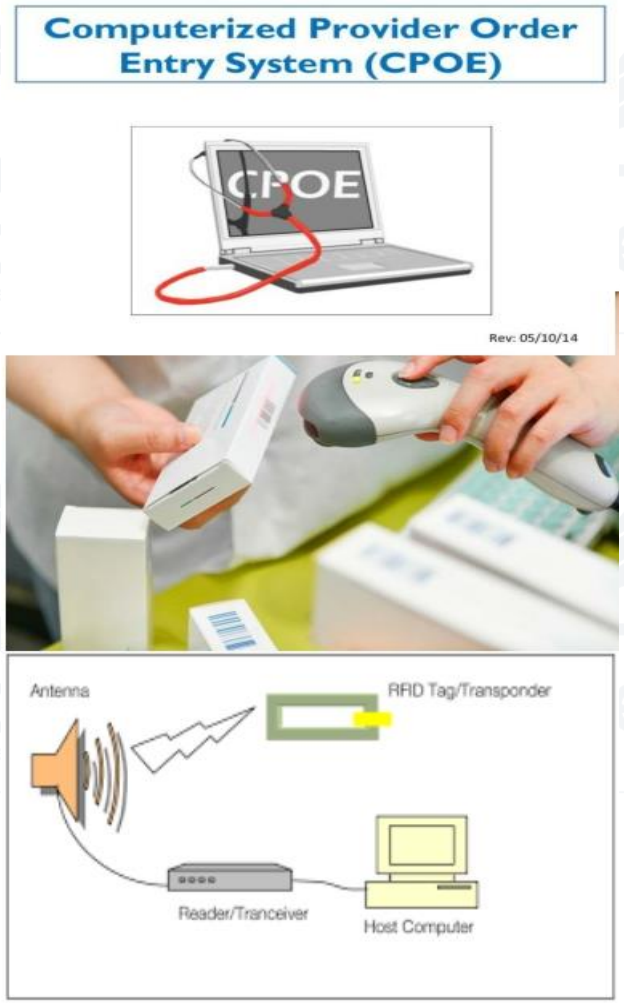
Role of Technology in Improving PS

- Computerized Physician Order Entry (CPOE).
- Bar-code Medication Administration (BCMA).
- Radio Frequency Identification (RFID).
- Abduction/Elopement Security Systems.



Meaningful use of EHR

the HITECH Act *(Health Information Technology for Economic and Clinical Health Act)*

required providers to show "meaningful use" of an EHR system.

Meaningful use is defined as using certified EHR technology to

- *improve quality, safety, and efficiency; reduce health disparities;*
- *engage patients and family;*
- *improve care coordination, and population and public health; and*
- *maintain privacy and security of patient health information.*

- *Meaningful use compliance results include better clinical outcomes, improved population health outcomes, increased transparency and efficiency, empowered consumers, and more robust research data on health systems.*
- *Meaningful use sets specific objectives that eligible professionals and hospitals must achieve to qualify for the financial incentive programs.*

Meaningful use of EHR

When they were introduced, the Medicare and Medicaid EHR Incentive Programs were
designed to measure the meaningful use of CEHRT in three stages:

Stage 1 focused on promoting the adoption of certified EHR technologies. This initial stage established requirements for the electronic capture of clinical data and giving patients access to electronic copies of their own health information.

