

Medical Errors and Patient Safety

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Medical Errors - Objectives

- Define medical errors
- Describe the prevalence of medical errors in different setting
- Describe the types medical errors

Case 1

- 1995 – Tampa surgeon Rolando Sanchez amputated Willie King's left leg. The plan, and the signed informed consent, was to amputate the right leg.
 - Both legs were in terrible shape
 - Dr. Sanchez was a premier surgeon
- There were a series of mistakes

Case 1, continued

- ❑ Dr office to operating room – scheduler incorrectly list left leg amputation
- ❑ Floor nurse notices error and corrects paper but information is not transferred to the official schedule
- ❑ Technician sets up left leg holder at table
- ❑ Patient tells nurse his right leg is to be amputated – she preps the left
- ❑ Dr. doesn't speak to the patient before surgery
- ❑ Patient never sued, but hospital & insurance paid \$1.25 million

Prevalence of Medical Errors

- 8th leading cause of death in the U.S.
 - Between 44,000 & 98,000 deaths/year
- About 3% of all hospitalizations
- Estimated cost of \$25 billion
 - Increased hospital cost of \$4700 per patient
- Rates vary by specialty (highest – vascular surgery, lowest – general medicine)
- Medication errors most common

Medication Errors

- Medication errors each year:
 - 7000 deaths
 - 95,000 hospital admissions
 - 700,000 emergency visits
 - 3,000,000 office visits
- 30% more money spent on treating errors than on medications themselves

Magnitude of the Problem

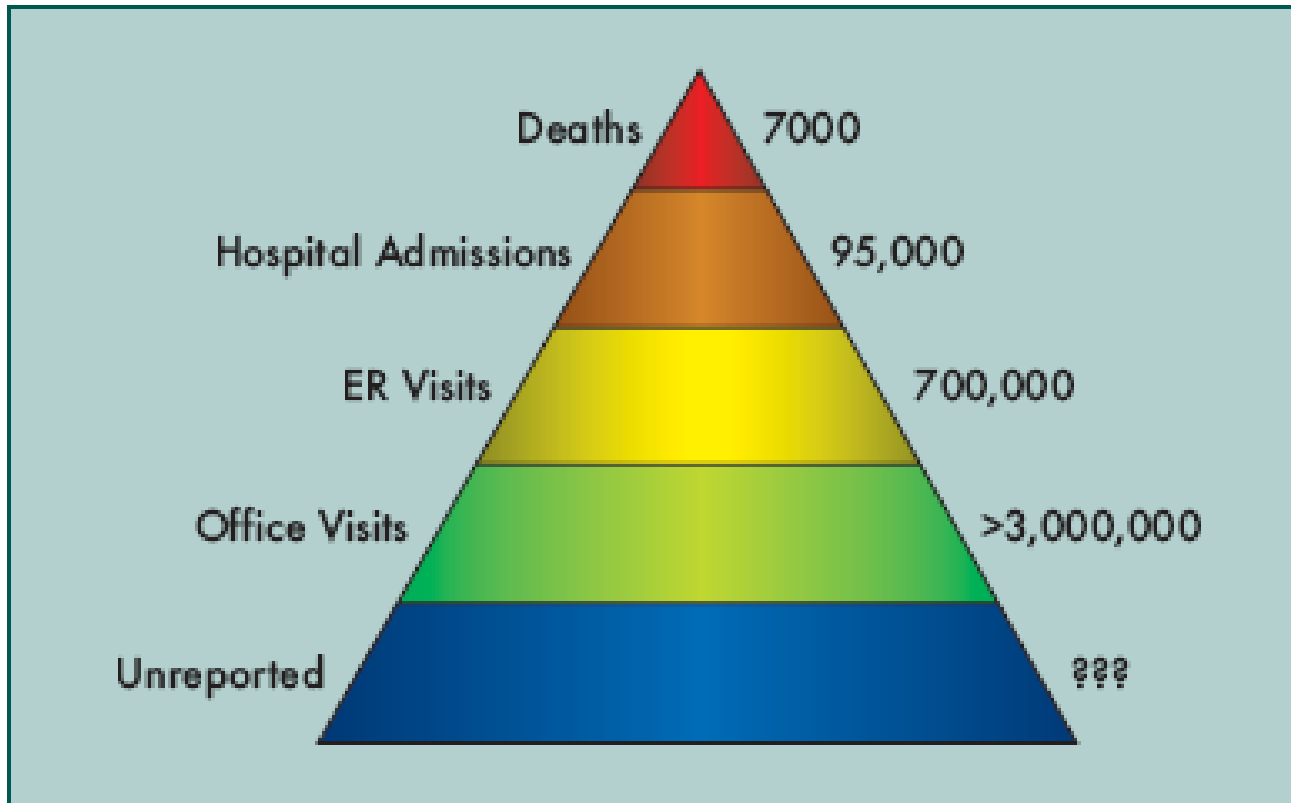


Figure 1. Number of patients impacted by adverse drug events annually.

