الجمعية السعودية للعلاج الطبيعي
Saudi Physical Therapy Association

KPIS Medical
Infinite Giving
عطاءٌ بلا حدود

Patient Safety

Dr. Sahar Khalil Alhajrassi
SB–PROSTH, CPHQ, CPHRM, ISQua Fellowship

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

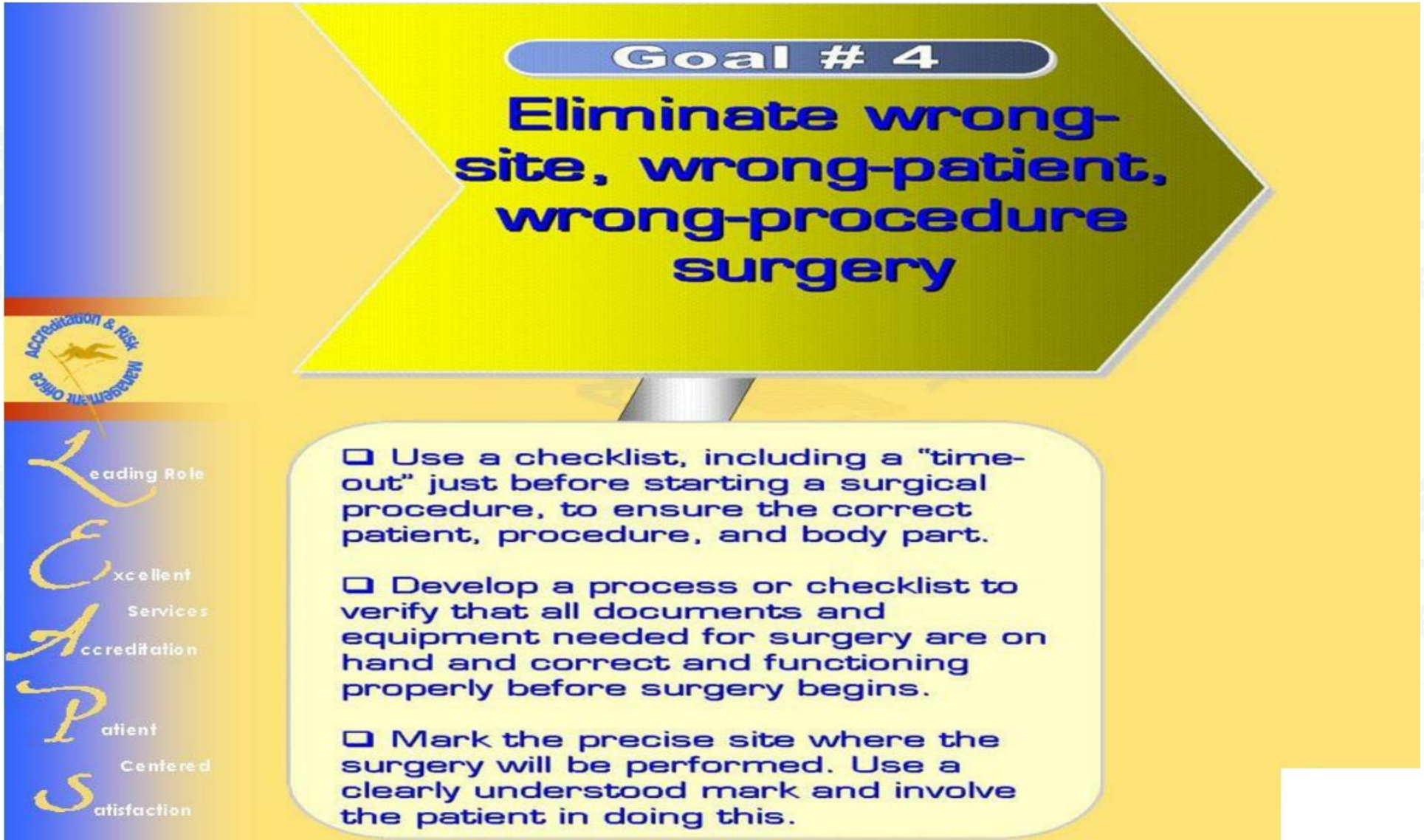
SOUND ALIKE
LOOK ALIKE

Look alike examples

Goal 3: IMPROVE SAFETY OF HIGH-ALERT MEDICATIONS

- Example of LOOK ALIKE Medications:

SOUND ALIKE LOOK ALIKE


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.

SPTA الجمعية السعودية للعلاج الطبيعي Saudi Physical Therapy Association

KPIS Medical Infinite Giving عطاءٌ بلا حدود

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.

SPA
الجمعية السعودية للعلاج الطبيعي
Saudi Physical Therapy Association

KPIS Medical
Infinite Giving
عطاءٌ بلا حدود

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

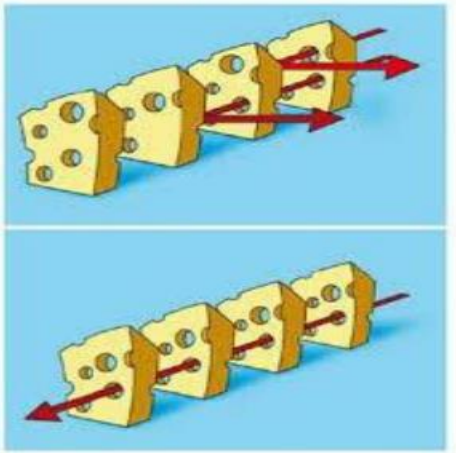


Figure 1&2 Surgical safety operation theatre-swiss cheese

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

SPTA الجمعية السعودية للعلاج الطبيعي Saudi Physical Therapy Association

KPIS Medical Infinite Giving عطاءٌ بلا حدود

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

SPTA الجمعية السعودية للعلاج الطبيعي
Saudi Physical Therapy Association

KPIS Medical
Infinite Giving
عطاءٌ بلا حدود

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

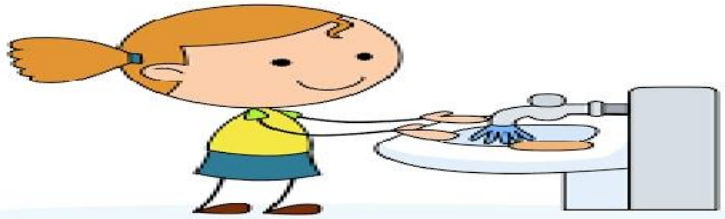
Nurse verbally confirms with the team:

