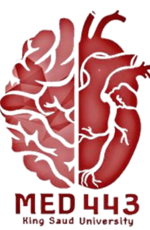

Learning From Errors To Prevent Harm

Patient Safety
Lecture no. 5

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Understand the nature of error.

Explain the terms: error, violation, near miss, hindsight bias.

Learn from errors through:

- Analyzing adverse events.
- Practicing strategies to reduce errors.

Understand how learning from error improves patient safety.

This lecture was presented by Prof. Ahmed Aboshaiqah

For the required reading **from Blackboard** click **Here**

What do we mean by "error"? = Mistakes

Definition

Non-deliberate deviation from what was intended: When someone is trying to do the right thing, but actually **does the wrong thing.** Wrong diagnosis, procedure or prescription

Fancy Definition

A planned sequence of mental or physical activities that fails to achieve its intended outcome, when this failure cannot be attributed to a systematic failure.

Errors may occur through:

Commision

doing the wrong thing

Give wrong antibiotic

Violations

errors caused by a *deliberate* deviation from an accepted protocol or standard of care.

Omission

failing to do the right thing.

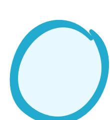
Didn't give antibiotic At ALL!

Errors and outcomes

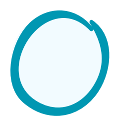
- Errors are Not expected
- Outcomes are complication that we expect

Errors and outcomes are not always linked:

A patient may have a bad outcome without human error (e.g. well-recognized complications.)



Some errors do not result in bad outcomes (e.g. not severe, caught in time.)



Near miss: **an incident that did not cause harm.**

Errors and outcomes cont…

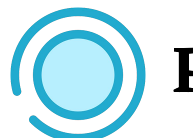
Still, bad outcomes usually draw attention to errors.

Knowing an error has occurred negatively affects our perception of the standard of care before and during the incident in question.

Hindsight bias: the nature of the outcome influences perception of the error.

Silly mistakes?

- We often commit “silly mistakes” in our daily lives (forget our keys, text the wrong person.)
- These same mental processes that lead to silly mistakes are in play in the health care setting.
- The consequences, however, are very different: it is the patient who suffers.
- Culture of infallibility: medical culture often denies the prevalence of error.



Patterns of Error

Errors occur as a result of two main types of failure:

Errors of Execution
actions do not go as intended:

Slip
if this action is observable (e.g. accidently pressing wrong button.)

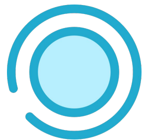
Lapse
if it is not (e.g. forgetting to administer a medication.)

Mistakes
A failing of planning

Rule based
a "wrong" rule is applied. (e.g. wrong diagnosis leads to wrong treatment plan.)

Knowledge based
the clinician does **not** know the correct course of action. (e.g. in new situations.)

Situations That Increase the Risk of Error			
1- Unfamiliarity with a task	2- Shortage of time	**3- Inadequate checking**	**4- Poor procedures**
1. Students/ junior doctors performing a procedure for the first time 2. Should be practiced on an educational aid. 3. If performed on a patient, must be closely supervised.	Might result in cutting corners and taking **shortcuts** (e.g. not washing hands properly)	Proper checking techniques ensure patients receive the correct **medications**.	1. **Inadequate preparation** (sterilization, equipment) *E.g dispenses heparin instead of insulin 2. Inadequate staffing. 3. Inadequate attention to the particular patient.



Individual Factors That Predispose to Error

A — Limited Memory Capacity
- Guidelines and protocols assist clinicians to provide care following the best available evidence.
- Checklists not memory. "Don't rely on your memory"

B — Fatigue
- Known factor in errors. Many countries are reforming the excessive hours worked by doctors
- 2004 study: measured the effects of sleep deprivation on medical errors, interns working in the MICU and CCU made substantially more serious mistakes when they worked frequent shifts of 24 hours or more than when they worked shorter shifts.

C — Stress, hunger, illness
- Clinicians must monitor their own well being.

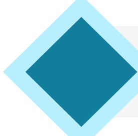
D — Language or cultural factors
- Communication errors caused by **language** and cultural factors.
- Many patient–doctor interactions occur without an interpreter or understanding of the language.

E — Hazardous attitudes
- E.g. being more interested in practicing or getting experience than having concern for the patient's well-being.

