Sarat Abidah General Hospital

Quality Improvement and Patient Safety Dept.

Definition of Medical Error

- **Medical Error is preventable adverse effect of medical care, whether or not it is evident or harmful to the patient.** (National Center of Biotechnology Information (NCBI)

- **An Error as an "unintended act (either Omission or Commission) or an act that does not achieve its intended outcome.** (Dr. Lucian Leape, author of Error in Medicine)

- **The failure of planned action to be completed as intended, or as the use of a wrong plan to achieve an aim.** (Institute of Medicine (IOM)

Medical Errors

- Medical Errors represents a serious public health problem and pose a threat to patient safety.
- Medical Errors can occur anywhere in the health care system
- Patient harm from Medical Error can occur at the individual or system level.
- Medical Errors can involve medicines, surgery, diagnosis, equipment or lab reports.

2 Types of Human Errors

- **Active Error-** occur at the point of contact between a human and some aspect of a larger system (e.g., a humanâ□□ machine interface). They are generally **readily apparent** (e.g., pushing an incorrect button, ignoring a warning light) and almost always involve someone at the **frontline**. Active failures are sometimes referred to as errors at the sharp end, figuratively referring to a scalpel. In other words, errors at the sharp end are noticed first because they are committed by the person closest to the patient.

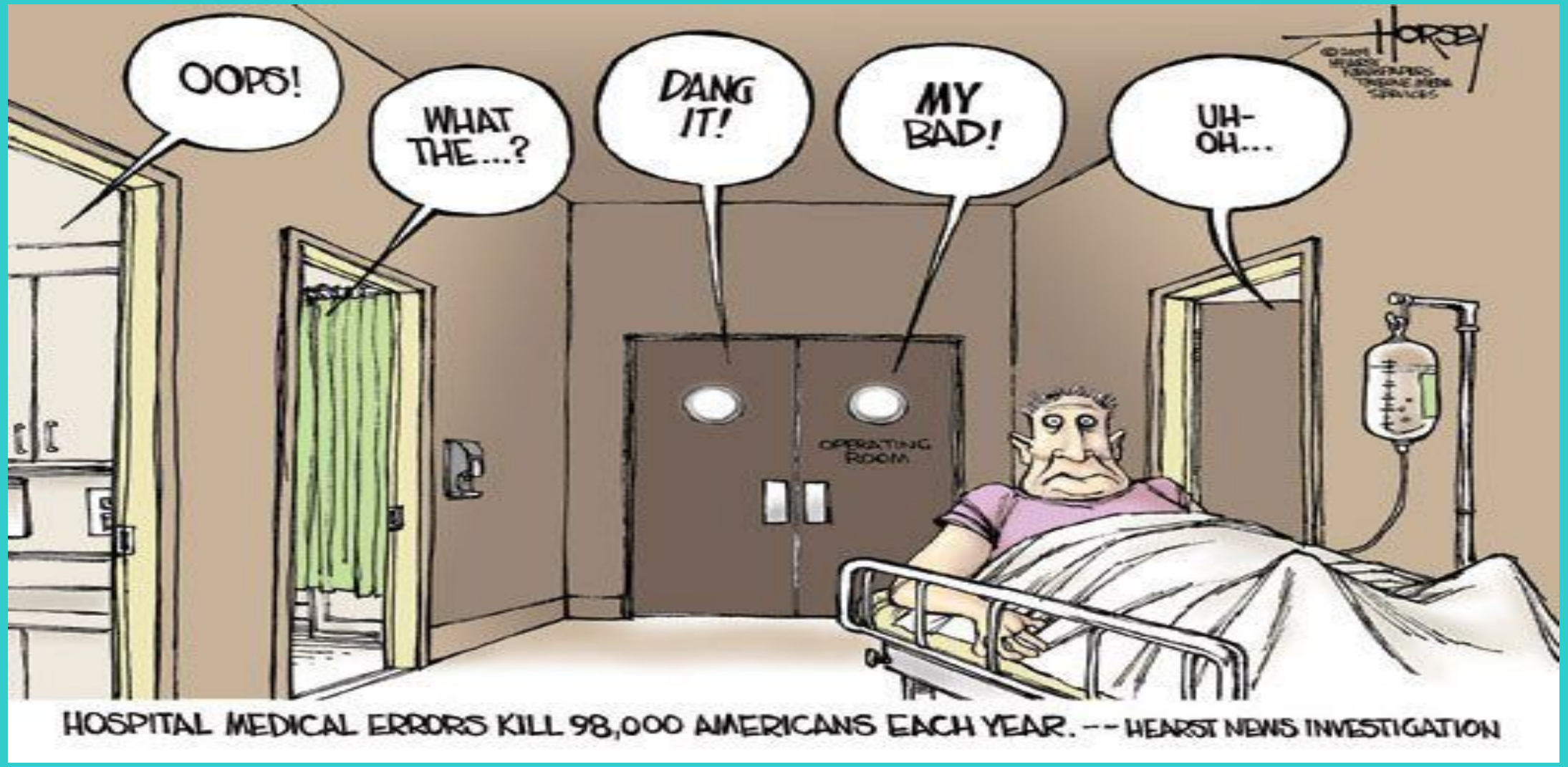
According to the Health and Safety Executives (HSE)

2 Types of Human Errors

- **Latent Errors**- refer to less apparent failures of organization or design that contributed to the occurrence of errors or allowed them to cause harm to patients. For instance, whereas the active failure in a particular adverse event may have been a mistake in programming an intravenous pump, a latent error might be that the institution uses multiple different types of infusion pumps, making programming errors more likely. Thus, latent errors are quite literally "accidents waiting to happen.