- ☐ **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

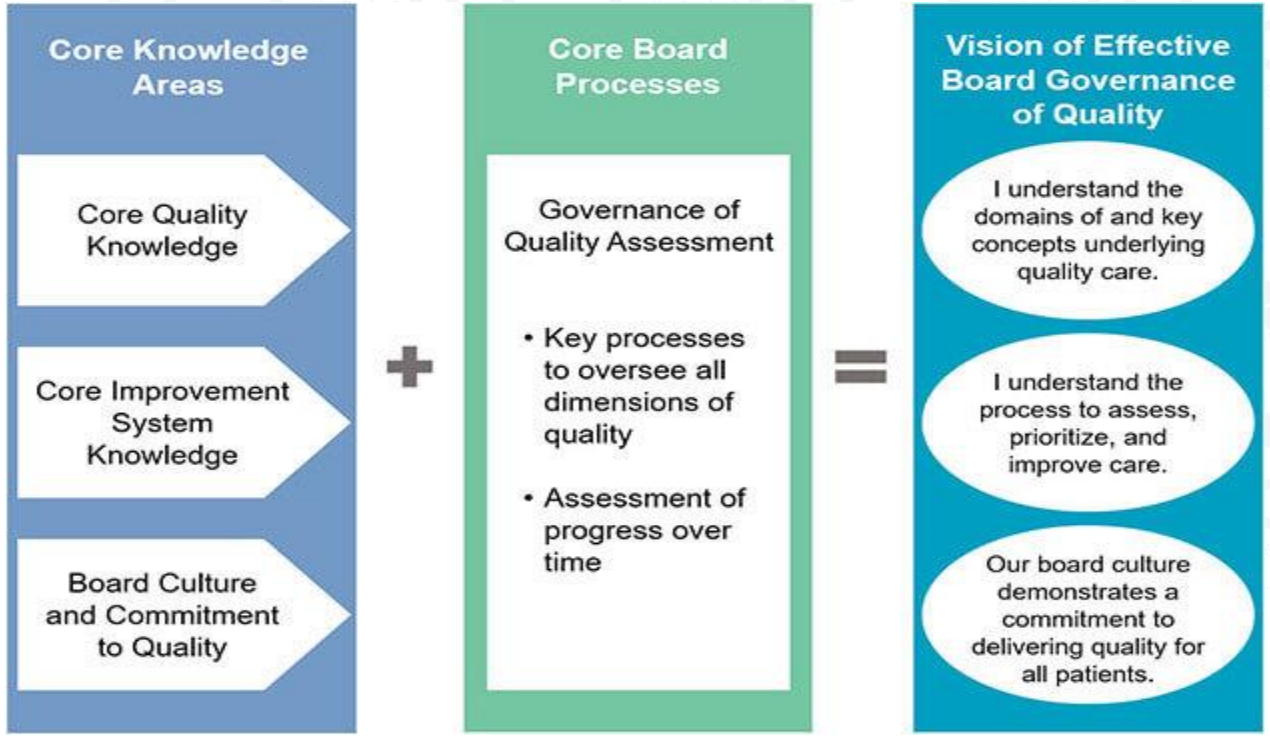
6-REDUCE THE RISK OF PATIENT HARM RESULTING FROM FALL

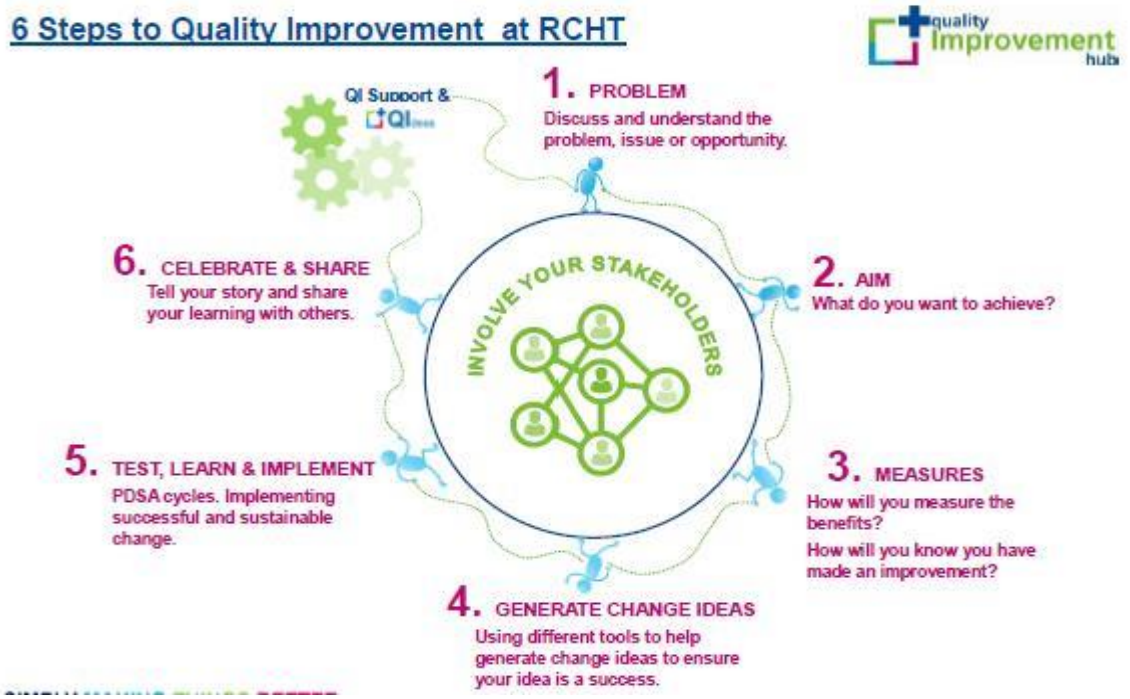
Requirement:

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.

