What is patient safety?

History of patient safety

- **1955** when Codman who is also known as father of Patient safety looked at the outcome of patient care

- **1984** Anaesthesia patient safety foundation established

- **1992** first medical practice study across different specialties

- **1995** first conference on patient safety

- **1996** national patient safety foundation formed and JCI released the policy on Sentinel events,

- **1997** president Clinton created task force for quality in healthcare in America
- **1999** Institute of Medicine IOM published first report on medical errors
- **2000** AHRQ was established and JCI published patient safety standards
- **2002** six patient safety goals released by JCI , types of errors identified
- **2003** Bar coding on medication mandatory

Definition of patient safety
- The **IOM Institute of medicine** defines **patient safety** as "the prevention of harm to patients
- The **Canadian Patient Safety defines patient safety** as "*the reduction and mitigation of unsafe acts within the healthcare system, as well as through the use of best practices shown to lead to optimal patient outcomes*

- The **World Health Organization's (WHO)** defines **patient safety** as, "*the reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum.*

Patient safety Dimension

1. **Safe:** Avoiding injuries to patients from the care that is intended to help them.
2. **Effective:** Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse). Doing the right thing for the right person at the right time.
3. **Family-centered:** Providing care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.
4. **Timely:** Reducing waits and sometimes unfavorable delays for both those who receive and those who give care.
5. **Efficient:** Avoiding waste, in particular waste of equipment, supplies, ideas and energy.
6. **Equal:** Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socio-economic status

Definition Culture of patient safety:

-The safety culture of an organization is the product of individual and group values, attitudes, perceptions,, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management

-an integrated pattern of individual and organizational behavior, based on a system of shared beliefs and values, that continuously seeks to minimize patient harm that may result from the process of care delivery.

Safety culture divided into seven subcultures and defined as

1. **Leadership:** Leaders acknowledge the healthcare environment is a high-risk environment and seek to align vision/mission, staff competency, and fiscal and human resources from the boardroom to the frontline.

2. **Teamwork:** A spirit of collegiality, collaboration, and Cooperation exists among executives, staff, and independent practitioners. Relationships are open, safe, respectful, and flexible.

3. **Evidence-based:** Patient care practices are based on evidence. Standardization to reduce variation occurs at every opportunity. Processes are designed to achieve high reliability.

4. **Communication:** An environment exists where an individual staff member, no matter what his or her job description, has the right and the responsibility to speak up on behalf of a patient.

5. **Learning:** The hospital learns from its mistakes and seeks new opportunities for performance improvement. Learning is valued among all staff, including the medical staff.

6. **Just A culture** that recognizes errors as system failures rather than individual failures and, at the same time, does not shrink from holding individuals accountable for their actions.

7. **Patient-centered:** Patient care is centered around the patient and family. The patient is not only an active participant in his own care, but also acts as a liaison between the hospital and the community.

Seven steps for patient safety culture

1) Build a safety culture: Create a culture that is open and fair
2) Lead and support your staff: Establish a clear and b focus on patient safety throughout your organization
3) Integrate your risk management activity: Develop systems and processes to manage your risks and identify and assess things that could go wrong
4) Promote reporting: Ensure your staff can easily report incidents locally and nationally
5) Involve and communicate with patients and the public: Develop ways to communicate openly with and listen to patients
6) Learn and share safety lessons: Encourage staff to use root cause analysis to learn how and why incidents happen
7) Implement solutions to prevent harm: Embed lessons through changes to practice, processes or systems

Tips of improvement patient safety

1) Constitution of patient safety committee

2) Develop clear policies and protocol for patient safety

3) Discuss regularly patient safety initiative within hospital staff

4) Orientation hospital staff on patient safety

5) Encourage transparency in the regular death review

6) Non punitive reporting by staff

7) Review , monitor and evaluate safety procedures regularly

Human Factors & Patient Safety

Human Factors

Understanding and advancement of the systematic consideration of people in relation to machines, systems, tools, and environments. (*HFS*) highlights fundamental human capabilities, limitations, and tendencies, as well as the basics of human performance.