According to the Health and Safety Executives (HSE)

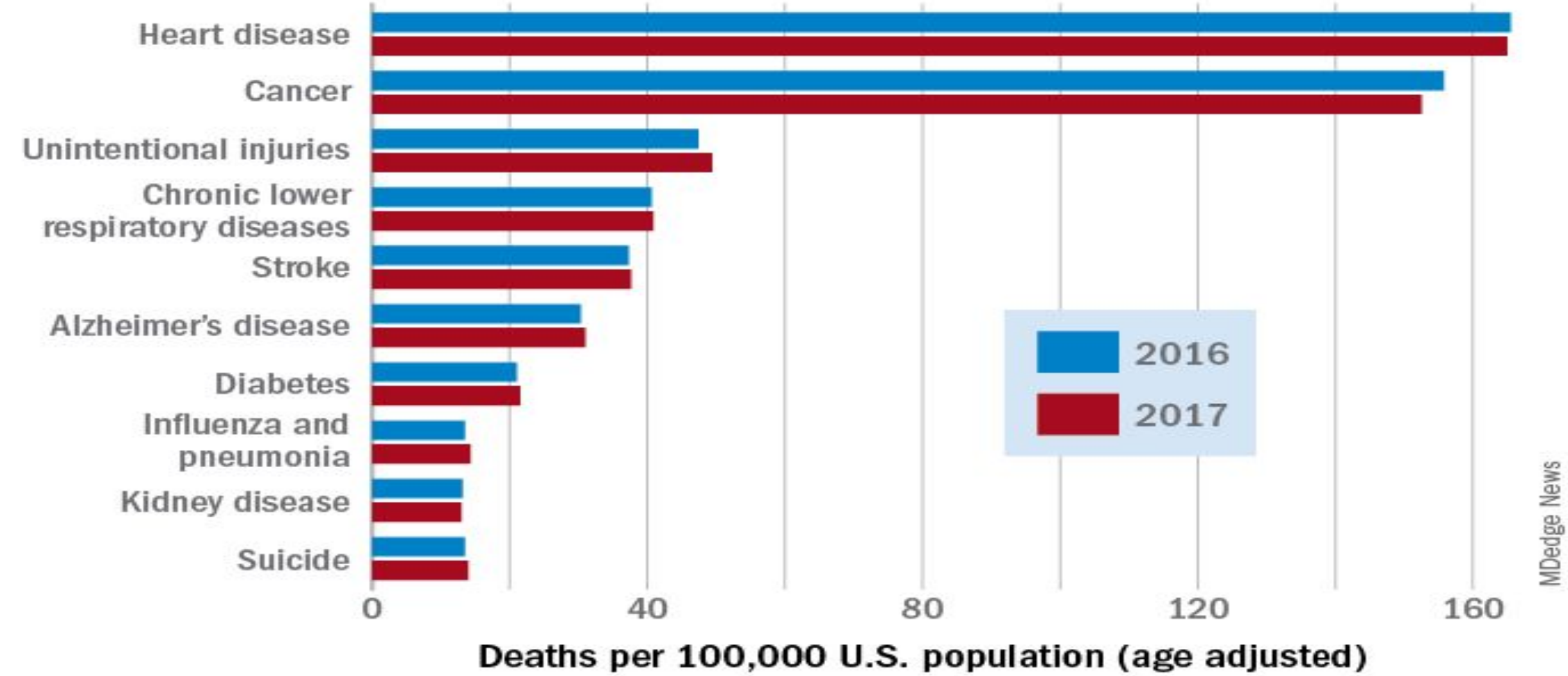
How common are Medical Errors?



Medical Errors…

- A recent John Hopkins study claims more than 250,000 people in the U.S. die every year from Medical errors. Other reports claim the numbers to be as high as 440,000.
- Medical errors are the **third** leading cause of death after heart disease and cancer.
- The reason for discrepancy is that physicians, funeral directors, coroners and medical examiners rarely note on death certificates the human errors and system failures involved. Yet death certificates are what the Centers for Disease Control and Prevention rely on to post statistics for deaths

Ten leading causes of death, 2016 and 2017



Note: Based on data from the National Vital Statistics System.

Source: National Center for Health Statistics

Some facts…

- 440, 000 patient die every year from preventable medical errors. (Journal of Patient safety)
- Preventable medical errors cost USA tens of billions of dollars a year (Institute of Medicine)
- One in three patients who are admitted to the hospital will experience a Medical Error (Health Affairs)
- Evidence on Medical errors shows that 50% to 70.2% of such harm can be prevented through comprehensive systematic approaches to patient safety (Data & Statistics, WHO 2017)

Types of Medical Error

(Leape, Lucian; Lawthers, Ann G.; Brennan, Troyen A., et al. Preventing Medical Injury. Qual Rev Bull. 19(5):144–149, 1993.)

Diagnostic

- Error or delay in diagnosis
- Failure to employ indicated test
- Use of outmoded tests or therapy
- Failure to act on results of monitoring or testing.