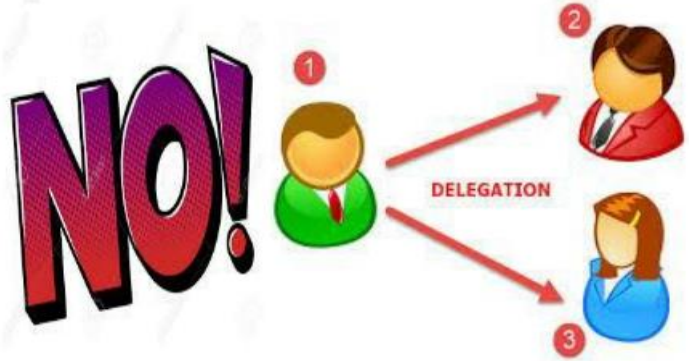
- 4. Establishing and monitoring system-level measures: Identify a small group of organization-wide
- measures of patient safety (e.g., facility-wide harm, risk-adjusted mortality), update the measures
- continually, and make them transparent to the entire organization and customers.

- 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.

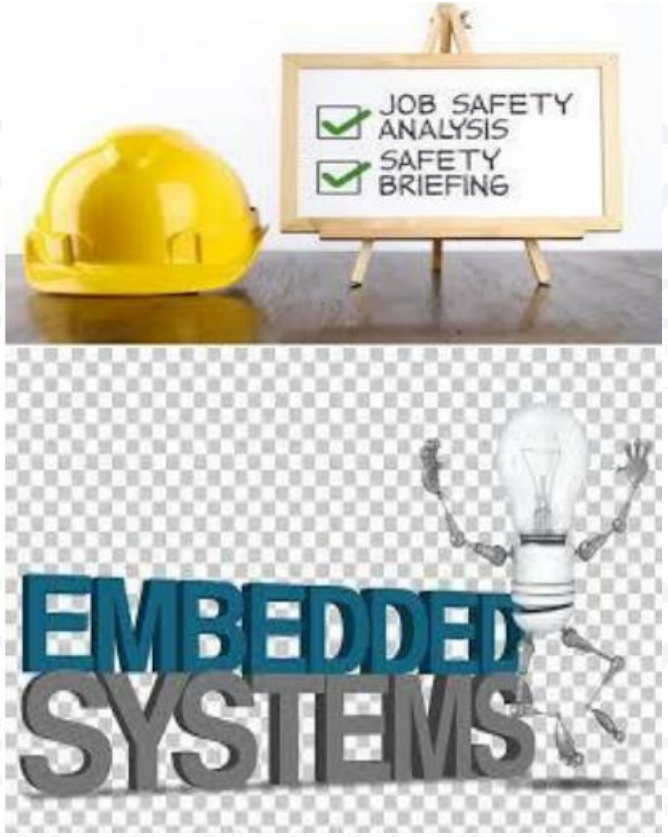
Leaders in patient safety

- 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**

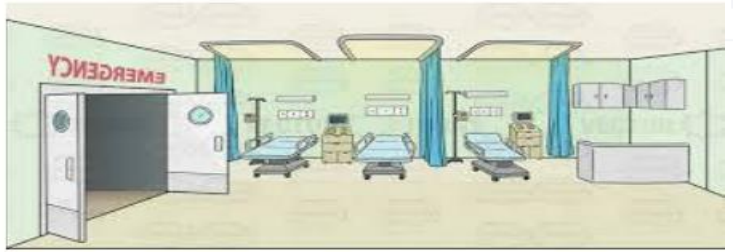
Leaders in patient safety

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

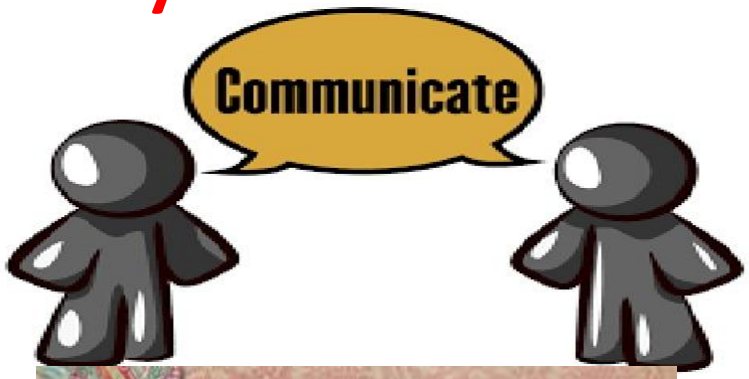
2. Engage Key Stakeholders:

- 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:

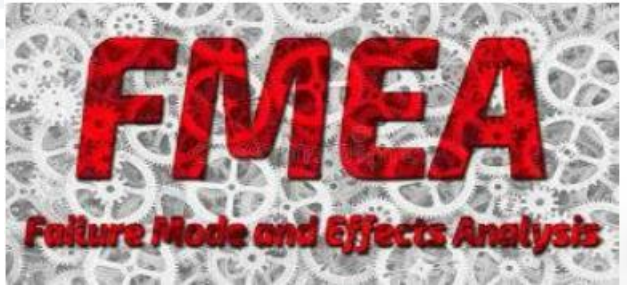
- The leaders should develop a strategic plan
- Identified system-level goals need to be communicated throughout the organization .

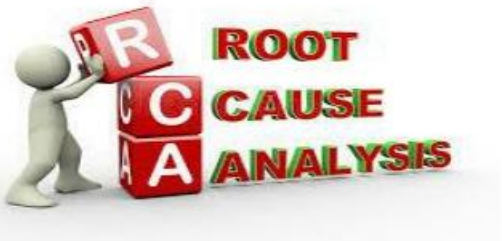
Leaders in patient safety

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 .

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

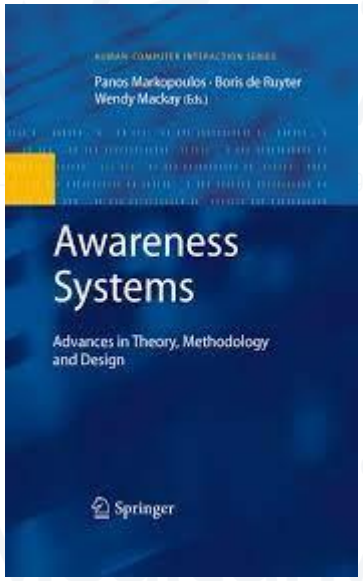
9. Personal example.

