# Patient Safety Course

# Course Description



- World Health Organization has recommended Patient Safety as a core curriculum for all health profession education to help prevent the harm during patients care.
- The course consists of eleven (11) topics covered in 10  sessions.
- Was adapted from the WHO curriculum by inter-professional group of expert faculty
- The course covers the relevant foundation knowledge and skills .
- The educational issues relevant to clinical practice will be integrated in clinical courses.

# Topics



- *Topic 1: What Is Patient Safety?*
- *Topic 2: Why Applying Human Factors Is Important For Patient Safety*
- *Topic 3: Understanding Systems And The Effect Of Complexity On Patient Care*
- *Topic 4: Understanding And Managing Clinical Risk*
- *Topic 5: Using Quality-improvement Methods To Improve Care*
- *Topic 6: Being An Effective Team Player*
- *Topic 7: Learning From Errors To Prevent Harm*
- *Topic 8: Engaging With Patients And Cares*
- *Topic 9: Infection Prevention And Control*
- *Topic 10: Patient Safety And Invasive Procedures*
- *Topic 11: Improving Medication Safety*

# General Objectives Course



- ***At the end of the course, students will be able to:***
- *Identify and value the importance of Patient Safety strategies in enhancing health care outcomes.*
- *Recognize the key competencies relevant to mastering Patient Safety.*
- *Explain the Patient Safety system and the effect of complexity on patient care.*
- *Explain the process of learning from own errors and reporting them to prevent harm.*
- *Identify and value his role as an effective team member in a health care system.*
- *Identify quality strategies used to assure safe practice in the workplace.*

# Marks distribution of continuous assessment:



- Ten marks for first students groups presentation on topics 2 and 3. Five marks for each of the other 2 students group presentations with a total of 20 marks.
- Four marks for each of the three students group assignments with a total of 12 marks.
- 2 marks for quizzes/active participation at the end of the four topics which don't have presentations or assignments (1, 4, 8, and 10). This is to enhance active participation.

# What is Patients Safety?

# Objectives of the topic



- **Define the basic concepts of patient safety.**
- **Identify the application of patient safety in clinical practice.**
- **Identify the consequences of unsafe practice in health-care.**

# Outline



- Introduction and defining patient safety
- The key dimensions of healthcare quality
- Harm Versus error
- Sources of System Error
- Patient safety culture
- Types of clinical  incident
- Seven levels of safety
- Case scenario

# Objectives



- After completing this lecture you should:
  - 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

# Defining patient safety-Video



- https://www.youtube.com/watch?v=BJP2rvBchnE

# Defining patient safety



- The reduction of risk of unnecessary harm associated with health care 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.

# Introduction –Video



- https://www.youtube.com/watch?v=BJP2rvBchnE

# Why is it a problem?



| Hospital/Country | Years in which data was collected | Number of hospital admissions | Number of adverse event | Adverse event rate (%) |
|---|---|---|---|---|
| US(Harvard Medical Practice Study) | 1984 | 30195 | 1133 | 3.8 |
| Australian (Quality in Australian healthcare study ) | 1992 | 14179 | 2353 | 16.6 |
| UK | 1999-2000 | 1014 | 119 | 11.7 |
| Denmark | 1998 | 1097 | 176 | 9 |
| KKUH | 2014 | 47211 | 2950 | 6.2 |

Source: World Health Organization. Executive board 109th session, provisional agenda item3,4,5, 2001,EB 109/9

# The 6 key dimensions of healthcare quality





- **Safe:** Avoiding injuries to patients from the care that is intended to help them.
- **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.

# The 6 key dimensions of healthcare quality





- **Timely:** Reducing waits and sometimes unfavorable delays for both those who receive and those who give care.

- **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.

# The 6 key dimensions of healthcare quality





- **Efficient:** Avoiding waste, in particular waste of equipment, supplies, ideas and energy.
- **Equal:** Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socio-economic status

# Harm VS Error



## Harm

- 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.

- 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.