Treatment

- 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
- Avoidable delay in treatment or in responding to an abnormal test.
- Inappropriate care

Preventive

- Failure to provide prophylactic treatment
- Inadequate monitoring or follow-up of treatment

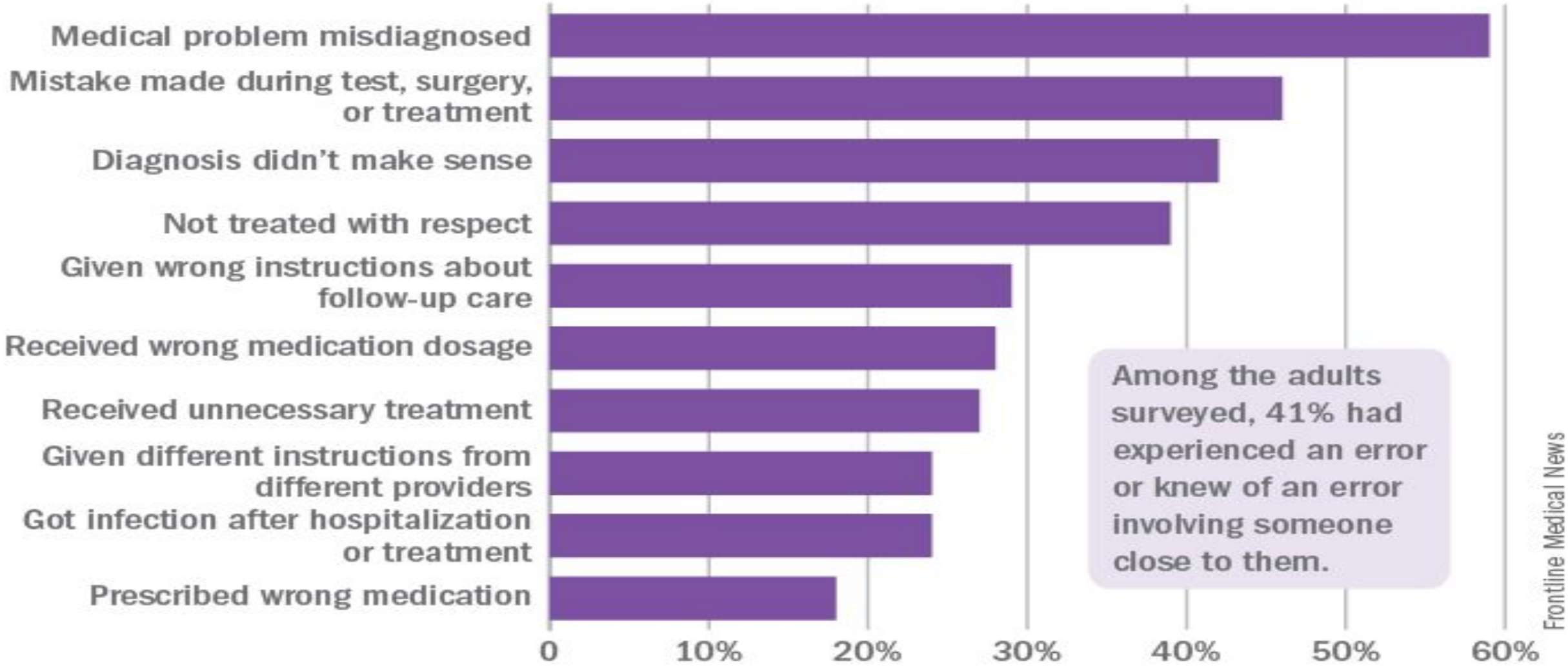
Other

- Failure of communication
- Equipment failure
- Other system failure

Most Common Medical Errors

- Misdiagnosis
- Delayed Diagnosis
- Medication Error **(most common)**
- Faulty Medical Devices
- Infection **(CLABSI, SSI, CAUTI etc.)**
- Failure to account for surgical equipment
- Improper Medical Devices placement

Patient survey: 10 most common medical errors



Note: Survey was conducted May 12, 2017, to June 26, 2017, and received 2,536 responses.

Source: NORC at the University of Chicago and IHI/NPSF Lucian Leape Institute

8 Common Root Causes of Medical Errors

- Communication Problems (Verbal/Written)
- Inadequate Information Flow
- Human Problems
- Patient Related Issues
- Organizational Transfer of Knowledge
- Staffing Patterns and Workflow
- Technical Failures
- Inadequate Policies

http://www.hopkinsmedicine.org/news/media/releases/study_suggests_medical_errors_now_third_leading_cause_of_death_in_the_us?preview=true

Prevention of Medical Errors

Error prevention measures include:

- Reduce reliance on memory
- Improved Information access
- Error-proofing systems
- Standardization
- Training on error identification and prevention

Examples in Medical Practice

- Checklist, Flowsheets
- Electronic Medical Records
- Fail-safe to avoid prescribing 2 drugs that interact fatally
- Office Formularies, Guidelines
- Orientation of Staff in services

MEDICAL ERROR REPORTING

TO ERR IS HUMAN:
BUILDING A SAFER HEALTH SYSTEM

Between *44,000 and 98,000 Americans die in hospitals because of preventable medical errors* every year, according to the Institute of Medicine's landmark report.