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

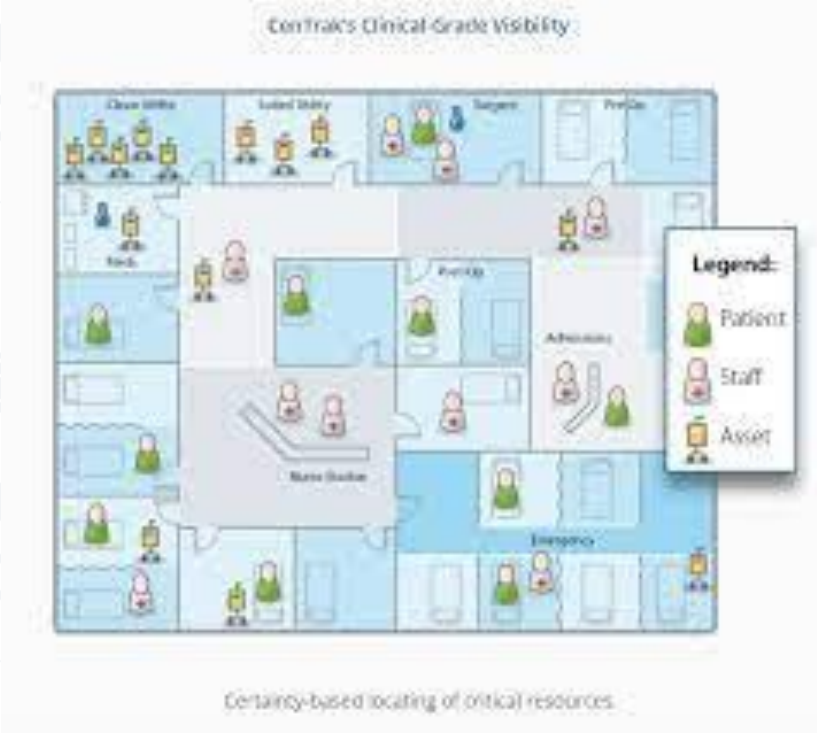
(b) the patient safety officer

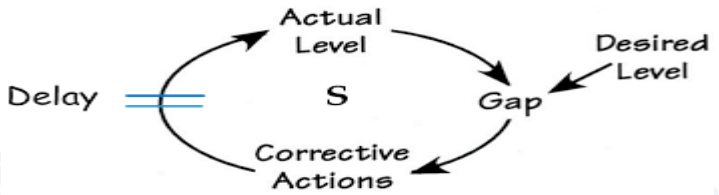
(c) direct organization-wide leadership accountability

(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.



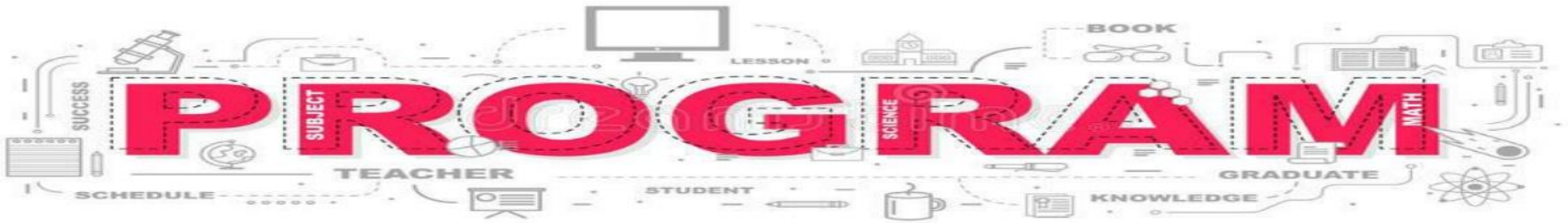


- **Action Structures and Systems**
- Action structures and systems enable leaders to take direct and appropriate action. These structures and systems include
- (a) quality and performance improvement programs
- (b) regular actions of governance including confirmation of values, basic teamwork training, 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.

SPTA
الجمعية السعودية للعلاج الطبيعي
Saudi Physical Therapy Association

KPIS Medical
Infinite Giving
عطاءٌ بلا حدود



Components of a Patient Safety Program

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

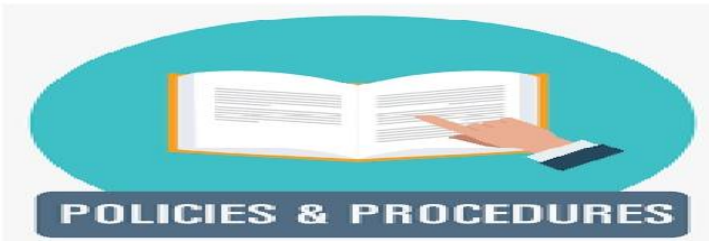
Without the support of senior leadership, no program, no matter how well planned and developed, will survive.

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.

SPTA الجمعية السعودية للعلاج الطبيعي Saudi Physical Therapy Association

KPIS Medical Infinite Giving عطاءٌ بلا حدود

Components of a Patient Safety Program

- Support systems available for staff that have been involved in an adverse or sentinel event. "second victims"

Second Victim Support

- 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

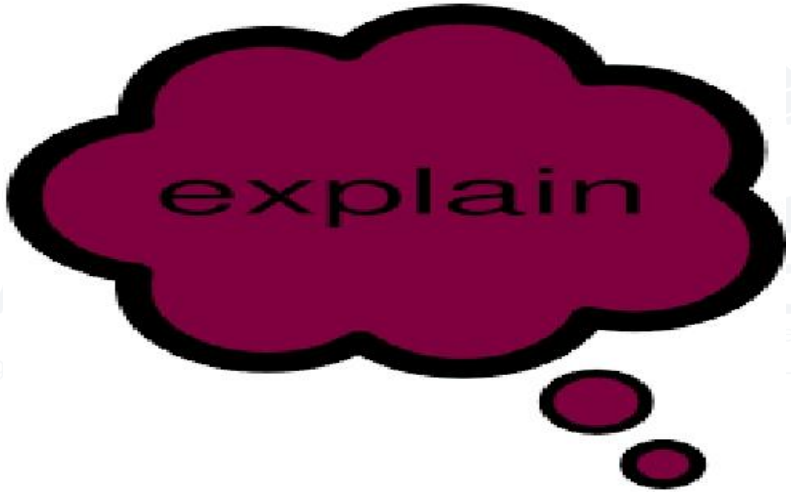
AHRQ Advancing Excellence in Health Care

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.