New Changes

- Shifting from a hospital to an OP problem
 - 1983 – 75% of deaths from ME in hospital
 - 1993 – 55% of deaths from ME in OP
- Related to age (OP setting)
 - Ages 25-44 – 9% of population/yr have ADE
 - Ages 65-74 – 57% of population/yr have ADE



Medical Errors - Definitions

- ❑ An unintended act, either of omission or commission, or an act that does not achieve its intended outcome. (Joint Commission)
- ❑ The failure of a planned action to be completed as intended (error of execution) or the use of a wrong plan to achieve an aim (error of planning). (Inst. of Medicine)
- ❑ An intended act causing an unwanted but possible outcome is NOT an error.



Medical Errors

- Occur in any stage of patient care
 - During diagnosis
 - Treatment
 - Preventive care
- Even minor errors can have psychological devastating effects (for patient & doctor)
- Errors are not discussed openly by providers

Patient Safety Definitions

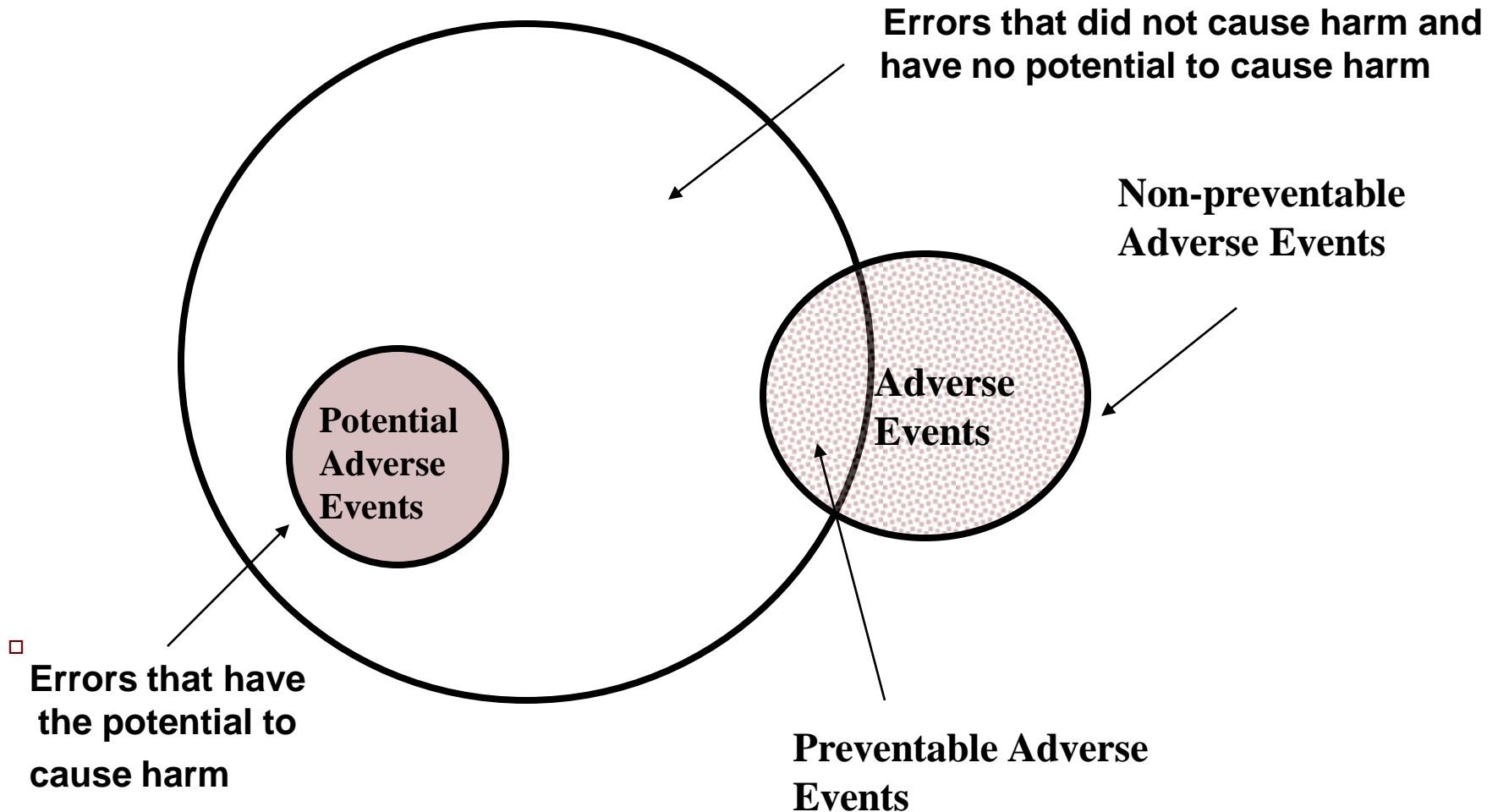
- ❑ **Adverse event** - an injury caused by medical management rather than by the underlying disease or condition of the patient.
- ❑ **Preventable adverse event** - an adverse event injury that could have been avoided as a result of an error or system design flaw.
- ❑ **Error of commission (execution)** – when a procedure or intervention is performed incorrectly
- ❑ **Error of omission (planning)** - when a necessary procedure or intervention failed to be performed leading to morbidity or mortality to the patient involved.