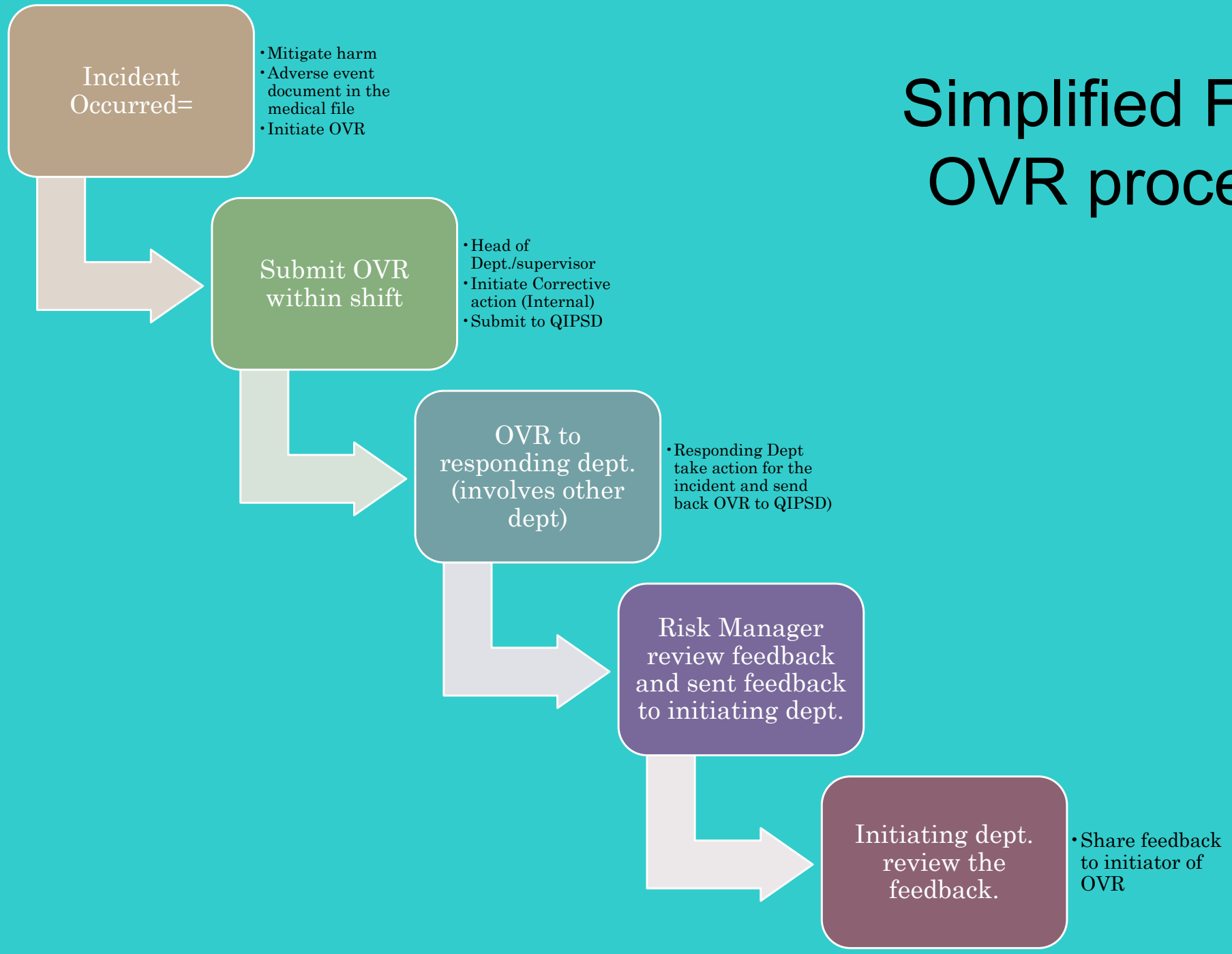
Importance of Medical Error Reporting

- All providers (nurses, pharmacists, and physicians) must accept the inherent issues in their roles as healthcare workers that contribute to error-prone environments.
  - Effective communication related to medical errors may foster autonomy and ultimately **improve** patient safety.
  - Error reporting better serves patients and providers by **mitigating their effects**.
  - Even the best clinicians make mistakes, and every practitioner should be **encouraged** to provide peer support to their colleagues after an adverse event occurs.

Medical errors and near misses should be reported when they are discovered**. Healthcare professionals** are usually the first to notice a change in a patient's condition that suggests an adverse event. A cultural approach in which personal accountability results in long-term increased reporting reduces errors.

(Medical error prevention (5 May 2020)

Simplified Flow OVR process



Reference No.: .....

(for QIPSD use Only)

OCCURRENCE VARIANCE REPORT

CONFIDENTIAL

وزارة الصحة
Ministry of Health

SARAT ABIDAH GENERAL HOSPITAL
Quality&Pt. Safety DEP.
OCCURRENCE VARIANCE REPORT (OVR)
Not Part of Medical Record

1. Event Time & Location /Details (filed out by reporter):

Date of the Event: / / Time of Incident: ☐ AM ☐ PM
Event Location: .....
Reporting Department /Section: .....
Responding Department /Section: .....
Other Involved Departments: .....

2. Patient Information (Complete only if Incident):

Patient's Name: .....
Medical Record: .....
Date of Birth: / / Gender: ☐ M ☐ F
☐ Inpatient ☐Outpatient ☐Employee
☐ Visitor ☐Other

3. What is being reported?

☐ Incident ☐ Reportable Event
☐ Sentinel Event ☐ Near Miss
☐ Unsafe Condition:
Any circumstance that increases the probability of a patient safety event.

4. Factual Description of the Event (Filled Out By Reporter):

.....
.....
.....
.....
☐ Please tick the box if additional information attached

5. Report Date:

Date: / / ☐ Anonymous Reporter
Reporter's Name:.....
Mobile Number:.....
E-mail Address:.....
Reporter's Position Title:.....