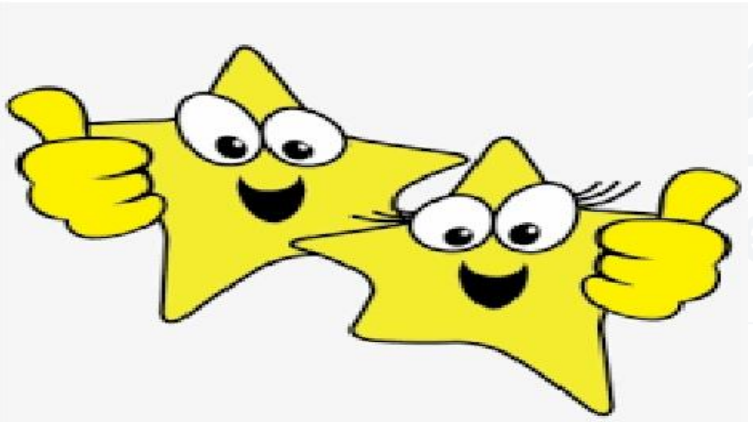


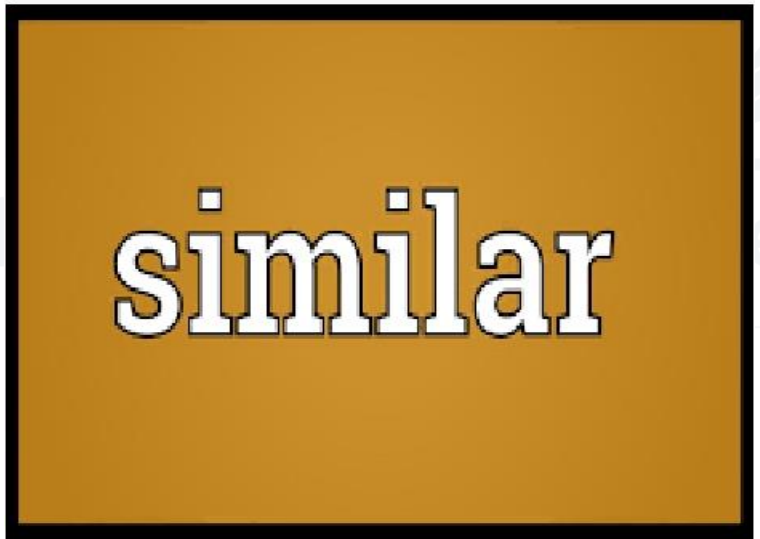
Patient Safety Plan

- 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.

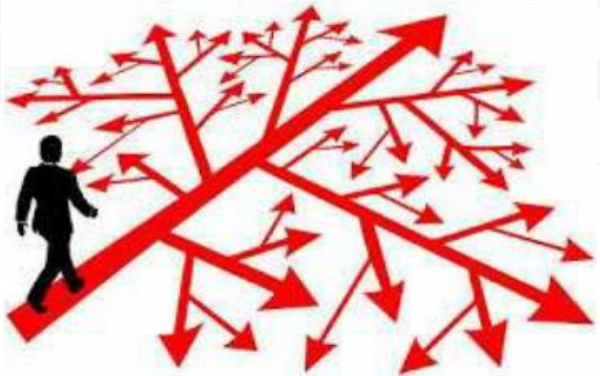
6. All results of the analyses related to the adequacy of staffing.

- External reporting of significant adverse events.

Basic principles of patient safety

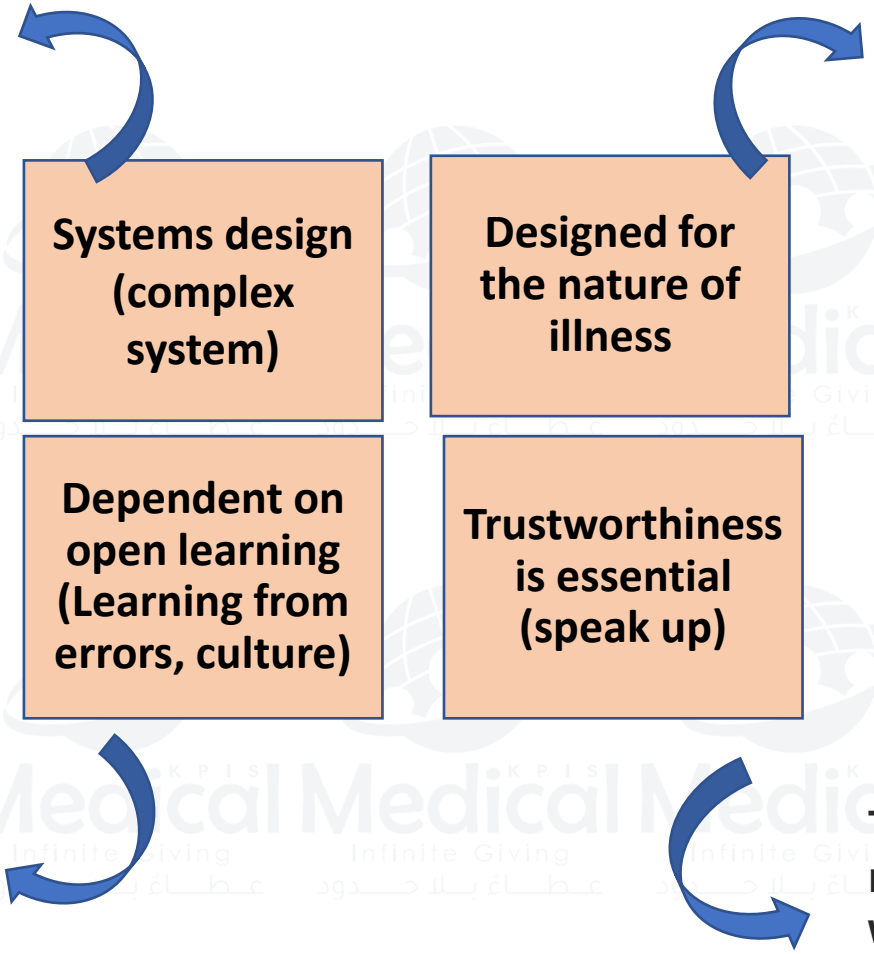
1. Patient **safety emerges from systems design**

- 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.

