Professionalism

Patients safety and Improving Medication Safety

(3+18)

Objectives:

- Recognize the magnitude and the importance of patient safety
- Define and describe the key elements of healthcare quality
- Summarize the differences between error and harm
- Recognizing characteristics of a just culture
- Differentiate between the different types of clinical incidence
- Describe several specific behaviors you can practice to foster a culture of safety in your workplace

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- To provide an overview of Medication Safety
- To encourage students to learn and practice ways to improve the safety of medication use

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Correction File

**This work covers:
our slides only**

patient saftey

Definition:

- 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. (WHO, World Alliance for Patient Safety 2009)**

Introduction

- Significant numbers of patients are harmed due to their health care, either resulting in permanent injury, increased length of stay (LOS) in health-care facilities, or even death.
- 44 – 98,000 deaths annually caused by medical error.
- There are more deaths annually as a result of health care than from road accidents, breast cancer and AIDS combined.
- Recent financial estimates suggest that adverse events cost the Uk £2 billion in 2000 in extra hospital days alone. Other costs, such as suffering of patients, their families and the health care workers involved, are incalculable.

Patient saftey dimensions of heathcare quality

The 6 key dimensions of healthcare quality

Safe	**Avoiding injuries** to patients from the care that is intended to help them.
Timely	**Reducing waits and avoid harmful delays** sometimes unfavorable delays for both those who receive and those who give care.
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.
Efficient	**Avoiding waste**, in particular waste of equipment, supplies, ideas and energy.
Equitable Equal	**Dealing fairly and equally with all patients** ,care should not in quality because patient personal characteristic such as gender. Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socio-economic status
Patient centered Family-centered	Should be respectful to patient need & values. Providing care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.

Harm VS Error

| Harm	Error
Impairment of structure or function of the body and/or any deleterious effect arising from interaction with health care. Harm includes disease, injury, suffering, disability and death.	**An error is a failure to carry out a planned action as intended.** Errors may manifest by doing the wrong thing (commission) or by failing to do the right thing (omission).
Example : A patient with breast cancer undergoes chemotherapy. The treatment causes severe nausea and vomiting (a known complication) and she is admitted with clinical dehydration.	**Example, a patient with shortness of breath is diagnosed with pneumonia and treated with an antibiotic. A few days later she is admitted as her condition worsens. Subsequent investigations reveal a pulmonary embolism as the true problem. This is treated with anticoagulation.**

Sources of System Error:

All errors can be divided into two main groups:	
Active errors or human error are committed by frontline staff and tend to have direct patient consequences.	**Latent or system errors** are those errors that occur due to a set of external forces and indirect failures involving management, protocols/ processes, organizational culture, transfer of knowledge, and external factors
Example, giving the wrong medication, treating the wrong patient or the wrong anatomical site, or not following the correct policies and procedures.	Example : understaffed wards or inadequate equipment.

Error in medicine

- Errors in health care can be caused by ''active failures'' or "latent conditions.''
- Most errors are not a result of personal error or negligence, but arise from system flaws or organizational failures