6.Treatment / Action Taken (filed Out by reporter/ Direct Manager):

.....
.....
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Supervisor Action (if Applicable): .....
.....
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7. Injury occurred (Yes/ No), if yes please fill information (filled by the reporter direct manager/ person in charge):

Type of Injury: ☐ Physical ☐ Psychological
Level of Harm: ☐ Insignificant ☐ Minor
☐ Moderate ☐ Major ☐ Catastrophic

Likelihood Category:
☐ Rare ☐ Unlikely ☐ likely ☐ Almost Certain

For Medication Error only:
☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H ☐ I ☐

8. To Be Completed by Person in Charge at Time of Incident:

- Other Departments/External Bodies Informed? ☐ yes ☐ no ☐ NA
- Next of Kin/Relatives Informed? ☐ yes ☐ no ☐ NA
- Patient Informed? ☐ yes ☐ no ☐ NA
- Has risk assessment been undertaken/reviewed following this incident (Risk Assessment Tool) ☐ yes ☐ no ☐ NA

Name: ..... Professional Title .....
Badge Number: ..... Signature: ..... Date: / /

9. Contributing Factors (to be filled out by the reporter direct manager/person in charge) (Chose top 3 only):

☐ Patient Factors
☐ Task and Technology Factors
☐ Team Factors
☐ Individual (staff) Factors
☐ Work Environmental Factors
☐ Organizational & Management Factors
☐ Institutional Context Factors

10.Event Category (filed out by OVR Manager/Person responsible to manage the OVR):

☐ 1. Security Related Issues	☐ 11. Information Technology Related Issues	☐ 21. Medication
☐ 2. Behavior	☐ 12.Medical Imaging and Diagnostic Procedures	☐ 22. Communication Issues
☐ 3. Staff related Issues	☐ 13. Food Service	☐ 23. Falls
☐ 4. Patient Care Management	☐ 14. Clinical Nutrition	☐ 24. Radiation treatment (Ionizing radiation Non-Ionizing (US, UV, MRI, Laser, other).
☐ 5. Laboratory Related Issues	☐ 15.Infection Control Related Issues	
☐ 6. Procedural	☐ 16. Occupational Health	☐ 25. Labor and Delivery related issues
☐ 7. Medical Equipment Issues	☐ 17. Housekeeping	☐ 26. Supply Chain issues (logistics)
☐ 8. Facility Maintenance	☐ 18. Intravenous	☐ 27. Laundry services
☐ 9. Environment / Safety	☐ 19. Pressure Ulcer(Injury)	☐ 28. Sentinel Events
☐ 10. Accommodation related Issues	☐ 20. Skin Lesion Integrity	☐ 29. ID/Document/Consent

11. Risk Management Unit (to be filled out by OVR Manager):

- Event Received in the Risk Unit within 24 hrs. of Discovery ◯ Yes ◯ No
- Feedback Received within Appropriate time (10 day) for Green and Yellow Risk Level ◯ Yes ◯ No
- Feedback Sent to Reporting Department with two working days of receiving responding department feedback ◯ Yes ◯ No
- Incident added to the risk register ◯ Yes ◯ No
- OVR Closed ◯ Yes ◯ No

Comment: .....
.....

12. Incident Risk Classification & Rating (filled by the reporter direct manager/ person in charge): for review & approval by the OVR manager):

Impact / Likelihood		Likelihood 1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost Certain
Impact Scores						
5	Catastrophic	5	10	15	20	25
4	Major	4	8	12	16	20
3	Moderate	3	6	9	12	15
2	Minor	2	4	6	8	10
1	Negligible	1	2	3	4	5

Risk Rating Score	Risk Level	Incident Risk Level
1-3	Low Risk	◯
4-6	Moderate Risk	◯
8-12	High Risk	◯
15-25	Extreme Risk	◯

13. Outline Any Action Taken to Prevent Recurrence (Immediate and planned follow up to be filled by responding department).

Name: .....
Professional Title: .....
Badge Number: .....
Signature: .....
Date: / /

Comment: .....
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QIPSD Comment: .....
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Form No. : SAGH/OVR/F034

We learn most from our painful mistakes. Mistakes can injure patients and land physicians in legal and professional trouble. Studying these mistakes and learning how to prevent, monitor, and respond to them, however, has changed the standards of care.

In 1976, Dr. Jim Styner, an orthopedic surgeon, crashed his small plane into a cornfield in Nebraska, sustaining serious injuries. His wife was killed, and 3 of their 4 children were critically injured. At the local hospital, the care that he and his children received was inadequate, even by standards in those days