TO ERR IS HUMAN

Every year in United States at least 44,000 people, and perhaps as many as 98,000 people die for preventable medical errors .the Cost of medical errors claims are : between $17 billion and $29 billion per year in hospitals nationwide. Institute of Medicine (IOM) in 1999 called for a national effort to make health care safer. A total of 5514 articles on patient safety and medical errors were published during the 10 year study period .The rate of patient safety publications increased from 59 to 164 articles per 100,000 MEDLINE publications. Publications of original research increased from an average of 24 to 41 articles per 100 000 publications, while patient safety research awards increased from 5 to 141 awards.

Medical errors

Failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.

Pre- disposing factors for Medical Errors

- Stress
- Trust
- Situation awareness
- Decision making and problem solving
- Human error and reliability
- Workload
- Human /machine interaction
- Personnel
- Procedures, roles responsibility
- Teams and communication
- Recovery from a failure

Types of Medical Errors

1- **Diagnostic Error or delay in diagnosis :**
- Failure to employ indicated tests specify for this disease or to act on results of monitoring or testing

2- **Treatment /Follow up Error**
- In the performance of an operation, procedure, or test
- Error in administering the treatment
- Error in the dose or method of using a drug
- Delay in treatment or in responding to an abnormal test
- Inappropriate (not indicated) care
- Inadequate monitoring or follow-up of treatment

3- **Preventive Failure**
- to provide prophylactic treatment
- In effective Antenatal care
- Immunization failure

4- **Other**
- Failure of communication
- Equipment failure
- Other system failure

Causes of Medical Errors

1- Healthcare Complexity

- Complicated technologies
- Drugs interaction.
- Intensive care
- prolonged hospital stay.
- Multidisciplinary approach

2- System and Process Design

- Inadequate communication,
- Unclear lines of authority
- Cost-cutting measures by hospitals

3- Environmental factors.

- Over crowded services
- Unsafe care provision areas
- Lack of training to deal with emergencies
- areas poorly designed for safe monitoring.

4- Infrastructure failure.

- lack of skilled workers.
- Lack of training.
- Lack of documentation process
- Lack of continuous improvement process

5- Human Factors and Ergonomics
- **H** Hungry
- **A** Angry/ Emotions
- **L** Late/ lazy
- **T** Tired/fatigue/sleep less

Examples of errors

- Delay in response to emergency
- Failure to diagnose or delay of a diagnosis.
- Wrong drug or (wrong patient, wrong chemical, wrong dose, wrong time, wrong route)
- Wrong-site surgery such as amputating the wrong limb
- Retained surgical instruments
- Improper transfusions
- Suicides during hospitalization
- Restraint -related injuries or death
- Falls
- Incorrect record-keeping
- Transplanting organs of the wrong blood type

Actions to prevent /reduce medical errors:

- Greater focus on the quality of healthcare (performance measures / clinical audits/ quality in healthcare research)
- Accreditation process mandatory
- Patient safety standards/ goals implementation
- Implementation of computerized drug ordering systems
- Error reporting should be voluntary and confidential
- malpractice insurance shall be in place
- National standards for on work hours for medical interns and residents shall be looked at
- Verification, credentialing, privileging and evaluation process
- Morbidity and mortality review process shall be standardized
- OVR process with no punitive action
- No Blame Culture shall be supported by top management and leadership

Understanding systems and

the effect of complexity on patient care

How to avoid errors: working on the systems

1. Patient factors
2. Provider factors
3. Task factors
4. Technology and tool factors
5. Team factors
6. Environmental factors
7. Organizational factors

1- Patient factors : Required Organizational Practices

I-Communication

- 1-Verification of Client identification
- 2-Transfer of client information (Read back technique , SBAR, e-Medical Records, Transfer forms /Check list)
- 3-Medication reconciliation; At admission, transfer and discharge
- 4- Safe surgical practice: Surgical safety check list, Pre-operative verification, Pre- operative marking, Time out prior to procedure

II- Medication Use

- 5-Control of Concentrated electrolytes

II: Work life

- 6- Training on patient safety

IV: Infection Control

- 7-Hand hygiene
- 8-Prophylactic antibiotics

- 9- Safe injection practices

2- How to avoid errors: Provider factors

- Training
- Orientation
- Policy and procedure
- Job description
- Accountability
- Credentialing

3- How to Avoid: Task factors

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- What actions and activities are involved in the task?
- Who is performing these actions?
- When are the actions and activities performed?
- How are the actions and activities performed?
- Are safe work procedures used?