Learning From Error

Incident reporting	Root cause analysis
• Collecting and analyzing information about any event that harmed or could have harmed a patient.	• A highly structured system approach to incident analysis that is generally reserved for the most serious patient harm episodes.
• An incident-reporting *system* allows the health organization to identify and eliminate "error traps".	• Goal is to evaluate, analyze and develop *system* improvements for the most serious adverse events.
• Organizations with a strong reporting culture learn from errors because staff report problems without fear of ridicule or reprimand.	• Triages the reported incidents to ensure those indicating the most serious risk to the organization are dealt with first.
• Successful reporting strategies: 1. Anonymous reporting. 2. Timely feedback. 3. Open acknowledgement of successes resulting from reporting.	• Prevention- not blame or punishment.
	• Systems level vulnerabilities, not individual performance.
	• Multiple factors: **communication**, training, fatigue, scheduling, rostering, environment, equipment, rules, policies and barriers.

Root Cause Analysis



Defining characteristics:

1. Review by an interprofessional team knowledgeable about the processes involved in the event.

2. Analysis of **systems** and **processes rather than individual performance**.

3. Deep analysis using "what" and "why" probes until all aspects of the process are reviewed and contributing factors are considered.

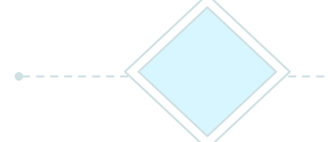
4. Identification of potential improvements that could be made in systems or processes to improve performance and reduce the likelihood of such adverse events or close calls in the future

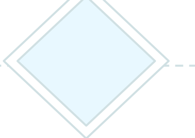
Practice Strategies to Reduce Errors

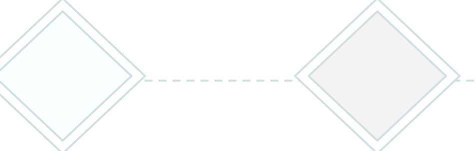
From dr, Q: What is the definition of Health?
A: by WHO: Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

- Know yourself (eat well, sleep well and look after yourself).
- Know your environment and Know your task(s). Learn to say NO
- Preparation and planning (What if...).
- Build checks into the routine and Ask if you do not know
- Assume that errors will be made. Be prepared for them.
- Identify those circumstances that most likely lead to errors. .
- Have contingencies in place to cope with problems, interruptions and distractions.
- Always mentally rehearse complex procedures or if it is the first time you are doing an activity involving a patient.

Helpful Tips







- Avoid reliance on memory, And Simplify processes.
- Standardize common processes and procedures.
- Routinely use checklists.
- Decrease the reliance on vigilance.

Case 1

A 21-year-old male was being treated for non- Hodgkin's lymphoma. A syringe containing vincristine for another patient had been accidentally delivered to the patient's bedside. A physician administered vincristine via a spinal route, believing it was a different medication. The error was not recognized and the patient died three days later. Its huge mistake

Case 2

A 78 year old woman who is blind and deaf without speech is admitted to the hospital clutching her abdomen and moaning. She had been like that for a couple of hours and had also vomited a few times. On examination she had some epigastric tenderness, her heart and lungs were normal, and her blood pressure was slightly low. Routine blood investigations were normal. She is given anti-spasmodic drugs but a few hours later she is still in severe pain. An ultrasound scan ruled out problems with the patient's gallbladder. An endoscopy on the following day produced negative results. On the fifth day, the patient died: the causes undiagnosed, her suffering unrelieved. As the resident prepares to write a case summary, he discovers the patient's ECG- performed on the date of admission but never checked by the team- showing textbook signs of an extensive acute myocardial infarction. Horrified, the resident shows the tracing to the consultant who says “making a fuss about this won't bring her back.” Should address the error

Team Leaders

Aroub Almahmoud | Remaz Almahmoud | Lama Almutairi

Team Members

Farah Abukhalaf

Aljoharah Alkhalifah

Aleen Alkulyah

Aryam Almsari

Mohammed Alqutub

Aishah Boureggah

🏆 Sultan Albaqami

Lama Alrushid

Haya Alzeer

Nazmi M Alqutub

Nazmi A Alqutub

Areej Alquraini

Moath Alhudaif

Rahaf Alshowihi

Sarah Alshahrani

Raghad Alqhatani

Lama Alotaibi

Sarah Alajaji

Faris Alzahrani

Patientsafety.team443@gmail.com