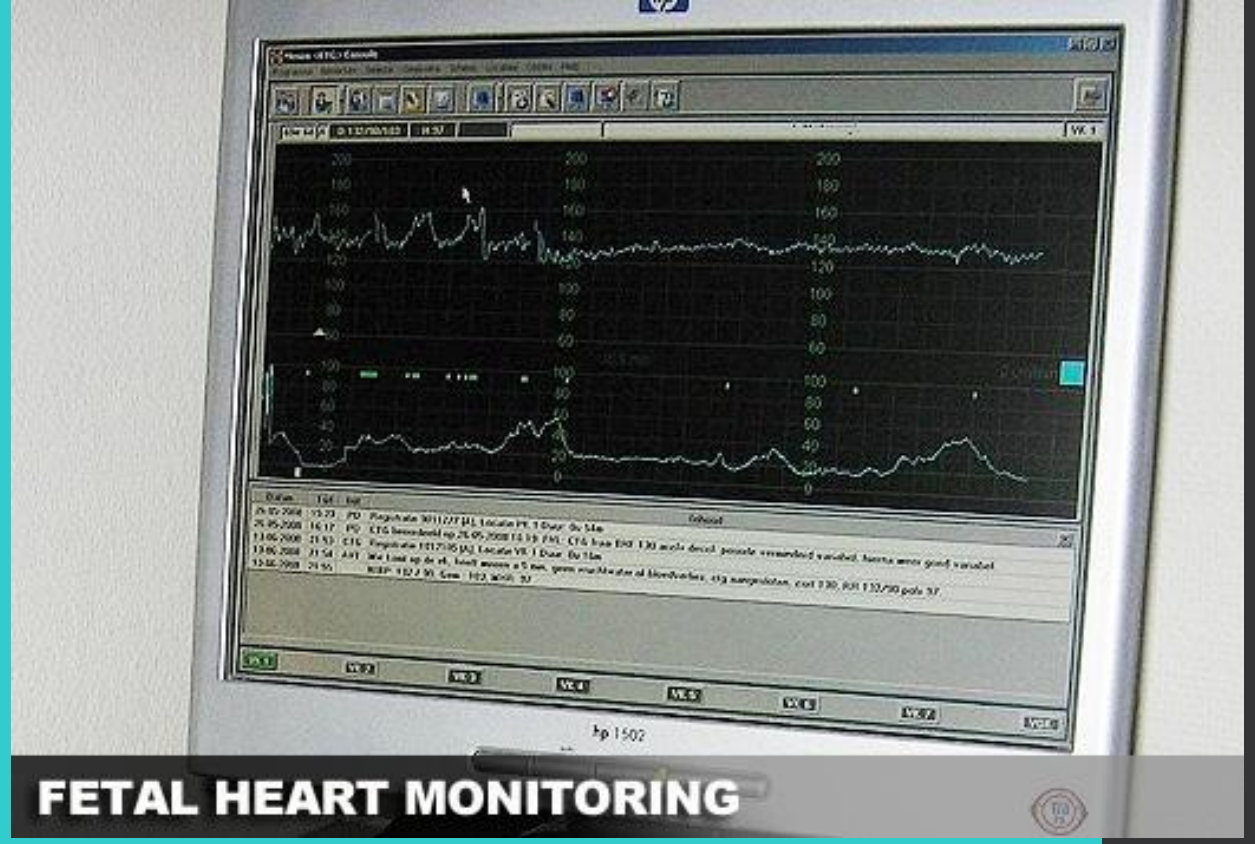
His family's tragedy and the medical mistakes that followed gave birth to Advanced Trauma Life Support (ATLS) and changed the standard of care in the first hour after trauma.

Judy was 39 years old when she went to the hospital for a hysterectomy. After she died on the operating table, autopsy revealed that the anesthesiologist had placed the endotracheal tube in her esophagus, not her trachea.

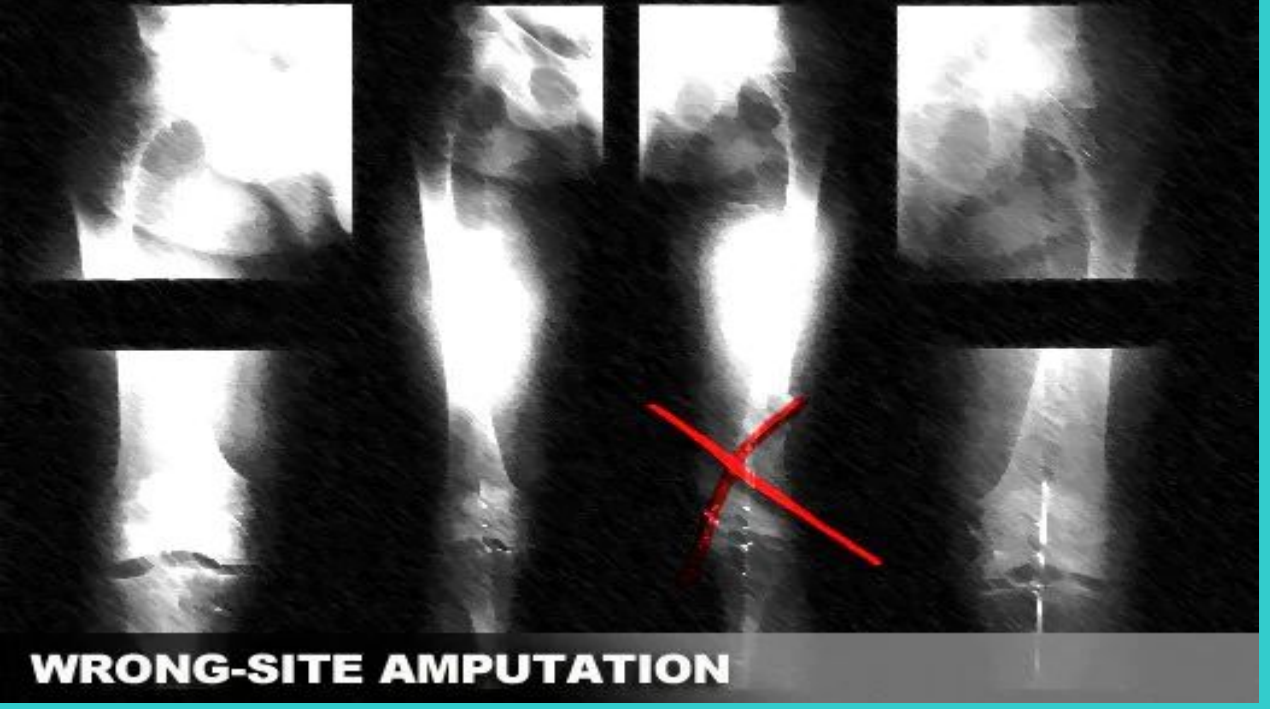
Today, anesthesiologists measure a patient's carbon dioxide levels -- which are much higher from the trachea than from the esophagus -- through use of an end-tidal carbon dioxide monitor.