"Swiss cheese" model of accident causation
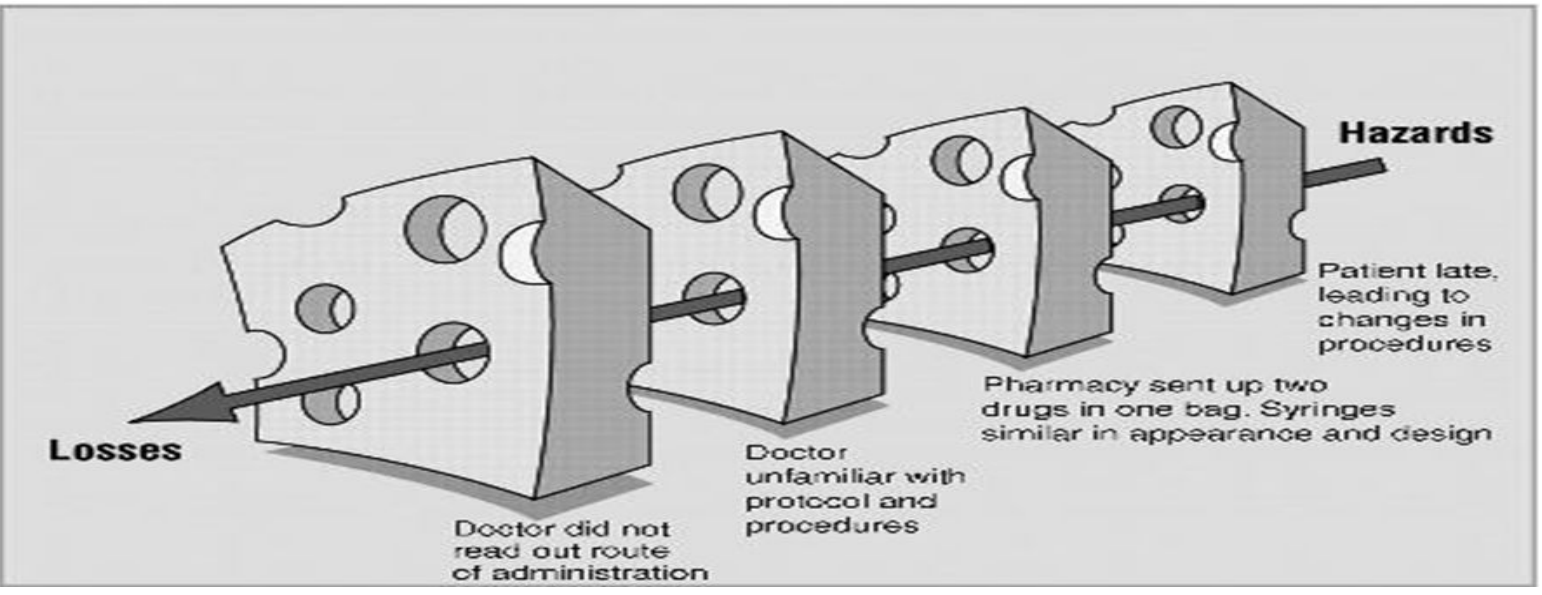
- The systems have many holes: some from active failures and others from latent conditions.
- These holes are continuously opening, shutting, and shifting their location. In any one slice, they do not normally cause harm, because the other intact slices prevent hazards from reaching the potential victim.
- Only when the holes in many layers momentarily line up does the trajectory of accident opportunity reach the victim causing the damage.

Culture of patient safety (Definition from the Health and Safety Commission)

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.

Definition of patient safety culture:

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:

Leadership	Teamwork	Evidenced based	Communication	Learning	Just a culture and Patient centred

Patient safety culture

- Previously, in many cases the traditional response to adverse incidents in health care has been to **blame, shame and punish** individuals.
- The opposite of a 'blame' culture is a **'blame-free'** culture, which is equally inappropriate. In some instances, the responsible individual should be held accountable.(in case of negligence or recklessness)
- Recently , the a **'just' culture** has been adapted which means : balancing the 'blame' and 'no blame' approaches

Example..

- If a patient is found to have received the wrong medication and suffered a subsequent allergic reaction,
- **Blame culture:** we look for the individual student, pharmacist, nurse or doctor who ordered, dispensed or administered the wrong drug and blame that person for the patient's condition care at the time of the incident and hold them accountable
- **Just Culture:** we look for the system defect such as communication , protocols and processes for medication management , in addition to investigate the negligence or recklessness of the worker.

# The concept of Clinical incident:

Definition:

A clinical incident is an event or circumstance resulting from health care which could have, or did lead to unintended harm to a person, loss or damage, and/or a complaint. (deviation from standard of care and safety)

Examples:

- Medication errors (e.G. Wrong medication, omission, overdose);
- Patient falls;
- Intended self harm or suicidal behaviour;
- Therapeutic equipment failure;
- Contaminated food;
- Problems with blood products;
- Documentation errors;
- Delayed diagnosis;
- Surgical operation complications;
- Hospital acquired infection;