4- How to Avoid: Technology and tool factors

- e- reports
- e-medical records
- e-prescriptions
- dashboard
- benchmark

5- How to Avoid: Team factors

- Unit based team
- Department based team
- Hospital based teams
- Multidisciplinary teams

6- How to Avoid: Environmental factors

- Disaster management
- Fire and safety
- Occupational safety
- Hazards management

7- How to Avoid: Organizational factors

- Accreditation
- Mission: patient safety
- Leadership involvement and commitment
- Non punitive action
- No blame culture
- Just in culture
- Patient safety culture
- Learning organization

Managing Teams

Objectives

1. Definition and Back ground
2. Stages of team development
3. The importance of the team
4. Teams & TQM

Team

Group of individuals who are working together to achieve a task

Stages of Team building

1- Forming Stage

- Initial stage when the team is formed and the members are coming together for the first time
- A best candidate should be selected to form a dynamic team, but a flexibility should be adopted in selection process
- The skills of the members should match the team task and goals
- Voluntary team membership seems to work best when given as a choice

2- Storming Stage

- Each member tend to rely on his/her own experience
- Resistance to work together openly
- Hesitate to express new ideas and opinions
- Interpersonal disagreement and conflicts
- Personal goals rather than team goals

3- <u>Norming Stage</u>

- Start to know each other
- Start to accept each other's ideas and opinions
- Understand the strengths and weaknesses of the team
- Members become friendly to each other
- Work together to overcome personal disagreement
- Share responsibilities and help each other

How to move from Storming to Norming Stage

- Team members should be introduce to each other in more details
- Common hobbies could be Shared
- Responsibilities must be assigned accordingly
- Clear communication
- Social activities
- Roles should be in rotation
- Misunderstandings and conflict should be resolved immediately
- Everyone should be treated equally

4- <u>Performing Stage</u>

- Members are satisfied with the team progress
- Members are capable to deal with any task based on their strength and weaknesses
- Work together to achieve the team goals

Why Teams ???

- Better planning
- Faster processes
- Group makes often better decisions
- Shared workload and responsibilities
- High quality of the outcome
- Work never stops

Team Leader responsibility

- Identify the team purpose and the objectives
- Assign responsibility to each member
- Establish a climate in which team members   can improve their performance
- To clarify the expectation from each member to avoid problems
- To facilitate smooth achievement of the team goals
- Empower the team members to take the decision
- Guide and facilitate the members to achieve the goals
- Set the limit for the discussion
- Encourage each member to express opinions
- Give advice as needed
- Inform the team about the ground rules
- A team leader is also a team member and should share in team responsibilities

Team is needed for

- o Change
- o Quality Tools
- o Auditing
- o Meetings
- o Problem Resolution
- o Quality Improving Activities

o Strategic Planning

REMEMBER

- Be part of solution by being a member of a team
- Think carefully about the best way to behave in every situation
- Team can go in development stages many times
- Team members must support each other
- Friendship is the most powerful power to strengthen a team
- Everyone in the team think differently and these thoughts must be respected

Using quality-improvement methods to improve care

Types of improvement method

- PDCA (plan-Do-Check-act)
- RCA (Root cause analysis)
- FMEA (Failure mood effect analysis)

First   PDCA(Deming cycle, Shewhart cycle

What is PDCA?

Plan to improve your operations first by finding out what things are going wrong (that is identify the problems faced), and come up with ideas for solving these problems.

Do changes designed to solve the problems on a small or experimental scale first.