Standard practices now include the use of pulse oximetry and end-tidal carbon dioxide monitoring for anesthetized patients. The new standards have markedly reduced the frequency of anoxic brain injury and other major complications.

Sally and Ed looked forward to the birth of their first child. Sally's labor was long, so her obstetrician added oxytocin to speed things up. Unfortunately, administration of oxytocin led to unrecognized fetal distress, and their newborn daughter suffered severe brain injury and cerebral palsy.



Fetal monitoring to test both uterine contractions and fetal heart rate (FHR) is now the standard of care, with a 30-minute response time from recognition of fetal distress to delivery. The purpose of FHR monitoring is to follow the status of the fetus during labor so that clinicians can intervene if there is evidence of fetal distress

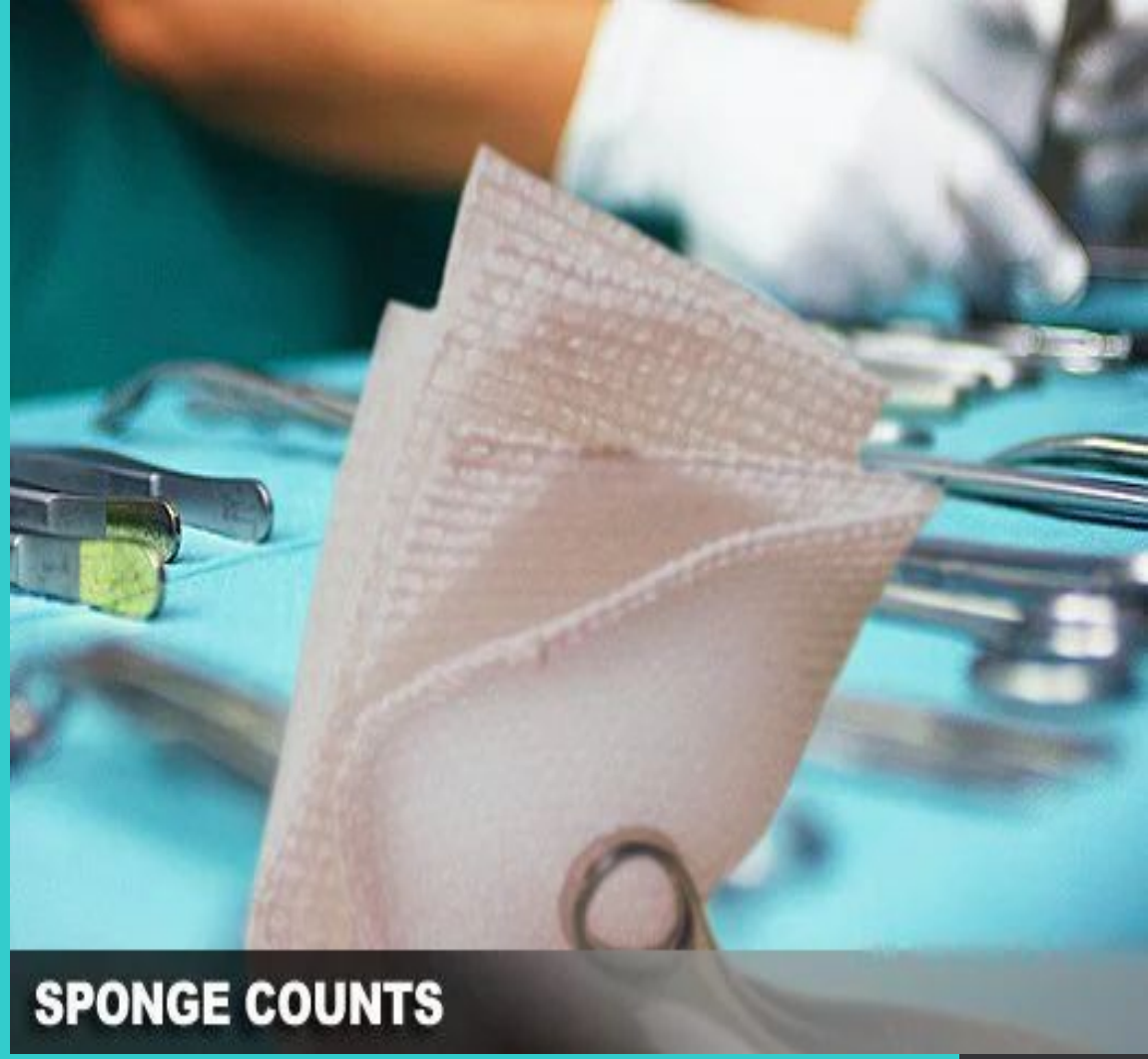


Bill had a seizure and crashed his car into a tree, crushing both legs. Arteriography revealed that his right leg was salvageable but his left leg was not. Unfortunately, the x-ray technician mislabeled the films, mixing left for right, and the orthopedic surgeon first amputated Bill's right leg.

Preventing wrong-site surgery became one of the main safety goals of the Joint Commission for Accreditation of Healthcare Organizations (JCAHO). Establishing protocols became an accreditation requirement for hospitals, ambulatory surgery centers, and office-based surgery sites.