Types of Clinical incident: (important)
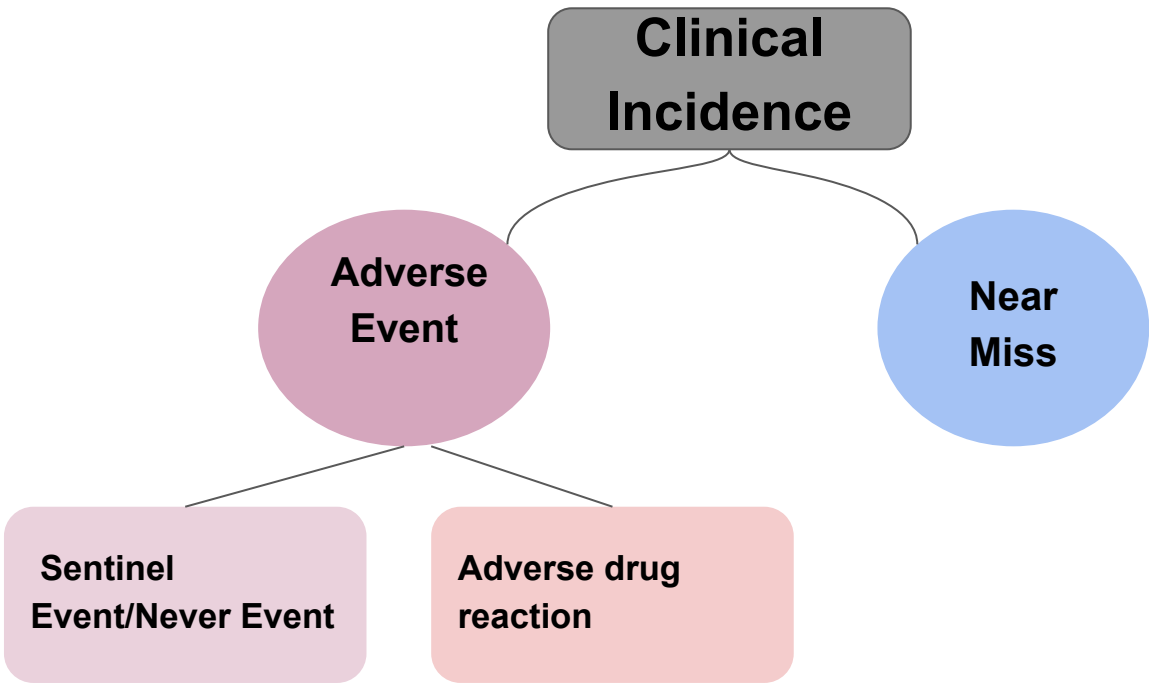
Adverse Event:

An adverse event is an unintended injury or complication which results   in disability, death or prolonged hospital stay, and is caused by health- care management

 Example : *Medication errors*

A-Sentinel events: (قدر الله وماشاء فعل)

A sentinel event is an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious   injury specifically includes loss of limb or function.

Example:

Hemolytic transfusion reaction involving administration of blood or blood products having major blood group incompatibilities

B-Never Events:

Events should never happen while in a hospital, and can be prevented in most cases.

Example:

- Infant discharged to the wrong person
- Wrong surgical procedure performed on a Patient
- Patient death or serious disability associated with a medication error

Adverse drug reaction:

A response to a drug which is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, or therapy of disease, or for the modifications of physiological function'.(WHO,1972)

Seven (7) levels of safety

- **Patient factors:** such as personality, language and psychological problems may also be important as they can influence communication with staff.
- **Task factors:** The design of the task, the availability and utility of protocols ….
- **Individual factors:** include the knowledge, skills and experience of each member of staff
- **Team factors:** The way an individual practices, and their impact on the patient, is influenced by other members of the team and the way they communicate and support each other.
- **Working conditions:** These include the physical environment, availability of equipment and supplies and the light, heat, interruptions and distractions that staff endure.
- **Organizational factors:** The team is influenced in turn by management actions and by decisions made at a higher level in the organization. These include policies, continuing education, training and supervision and the availability of equipment and supplies.
- **External environment factors:** The organization itself is affected by financial constraints, external regulatory bodies and the broader economic and political climate.

Near miss:

Is any situations that did not cause harm to patients (that did not reach the patient) , but could have done.
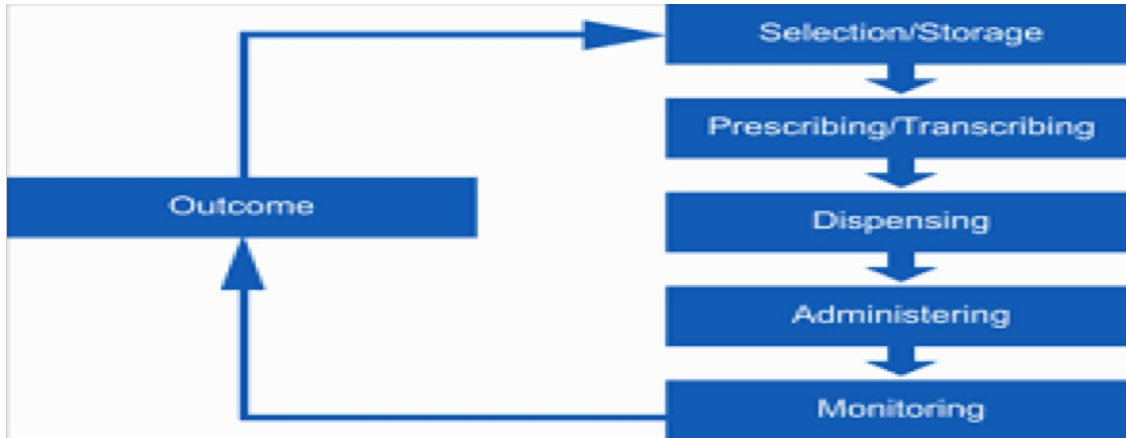
The physician's role in patient safety

