



Medication Safety: What are we still missing?

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Lecture Objectives

By the end of the presentation, the attendee will be able to:

- ▶ Define medication error and how that definition may change depending upon the usage**
- ▶ State the frequency of error and the extent to which we notice them**
- ▶ Define and cite at least one example each of the two main types of human error**

What are we still missing? Some examples:

Missing Medications

- Nursing staff complains of frequent calls to pharmacy regarding missing doses
- Pharmacy leadership presents data of 12 episodes over 2 days involving 70 drugs - all between 8:45am and 10:45am
- 54 drugs were “found” by pharmacy on nursing unit, therefore
- There is no “missing medication” problem

80yo gentleman with Afib

- Metformin plus Glucotrol XL
- Discontinuing the digoxin because the renal function was impaired
- Blood sugar monitoring
- Communications

What's going on?

Missing Medications

- Nomenclature
- Culture
- Communications

80yo gentleman with Afib

- Nomenclature
- Technology applications
- Communications & Transitions of Care

What *is* a medication error?

National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP):

- A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer.

Institute of Medicine (IOM):

- “Error”: Failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.

What is a medication error?

What is it?

- A critical care nurse makes an error in selecting the wrong concentration of heparin
- A pharmacy student stocks a tobramycin ophthalmic preparation in the otic area.
- An error is made by a technician and caught before being paced in the “ready” bin
- An error is made, missed by the pharmacist, but caught by the cashier (wrong patient name)
- An error is made, but caught by the patient after leaving store, but before taking med.
- The correct preparation is sent to the nursing unit, but the nurse cannot find it.

▶ What is the frequency of medical error?

▶ Frequency:

- Bates: 1.4 errors per hospital admission
- Barker: 1 error per patient per hospital day
- Barker: 10% of doses - acute care
- Barker: 10-13% incidence in retail setting
- Barker/Flynn: 1.7% incidence in retail setting
 - » x 4 Billion Rx's/yr = 51 MILLION errors
 - » of which 6.5% were significant = 4.4 Million/year

▶ Why don't we see these errors?



If there are so many errors – Why don't we see them?

- ▶ Most errors result in “downstream events”
- ▶ Errors rarely cause high visibility adverse events
- ▶ Most errors are minor in nature
- ▶ “Dead men tell no tales...” nor do patients who change retail vendor or healthcare venue (admitted to hospital)
- ▶ Our nomenclature hides the obvious or misdirects our attention and responses

If there are so many errors – Why don't we see them?

Postmarketing Reports of Errors with Zantac and Zyrtec		
Intended product	Dispensed product	Outcome
Zantac syrup	Zyrtec syrup	Patient "violently ill"
Zantac syrup	Zyrtec syrup	Continuation of reflux-induced sinusitis
Zantac	Zyrtec syrup 1.1 mg	Trouble sleeping
Zantac	Zyrtec syrup	Increased sleep
Zantac syrup 1.3 mg	Zyrtec syrup 1.3 mg	Increased thirst, decreased appetite, diarrhea, vomiting
Zantac syrup 15 mg	Zyrtec syrup 1 mg	Decreased weight
Zantac	Zyrtec syrup 1 mg	Diarrhea

See: www.ISMP.org

If there are so many errors – Why don't we see them?

350 bed acute-care facility - One-year error "Load"

2	Sentinel Events
17	Preventable ADE
1,375	Medication Errors
6,576	Clinical Interventions
36,500	Order Clarifications by Nursing
73,000 - 109,500	Phone calls - missing/wrong meds (4 FTEs)
?	Errors considered trivial, no harm, potential

2 main types of human errors

Unconscious Errors

- ▶ Slips: attention failure (intention not correctly executed)
- ▶ Lapses: memory failure (information not stored/accessible)
- ▶ Causes: interruptions, distractions, hurry, fatigue, anxiety, anger, boredom, fear

Examples:

1. You miss an exit on the highway while daydreaming (slip)
2. You lose your car keys and have to search all the usual locations (lapse)
3. In the pharmacy, you put Mrs. Smith's medication in Mr. Jones' bag (slip)

2 main types of human errors

Conscious Errors

- ▶ Mistakes – knowledge based
- ▶ Violations – rule based
- ▶ Causes – lack of knowledge, habit of thought, misinterpretation, inaccurate application of knowledge, confirmation bias

Examples:

1. In the pharmacy, failure to ask the patient if they have questions for the Pharmacist about a new medication (violation)
2. Speeding or driving the wrong way down a one way street for only a very short time to save time (violation)
3. A new pharmacy technician receives prescriptions for a patient but doesn't know to ask about adverse reactions history (mistake)



Confirmation Bias



▶ What are we still missing?

▶ Missing Medications

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▶ Some thoughts

- Nomenclature
 - » Is there a medication error problem?
- Culture
 - » Is this a performance silo? Do we solve individual problems instead root cause?
- Communications
 - » How did pharmacy know where to look and nursing did not?
- Operational efficiency
 - » Suppose we look at this as an inefficiency/labor issue?

What are we still missing? Some examples:

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- Metformin plus Glucotrol XL
- Discontinuing the digoxin because the renal function was impaired
- Blood sugar monitoring
- Caregiver Communications

Some thoughts

- Nomenclature - How many medication errors do you see?
- Technology applications - Did the technology help or hurt?
- Clinical
 - » Did minor, isolated issues initiate potentially catastrophic decisions?
- Communications & Transitions of Care
 - » Who was the patient's advocate?
 - » Who was making the ultimate decision regarding patients' therapy?
 - » If the patient is readmitted – who pays?
 - » What do we need to do to address these types of issues?

In summary...

- ▶ Most errors are made by capable, conscientious individuals trying hard to do the right thing.
- ▶ In general, most errors are unconsciously made, however, most of the examples given relate to conscious errors. Need to understand both as the fixes are unique to the problem.
- ▶ Nomenclature can be profession-specific and can allow, or even encourage, siloism.
- ▶ Technology is not always our “friend”
- ▶ Isolated problems need to be looked at for potential larger issues – bigger operational issues, bigger clinical issues
- ▶ In both cases, organizational culture failed the patients and the staff

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