Tom was 12 years old when his appendix burst and he was taken to the local pediatric hospital. Three days after the appendectomy, he developed another high fever. One week later, the surgeon performed a second procedure and found that a surgical sponge had been left inside.

Different ways of counting sponges may be used in the same operating room even during the same case, says the Association of Operating Room Nurses. This lack of standardized practice creates opportunities for errors



Nursing and surgical groups recommend that each member of the surgical team play an equal role in assuring accuracy of the counts. Recently, manufacturers have made sponges with threads visible on x-rays, radiofrequency identification systems, and bar coding to alert staff about missing sponges.

As a young child, Betty had been given penicillin, turned blue, and was rushed to the hospital. She was 15 when she got strep throat, was given penicillin, and died. No one had asked her about medication allergies.

Medical questionnaire forms have always included a space for allergies, although this became much more prominent after the Institute of Medicine report on patient safety in 1999.

Strategies to address the problem include adding visible prompts in consistent and prominent locations listing patient allergies, eliminating the practice of writing drug allergens on allergy arm bracelets, and making the allergy reaction selection a mandatory entry in the organization's order-entry systems.

Linda wasn't doing well in her first trimester. The nausea and vomiting left her severely dehydrated and with a low potassium level. In the emergency department, her nurse made a mathematical error and administered too much intravenous potassium. Within an hour, Linda was dead.

In the 1980s and 1990s, patient safety groups, including JCAHO, drew attention to the need for removal of concentrated potassium chloride vials from patient care areas.

Additional safety strategies include using premixed solutions, segregating potassium from other drugs and using warning labels, prohibiting the dispensing of vials for individual patients, and performing double-checks with a pharmacist.

Frank was 72 years old when he broke his right leg in a car accident and had to recover for a few weeks in a rehabilitation facility. The nurses didn't know that patients needed to move regularly, and Frank developed deep decubitus (pressure) ulcers. When these became infected, Frank's leg had to be amputated.

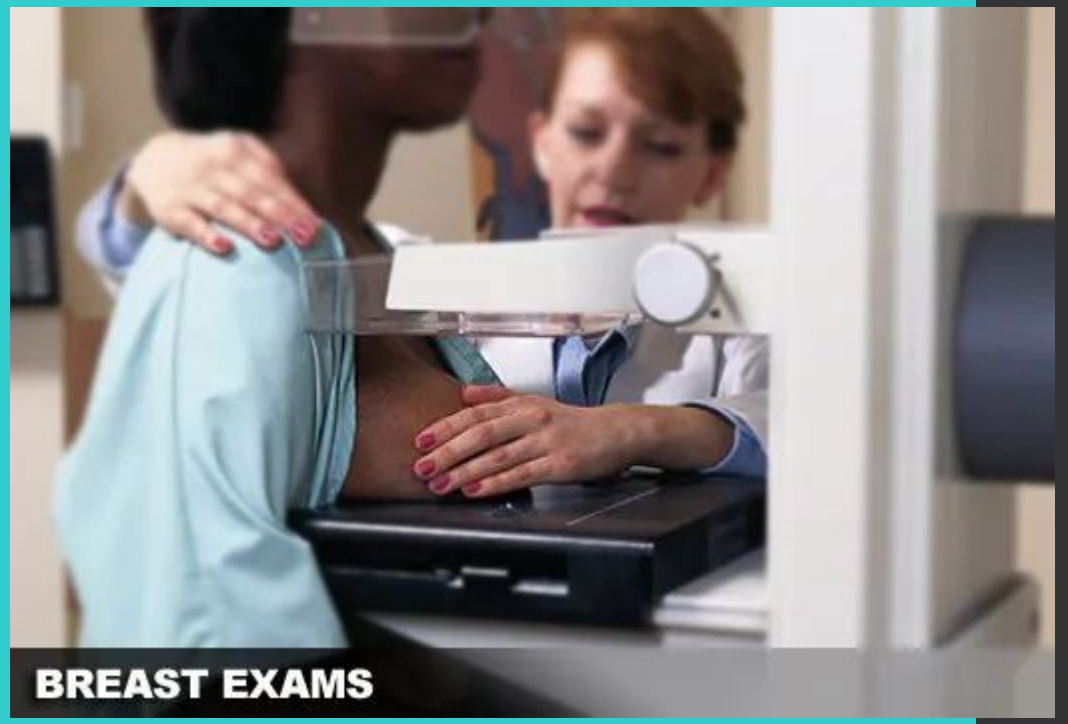
Nursing homes and hospitals now have programs to avoid development of bedsores by using a set timeframe to reduce pressure and having dry sheets by using catheters or impermeable dressing. Pressure shifting on a regular basis and the use of pressure-distributive mattresses are now common practices.

Lillian was 68 years old and weighed 250 lb when she underwent surgery to remove her gallbladder. The second day after surgery, she needed help to walk to the bathroom. Lillian's nurse, Millie, wasn't strong enough to support her and they both fell, breaking Millie's right arm and Lillian's left leg.

The ANA supports policies that eliminate manual patient lifting. Safe patient-handling techniques involve the use of such equipment as full-body slings, stand-assist lifts, lateral transfer devices, and friction-reducing devices.

When Christy was 42 years old, her doctor discovered a large lump in her left breast. The lump should have been evident during Christy's 2 previous annual examinations if they had been complete. By the time it was diagnosed, the cancer had progressed beyond cure.

Breast examinations by the physician, teaching of techniques for breast self-examination, and recommendation of mammograms are now the standard of care.




Thank
you