## Error

- 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 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.
  - Example, giving the wrong medication, treating the wrong patient or the wrong anatomical site, or not following the correct policies and procedures.
- **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 : 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

# 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.

# 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

# Patient safety culture



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

# Living a Just Culture Video

- https://www.youtube.com/watch?v=yWhb4vLlegM

# The concept of Clinical incident:





**Definition**:

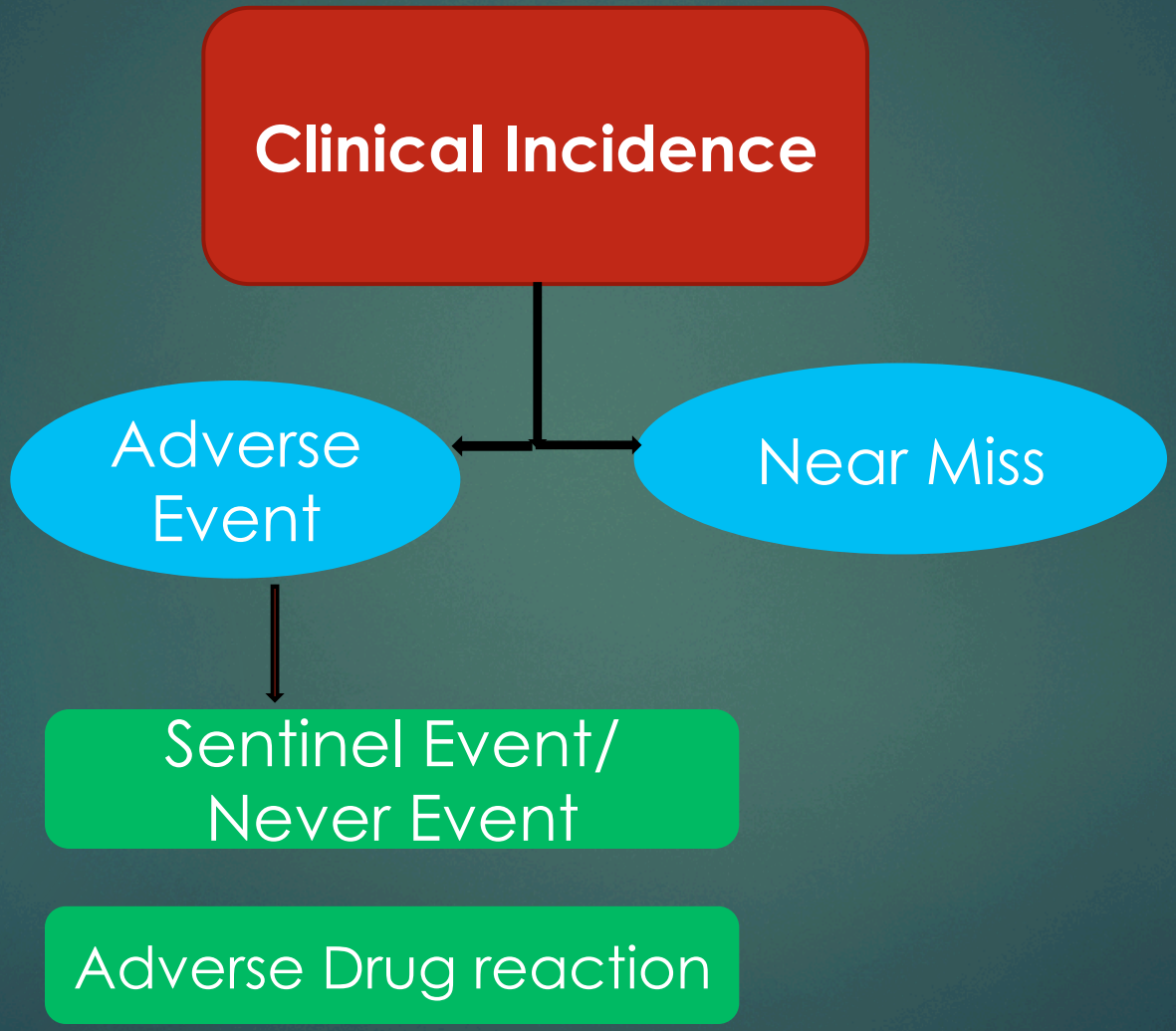
- A clinical incident is an event or circumstance resulting from health care which could have, or did lead to unintended harm to a person, loss or damage, and/or a complaint. (deviation from standard of care and safety )

**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





# Types of Clinical incident



- **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*

# Types of Clinical incident



- **Sentinel events:**

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

# Types of Clinical incident



- **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

# Types of Clinical incident



- **Near miss:**

  Is any situations that did not cause harm to patients (that did not reach the patient) , but could have done.

# Types of Clinical incident



- **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 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

# Seven levels of safety



- **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.

# Seven levels of safety



- **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.