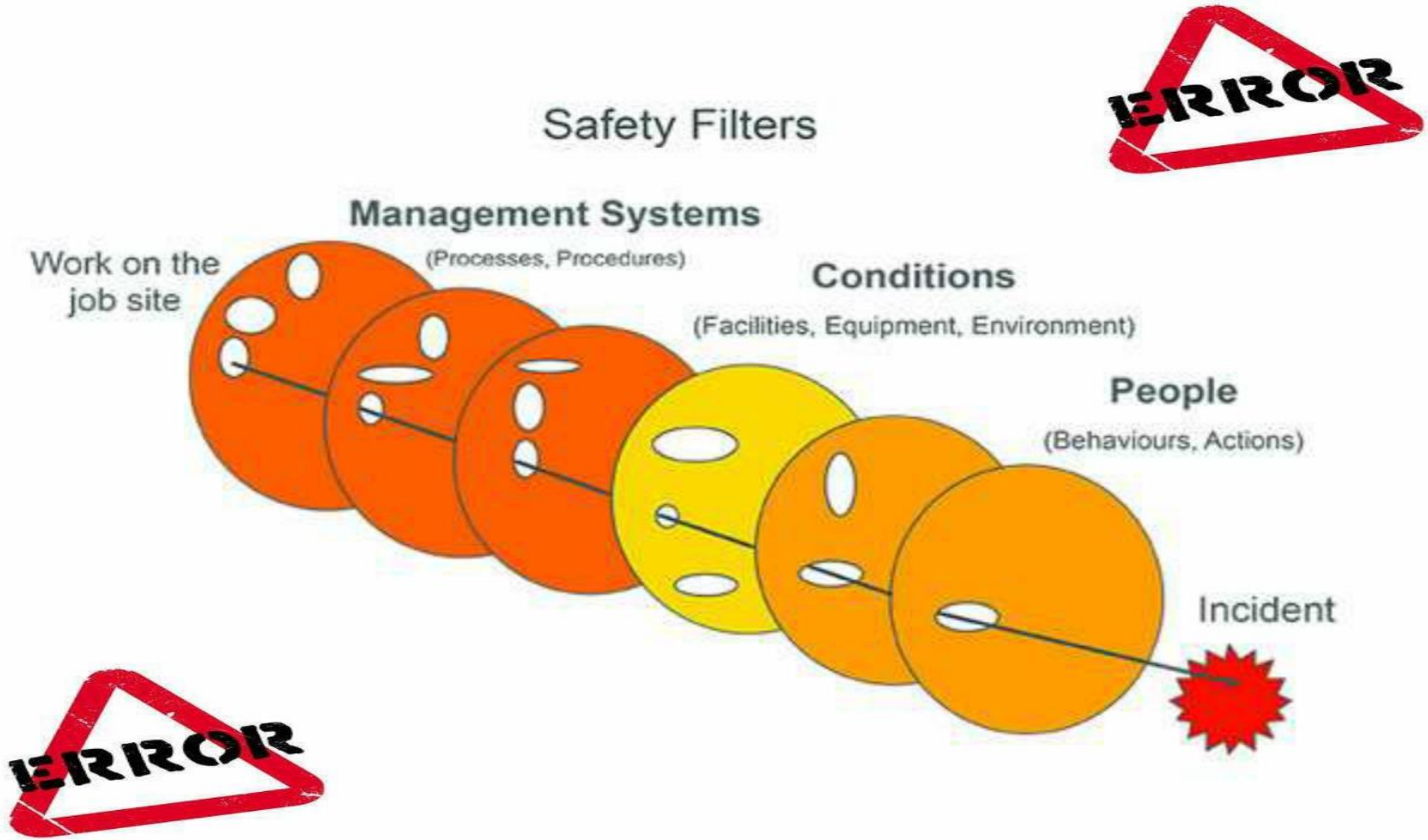
*it also recognizes most errors are caused by flaws in the process rather than the person