- Standardization, such as the use of order sets, protocols, and reminders.
- Designing safe systems and implementation of technology:
  - use smart intravenous pumps that detect medication errors,
  - barcoding to ensure the five rights of medication administration (right patient, right route, right dose, right time, right medication).
- Teamwork
- Communication:
  - poor communication can delay diagnosis, create confusion regarding the plan of care, and increase the cost of care through repeated tests.
  - Lack of effective communication creates frustration with patients and families and increases their anxiety
- Involve yourself in measuring, monitoring, and improving quality.
- Avoid blaming when an error occurs.
- Practice evidence-based care.
- Detect adverse events: report and Disclose errors to patients and their families.
- Adhere and follow the National Patient Safety Goals/ ROP(Required Organization Practice)

Adhere and follow the national Patient Safety Goals/ROP (Required Organization Peactice):

- **Adverse reporting**
- **Client verification**
- **Medication reconciliation**
- **Dangerous abbreviations**
- **Transfer of client information at transition points**
- **Control of concentrated electrolytes**
- **Infusion pumps training**
- **High-alert medications**

- **Hand hygiene**
- **Antibiotic prophylaxis during surgery**
- **Falls prevention strategy**
- **Pressure ulcer prevention**
- **Venous thromboembolism prophylaxis**
- **Safe injection practices**
- **Safe surgical practices**
- **Preventive maintenance program**

If You Have Any Questions Or Comments Please Inform Us:
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Medication Use Process in The Institutional Setting:

Sources of error in prescribing:

- **Documentation - illegible, incomplete, dangerous abbreviation**
- **Inadequate knowledge about drug indications and contraindications**
- **Not considering individual patient factors, such as allergies ,pregnancy, co-morbidities, other medications**
- **Wrong patient, wrong dose, wrong time, wrong drug, wrong route**
- **Inadequate communication (written, verbal)**
- **Mathematical error when calculating dosage**

A) Strategies to Reduce (Prescribing) errors

*Just understand the categories

•<u>**Avoid Illegible Handwriting:**</u> •**Write/Print More Carefully** •**Use Computers**	•<u>**Write Complete Information:**</u> •**Patient's Name** •**Patient-Specific Data** •**Generic and Brand Name** •**Drug Strength -Dosage Form** •**Amount -Directions for Use** •**Purpose -Refills**
•<u>**Look at Patient-Specific Information**</u> •**Age -Weight** •**Renal and Hepatic Function** •**Laboratory Test Results** •**Concurrent Medications -Allergies** •**Medical/Surgical/Family History** •**Pregnancy/Lactation Status**	<u>**Do Not Use Abbreviations**</u> •**Drug names** •**"QD" or "OD" for the word** *daily* •**Letter "U" for** *unit* •**"µg" for** *microgram* **(use mcg)** •**"QOD" for** *every other day*

*Just understand the categories

Decimals:

- Avoid whenever possible
- Use 500 mg for 0.5 g
- Use 125 mcg for 0.125 mg
- Never leave a decimal point "naked"
- Haldol .5 mg ® Haldol 0.5 mg
- Never use a terminal zero
- Colchicine 1 mg not 1.0 mg
- Space between name and dose
- Inderal40 mg ® Inderal 40 mg

Be alert to Drug Name: "Look-Alike" or "Sound-Alike" Drug Names

- Celebrex (celecoxib, anti-inflammatory); Cerebryx (fosphenytoin, anticonvulsant); Celexa (Citalpram,antidepressant)

Write the Medication Reconciliation

- Learn and practice thorough medication history taking:
- Include name, dose, route, frequency and
- duration of every drug the patient is taking;
- Enquire about recently ceased medications;
- Ask about over-the-counter medications,
- dietary supplements and complimentary medicines;

More Attention to Dosage Calculations:

- Use patient-specific information
- height
- weight
- age
- body system function

Verbal Orders:

- Avoid when possible
- State numbers like pilots

  (i.e., "one-five mg" for 15 mg)
- Spell out difficult drug names
- Specify concentrations

Know the High Alert Medications:

- Need double check
- Example :
- Oral anticoagulants
- Insulin
- Chemotherapeutic agents
- Neuromuscular blocking agents
- Concentrated electrolytes
- Emergency medications (potent and used in high pressure situations)

B) (Dispensing) Process Errors Prevention:

1. Standardized concentrations for all IV medication

2. Use commercially prepared solutions

C) (Administration) Process Errors Prevention:

1. Be familiar with the institution policy

2. Preprinted & standardized infusion rate charts

3. Use programmable infusion device

D) (Calculation errors)

Contributory Factors for Medication Errors
Patient Factors

- Patients on multiple medications
- Patients with another condition, e.g. renal impairment, pregnancy
- Patients who cannot communicate well
- Patients who have more than one doctor
- Children and babies (dose calculations required?)

Contributory Factors for Medication Errors
Staff Factors

- Inexperience
- Rushing
- Doing two things at the same time
- Interruptions
- Fatigue, or stress
- Lack of checking and double checking habits
- Poor teamwork and/or communication between colleagues

What are some of the ways to make medication use safer?

- **Use generic names where appropriate**
- **Tailor prescribing to individual patients**
- **Know which medications are high-risk/high alert and take precautions**
- **Be very familiar with the medication you prescribe and/or dispense**
- **Remember the 5 Rs when prescribing and administering**
- **Develop checking habits**
- **Encourage patients to be actively involved in the process**
- **Report and learn from medication errors**

Remember the 5 Rs when prescribing and administering:

- **Right Patient** (check the name in the order & the patient, use two identifier & ask the patient to identify himself/herself).
- **Right Medication** (check the medication label & order).
- **Right Route** (Confirm that the patient can take or receive the medication by the ordered route)
- **Right Time** (Check the frequency of the ordered medication & Confirm when the last dose was given).
- **Right Dose** (Confirm appropriateness of the dose using a current drug reference & correct calculation)

Recommended actions:

- **Pharmacists / Technician should READ / CHECK carefully the label of each medication they prepare.**
- **DOUBLE CHECKING is essential tool to avoid such mistakes**
- **Look Alike medications should be stored separately with proper labeling to avoid such mistakes**
- **To change the brand the hospital purchases of either drugs if possible**

Conclusion:

- **Patient safety is the avoidance, prevention and amelioration of harm from healthcare.**
- **Two approaches to the problem of human fallibility exist:**
  - **The person approach focuses on the errors of individuals, blaming them**
  - **The system approach concentrates on the conditions under which individuals work**
- **Some errors cause harm but many do not.**
- **Blaming and then punishing individuals is not an effective approach for improving safety within the system**
- **Adverse events often occur because of system breakdowns**
- **Standardizing and simplifying clinical processes is a powerful way of improving patient safety**
- **•Medications can greatly improve health when used wisely and correctly**
- **•Yet, medication error is common and is causing preventable human suffering and financial cost**
- **•Remember that using medications to help patients is not a risk-free activity**
- **•Know your responsibilities and work hard to make medication use safe for your patients**

Tips of improvement patient safety: (Not important)
- Constitution of patient safety committee
- Develop clear policies and protocol for patient safety
- Discuss regularly patient safety initiative within hospital staff
- Orientation hospital staff on patient safety
- Encourage transparency in the regular death review
- Non punitive reporting by staff
- Review , monitor and evaluate safety procedures regularly

MCQ's

1. Patient safety defined as " the prevention of harm to patients " By:
   a. World Health Organization
   b. Canadian Patient Safety
   c. IOM Institute of medicine

2. One of the Patient Safety Goals is infection control which includes:
   a. Hand hygiene
   b. e-Medical Records
   c. Surgical safety check list

3. Medication reconciliation is one of the :
   a. Patient Safety measures
   b. Patient Safety goals
   c. Patient Safety subcultures

4. A side effect or complication from a medication is a (n):
   a. Drug overdose
   b. Late effect
   c. Transition point
   d. Adverse drug event

5. A nurse transcribed an order for lisinopril 2.5 mg PO daily for a patient who was transitioning from the emergency department (ED) to an inpatient area by copying the prescriber's orders as lisinopril 12.5 mg PO daily.this event considered as:
   a. Medication Error
   b. Adverse Drug Event
   c. Adverse reaction
   d. Near Miss

6. Which one from the following is considered good ways to make medication use safer?
   a. Use generic names where appropriate
   b. Use 5 Rs when prescribing and administering
   c. Know the high alert medications
   d. A + b + c

1.C 2.A 3.B 4.D 5.A 6.D

Thanks for checking our work!