Patient Safety Facts

- ❑ Most medical errors do not result in medical injury, though some do, and these are termed preventable adverse events.
- ❑ Many adverse events are neither preventable nor ameliorable.

Medical Errors

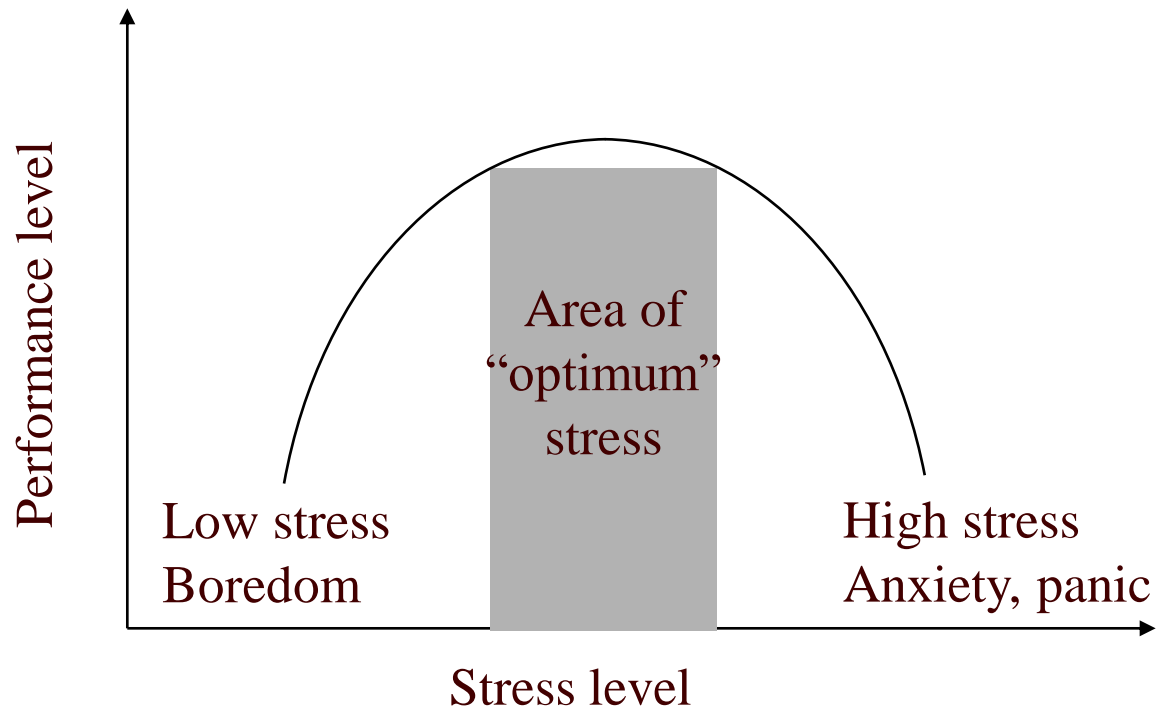




Patient Safety Definitions

- For example, an **unavoidable adverse event** can occur from an unknown drug reaction in a patient who received the appropriate administration of a particular drug for the first time.
- However, if a drug reaction occurred in a patient who knowingly had a previous allergic reaction to that particular drug, the adverse event would be considered **preventable**, and might be considered negligent.

Stress and Performance



□ Yerkes, R. M., & Dodson, J. D. (1908) The relation of strength of stimulus to rapidity of habit-formation.

□ *Journal of Comparative Neurology and Psychology*, 18, 459-482



A Self-Assessment “Checklist”

- I Illness
- M Medication
 - prescription, alcohol & others
- S Stress
- A Alcohol
- F Fatigue
- E Emotion



Human Factors At Work

1. Avoid reliance on memory
2. Make things visible
3. Review and simplify processes
4. Standardize common processes and procedures
5. Routinely use checklists
6. Decrease the reliance on vigilance



Summary: Human Factors

- Errors are inevitable - even for doctors!
- There are situations that can increase the likelihood of error
 - Recognize them for your patient's sake - and yours!
- Attention to human factors principles can lead to a reduction in error or its consequences



IOM Recommendations

- ❑ Create a national Center for Patient Safety
- ❑ Increase mandatory and voluntary reporting
- ❑ Raise the standards of expectations of payers, oversight bodies, and professionals
- ❑ Implement safety practices in all delivery sites by changing the system of care

Case 2 – Insulin Overdose

- Mr. Thompson, admitted to hospital for emphysema. Also a diabetic.
- Order for insulin
NPH 10u
- Was given 100 U – developed hypoglycemia
- Transferred to ICU, treated and woke up