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

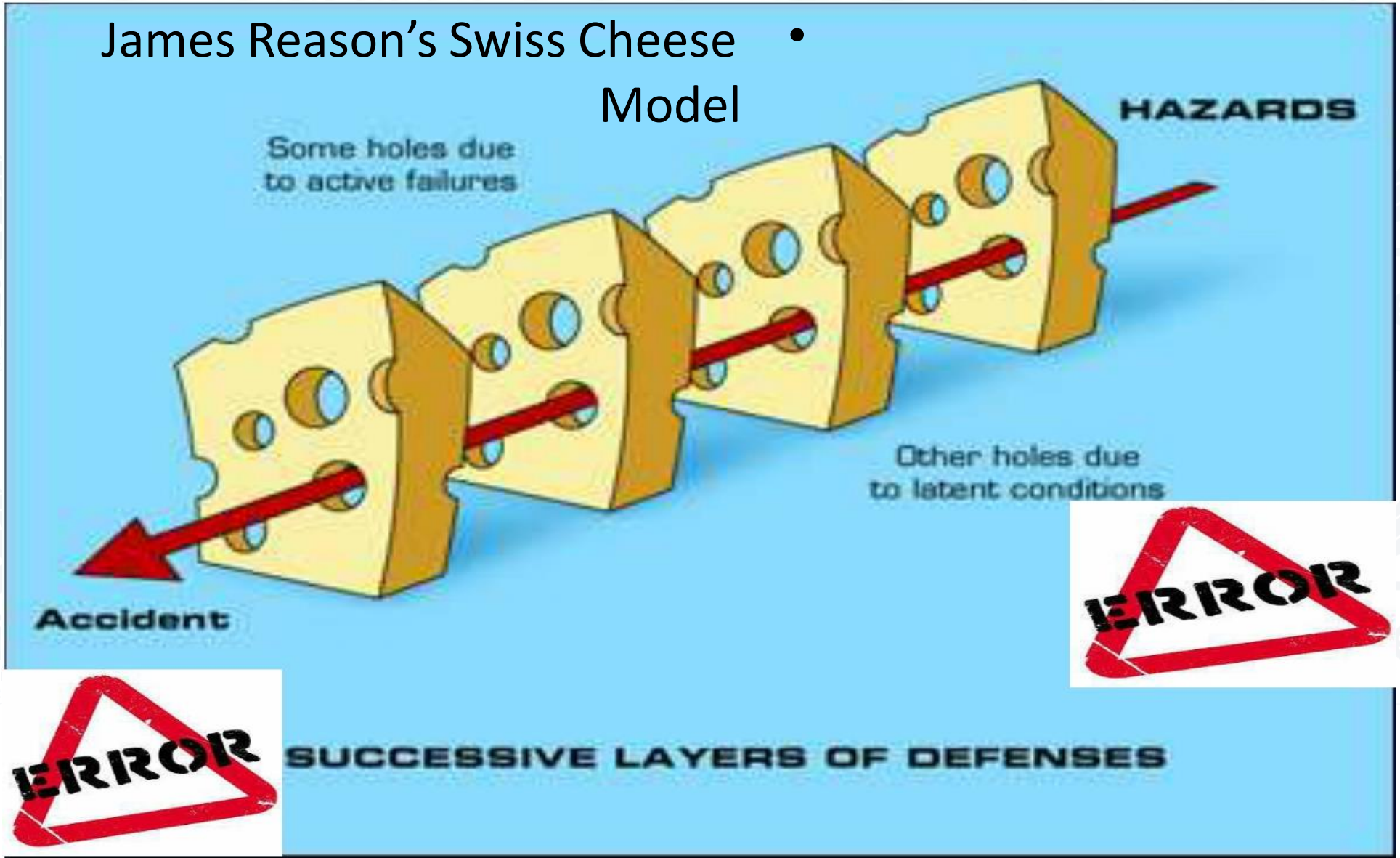
Basic principles of patient safety

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.

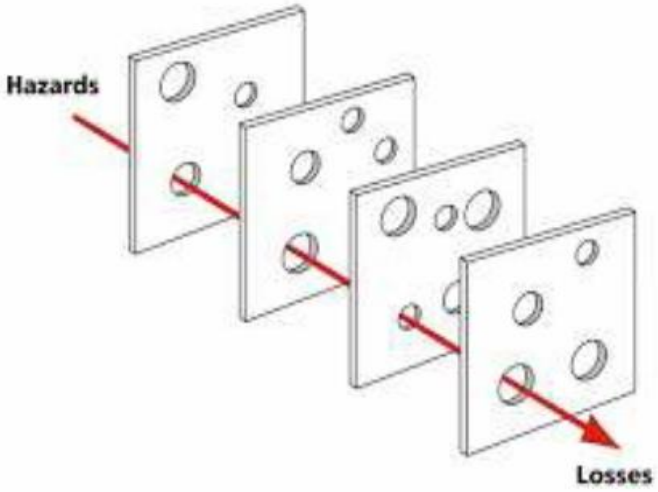

ERROR
Safety Filters
Management Systems
(Processes, Procedures)
Work on the job site
Conditions
(Facilities, Equipment, Environment)
People
(Behaviours, Actions)
Incident
ERROR

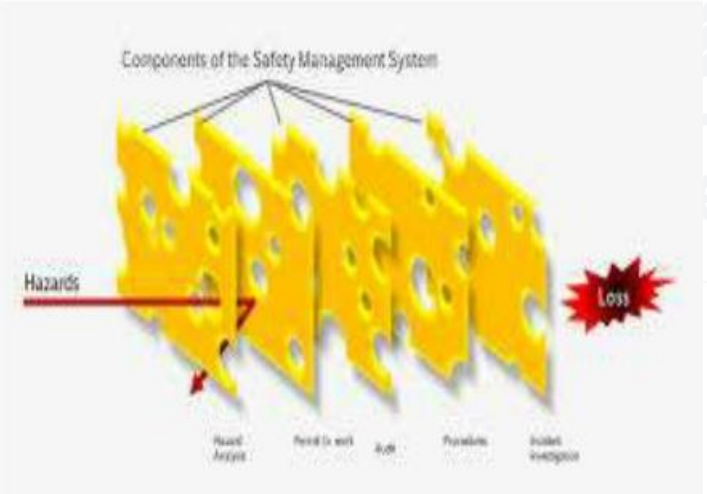
- James Reason's Swiss Cheese Model



James Reason's Swiss Cheese Model

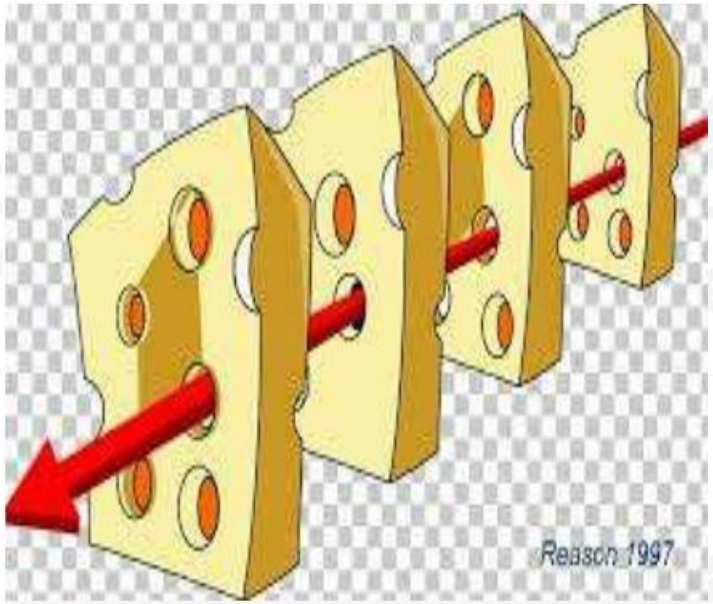
- Each slice of Swiss cheese has holes in it, but the hole location will not be consistent to allow a straight line to be drawn from the front to the back. There is a barrier preventing further passage through the cheese.