# The physician's role in patient safety





- Adhere and follow the National **Patient Safety Goals/** ROP(Required Organization Practice )
  - 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

# Video



- https://www.youtube.com/watch?v=BFd54Yzg-vo

# Case Study - 1


**Medication Safety Alert!**
**Department of Pharmacy**
***Medication Safety Unit***

جامعة الملك سعود
King Saud University

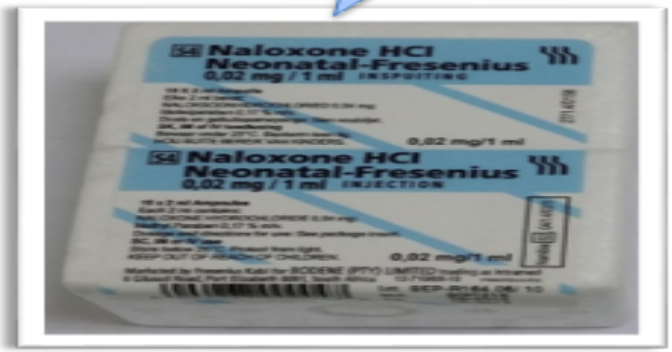
## Medication Safety Alert!

**The purpose of this alert is to educate health care professionals and administrators about incidents that have the potential to cause serious harm to the patients.**

**ATTENTION: Please make sure to read this and be able to answer the following questions!**

- ☐ WHAT HAPPENED?
- ☐ WHY IT HAPPENED?
- ☐ HOW TO REDUCE THE LIKELIHOOD OF RECURRENCE?

0.02 mg / ml

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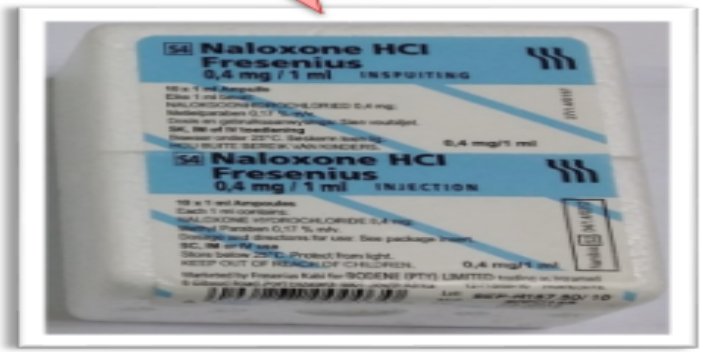


### *CASE STORY*

**A 21 years old drug addict male patient was admitted to ER at the Resuscitation Area.**

**He was prescribed 20 mg of *Naloxone* diluted in One liter of Normal Saline.**

**In Pharmacy; Technician opened only one Ampoule of *Naloxone* 0.4 mg / ml and 49 Ampoules of *Naloxone* 0.02 mg / ml (by mistake).**

**Upon checking, this mistake was discovered and the whole preparation was discarded and new accurate preparation was prepared.**

# Case Study – 1 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

# Case Study - 2

- A 38-year-old woman comes to the hospital with 20 minutes of itchy red rash and facial swelling; she has a history of serious allergic reactions
- A nurse draws up 10 mls of 1:10,000 adrenaline (epinephrine) into a 10 ml syringe and leaves it at the bedside ready to use (1 mg in total) just in case the doctor requests it
- Meanwhile the doctor inserts an intravenous cannula
- The doctor sees the 10 ml syringe of clear fluid that the nurse has drawn up and assumes it is normal saline

# Continue…. case study - 2

- There is no communication between the doctor and the nurse at this time
- The doctor gives all 10 mls of adrenaline (epinephrine)through the intravenous cannula thinking he is using saline to flush the line.
- The patient suddenly feels terrible, anxious, becomes tachycardia and then becomes unconscious with no pulse
- She is discovered to be in ventricular tachycardia, is resuscitated and fortunately makes a good recovery
- Recommended dose of adrenaline (epinephrine) in anaphylaxis is 0.3 - 0.5 mg IM, this patient received 1mg IV

# Can you identify the contributing factors for this error?

# Can you identify the contributing factors to this error?

- Lack of communication
- Inadequate labeling of syringe
- Giving a substance without checking and double checking what it is
- Lack of care with a potent medication

# How could this error have been prevented?

# How could this error have been prevented?

- Never give a medication unless you are sure you know what it is; be suspicious of unlabeled syringes
- Never use an unlabeled syringe unless you have drawn the medication up yourself
- Label all syringes
- Communication - nurse and doctor to keep each other informed of what they are doing e.g. nurse: "I'm drawing up some adrenaline"
- Develop checking habits before administering every medication … go through the 5 Rse.g doctor: "What is in this syringe?"

# 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

# Bibliography




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# Thank you