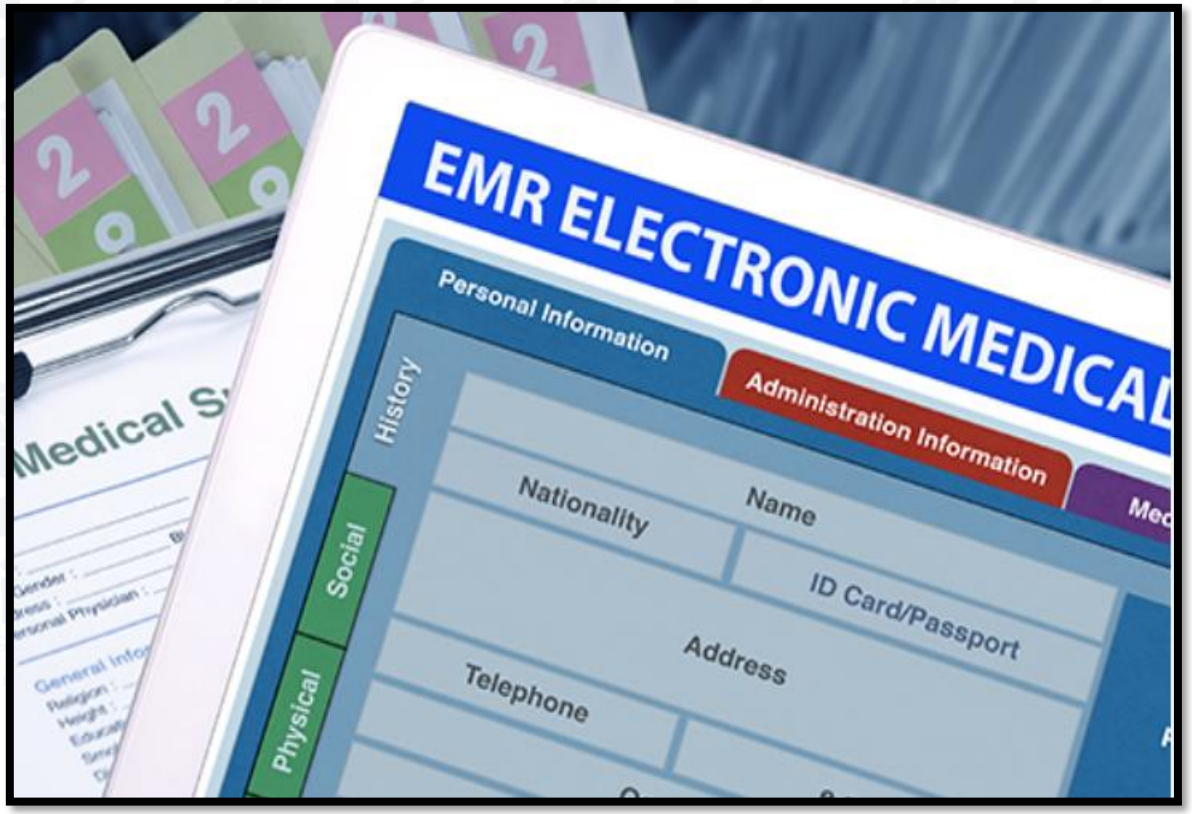
Stage 2 expanded upon stage 1 criteria by encouraging the meaningful use of CEHRT. This stage emphasized care coordination and *the exchange of patient information*. It increased the thresholds of criteria compliance and introduced more clinical decision support, care coordination requirements and *patient engagement* rules.

Stage 3 focused on using CEHRT to improve health outcomes by implementing *protected health information*, *e-prescribing*, clinical decision support, *computerized provider order entry*, patient provider access, coordinated care through patient engagement, *health information exchange*, clinical data registry and case reporting.

Technology and Its Effects on Patient Safety

1. Computerized physician order entry (CPOE) system

- the clinician enter directly an order into the CPOE
- electronically transmitted directly to the pharmacy or other department
- interface with clinical decision support systems (CDSSs), which include suggestions or default values for drug doses, routes, and frequencies, check for drug allergies, drug interactions, drug-laboratory values, drug guidelines, or prompt for corollary lab tests.



- ❑CPOE has been shown to be quite effective in reducing error related to the prescribing of the medication
- ❑it has not been effective in errors occurring at the dispensing and administration stages of the medication process.

2. Bar Code Medication Administration (BCMA) Systems

- ❑ item-specific identification
- ❑ work-around
- ❑ The barcoding system has been utilized to assure that the medication is administered correctly with the five rights of medication administration.
- ❑ The barcode is applied to each unit dose and scanned by nurses at the bedside to connect the right medication with the right patient.

❑ **BCMA Benefits :**

1-Accuracy in confirming the "five rights" of medication administration: right patient, medication, time, dosage, and route

2-integration with an electronic medication administration record (eMAR), pharmacy system, and the organization's information system

2-Comprehensive data for performance measurement and improvement

Leapfrog, an organization of payers and others that look at Patient Safety and rate hospitals on specific indicators developed in collaboration with hospital leaders and vendors, recently published a Leapfrog standard with which they sill measure hospitals (Leapfrog, 2016). The four components of this measurement will include: 1. "Measurement of the extent of a hospital's BCMA implementation throughout the hospital with a focus on medical and/or surgical units (adult and pediatric) and intensive care units (adult, pediatric, and neonatal)"; 2 . "A hospital's compliance with both patient and medication scans at the bedside prior to administering medications"; 3. "The types of decision support that the hospital's BCMA system offers"; and 4. "A hospital's structures to monitor and reduce workarounds" (Leapfrog, 2016).

3. Radio Frequency Identification (RFID)

- ***automatic identification system, using digital memory chips embedded on tags to track medical devices, drugs, staff, patient, and so on.***
- ***contain information about the lot number and expiration date for medical supplies and drugs or allergies and blood type for patients, or the physical location of equipment and patients in real time.***
- ***Data can be read by sensors from a distance and can be transmitted to a host computer for processing and tracking, it has both read and write capability***
- ***RFID is utilized for three purposes:***

1. asset management (equipment location)

2. patient care (patient tracing, helpful in infant abduction)

3. inventory management (maintenance log)

A disadvantage of RFID is the expense of the equipment, both hardware and software

Abduction/Elopement Security Systems

- RFID technology is used increasingly for infant and pediatric security to prevent abduction
- bracelet that is placed around the infant or child's wrist or ankle. If the bracelet is removed or cut off, an alarm signals the nursing station and computer software, alerting the healthcare staff.
- Usually the facility incorporates door and elevator locks, and goes into "lockdown mode“
- a mother/infant matching system, where the mother is given a tag or band with the same code as her infant's, to serve as an additional and automatic identification
- adults with dementia