Check whether the small scale or experimental changes are achieving the desired result or not.

Act to implement changes on a larger scale if the experiment is successful

- ## <u>When to do PDCA?</u>
- When starting a new improvement project.
- When developing a new or improved design of a process, product or service.
- When implementing any change.

Second RCA (Fish bone or Ishikawa diagrams)

- ## When to use RCA
- When you have a serious problem, it's important to explore all of the things that could cause it, before you start to think about a solution.
- That way you can solve the problem completely

Causes are usually grouped into major categories to identify these sources of variation.

- **People:** Anyone involved with the process
- **Methods:** How the process is performed and the specific requirements for doing it, such as policies, procedures, rules, regulations and laws
- **Machines:** Any equipment, computers, tools etc. required to accomplish the job
- **Materials:** Raw materials, parts, pens, paper, etc. used to produce the final product
- **Measurements**: Data generated from the process that are used to evaluate its quality
- **Environment:** The conditions, such as location, time, temperature, and culture in which the process operates
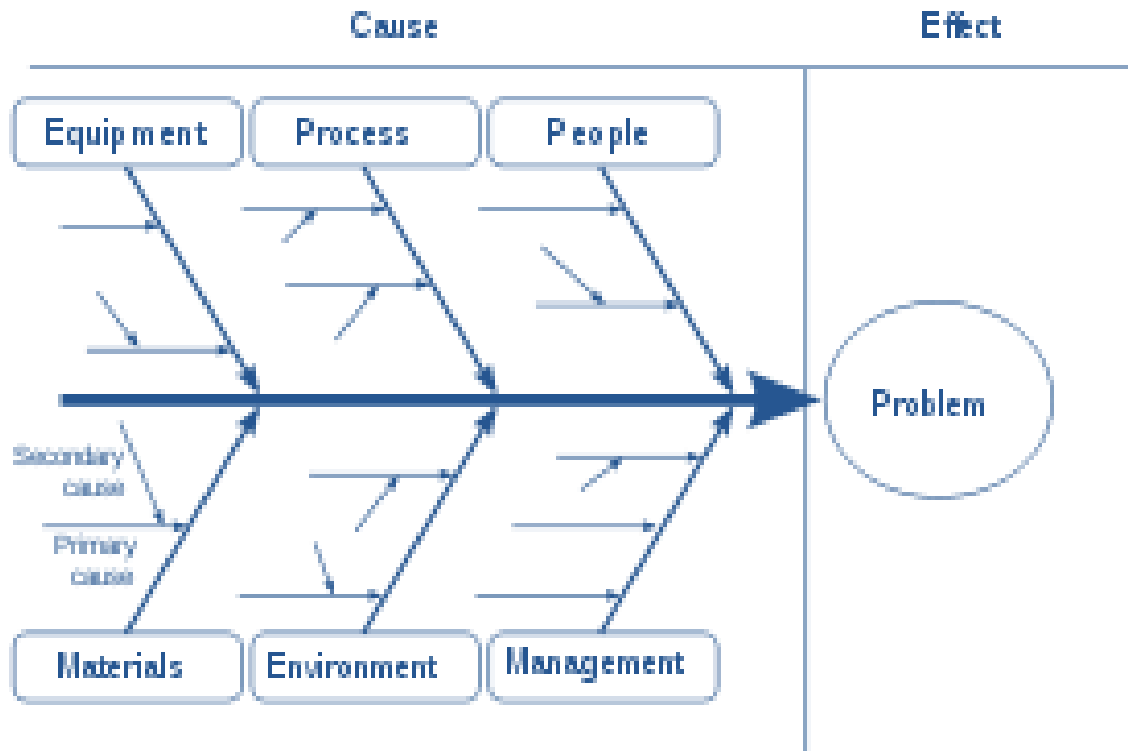
Third   FEMA (Failure mood effect analysis)

What is FEMA?

- FMEA is a systematic method of identifying and preventing system, product and process problems before they occur
- FMEA is focused on preventing problems, enhancing safety