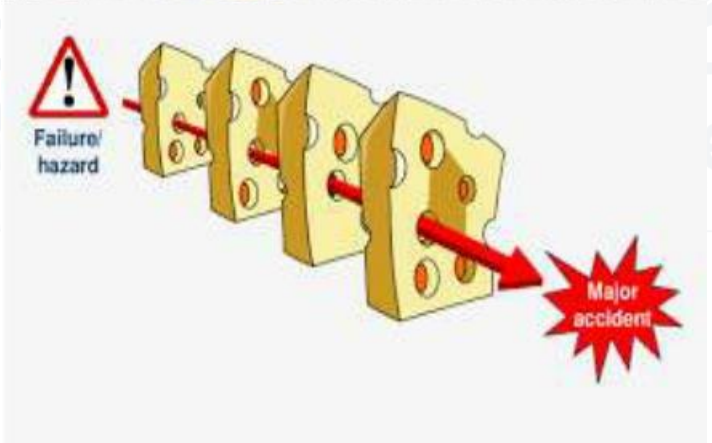




James Reason's Swiss Cheese Model

- 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)

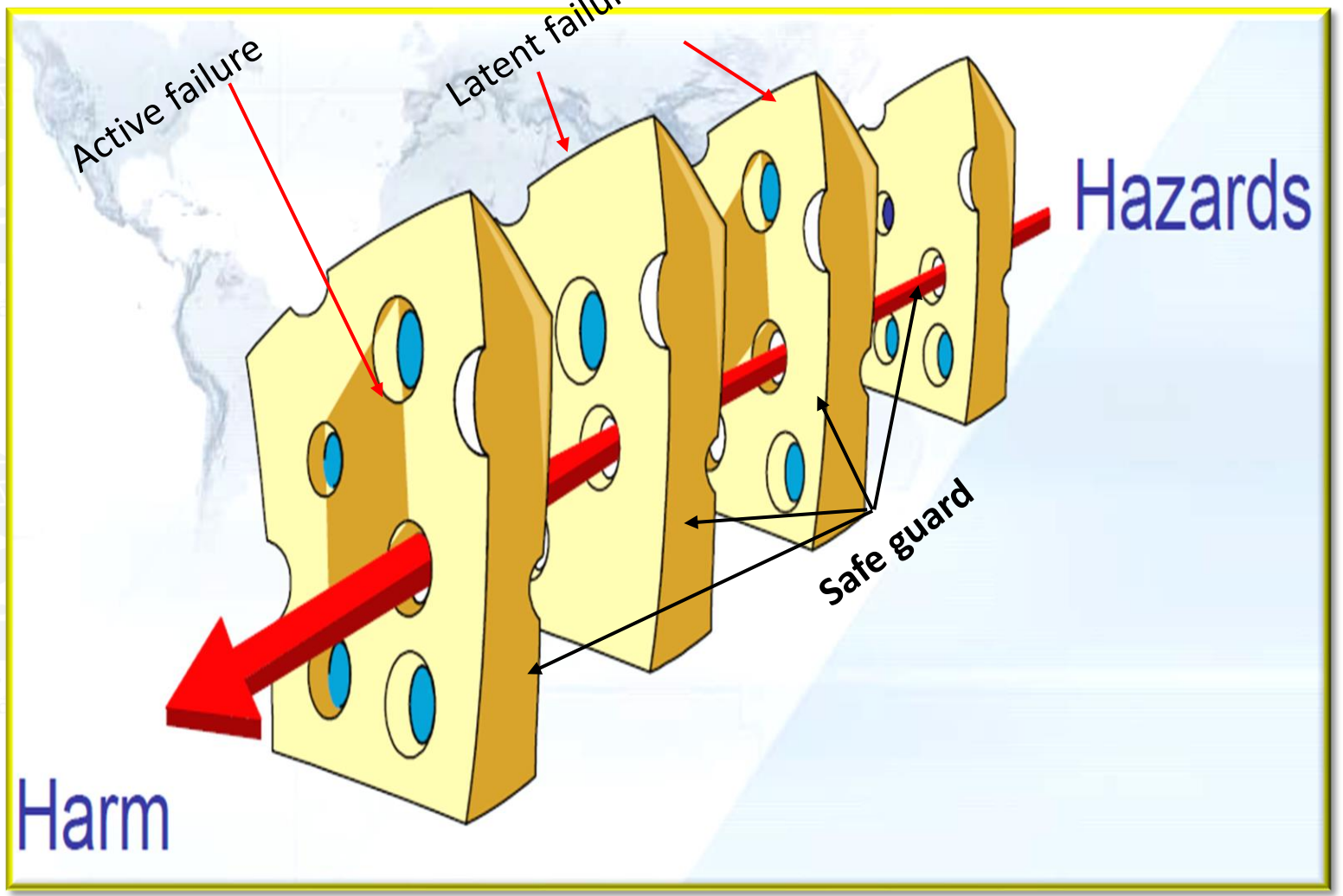
- Action slips or failures (e.g. picking up the wrong syringe)
- Cognitive failures (e.g. memory lapses, mistakes through misreading a situation)
- Violations (i.e. deviation from standard procedures; e.g work-arounds)

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

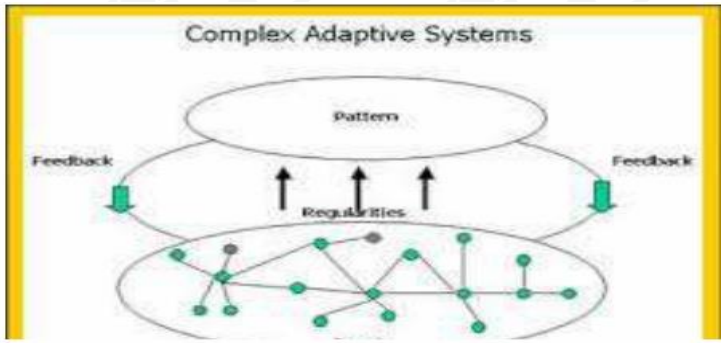
- Health systems are considered "macrosystems." Each clinical unit and support unit is a "microsystem."

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.