Uh oh, did "I" do that ?

Medication Errors in Long-Term Care

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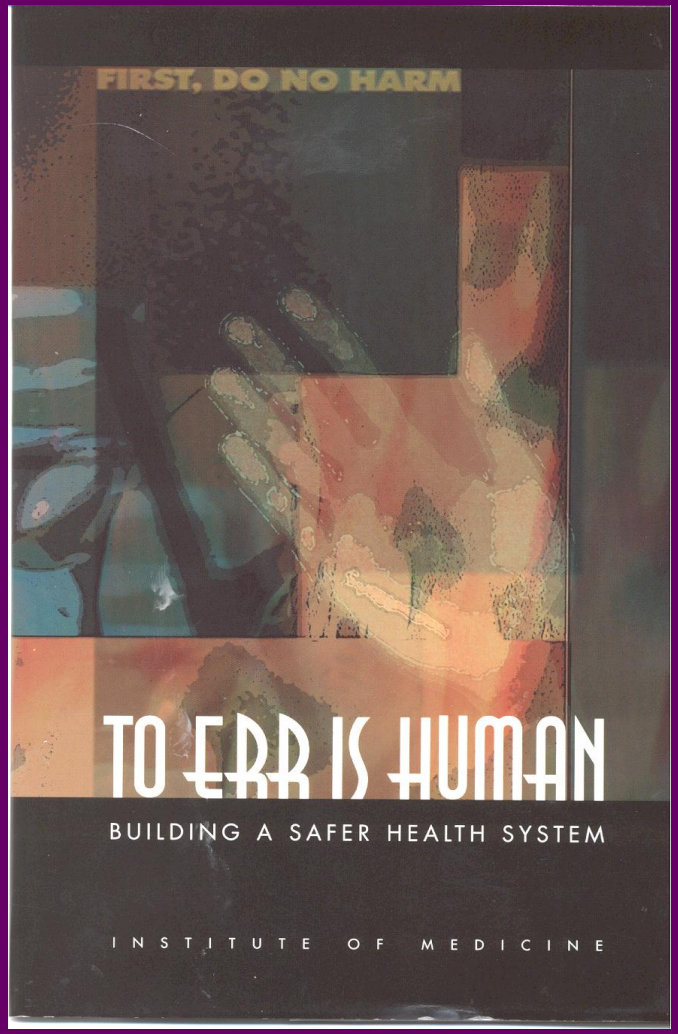
Our goals for today

- Define medication errors and classify their significance
- Understand the extent of medication errors and their impact on patient care
- Discuss the many factors that contribute to errors and the impulse to “place blame” on healthcare workers
- Examine approaches to minimize the risk of medication errors with applications to LTC

To Err Is Human

Kohn LT, Corrigan JM, Donaldson MS, Eds. *To Err Is Human*. Washington National Press, Wash, DC. 2000.



Defining medication errors

"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. Such events may be related to:

- professional practice
- health care products
- procedures and systems
- product labeling, packaging, and nomenclature
- dispensing
- distribution
- administration
- education
- monitoring

National Coordinating Committee-Medication Error Reporting and Prevention (NCC MERP); accessed at http://www.nccmerp.org/aboutMedErrors.html; Jan. 2012.

If you saw this, would you fly ?

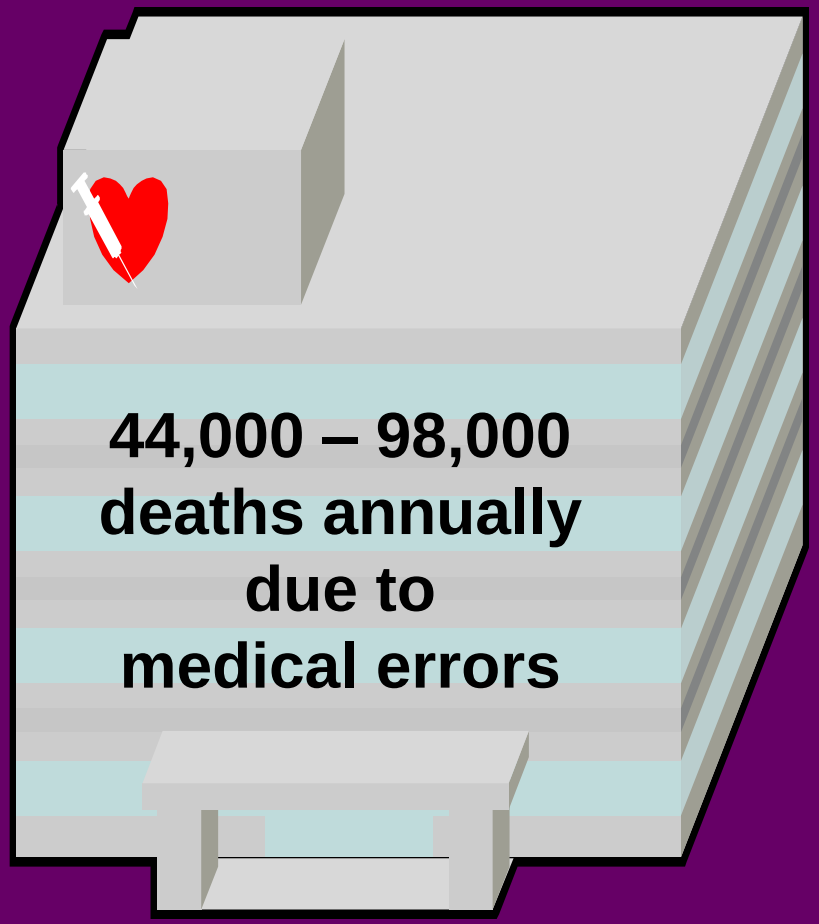
Buy what about being a patient in the health care system

Extra Extra

Airlines expect 1-2 jets to crash daily

Over 1000 deaths expected weekly

=

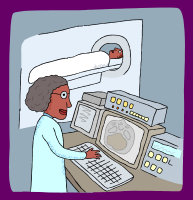


Kohn et al. Committee on quality health care in America. IOM. Academy Press. 1999.

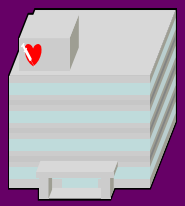
How medical errors rank as cause of mortality

Heart
616,067

Accidents
123,706



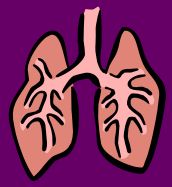
Cancer
562,875



Medical Errors
~100,000

Stroke
135,952

Alzheimer's
74,632



Lung
127,924

Diabetes
71,382

www.cdc.gov/nchs/fastats. Accessed Jan 2012. Based on 2007 data.

Some reasons errors occur

- verbal orders
- poor communications within healthcare team
- poor handwriting
- improper drug selection
- missing medication
- incorrect scheduling
- polypharmacy
- drug interactions
- availability of floor stock (no second check)
- look alike / sound alike drugs
- hectic work environment
- lack of computer decision support

Classifying medication errors

A circumstances exist for potential errors to occur

B an error occurred but did not reach the patient

C error reached the patient but did not cause harm

D patient monitoring required to determine lack of harm

E error caused temporary harm and some intervention

F temporary harm with initial or prolonged hospitalization

G error resulted in permanent patient harm

H error required intervention to sustain the patient's life

I error contributed to the patient's death

NCC MERP. accessed Jan 2012. www.nccmerp.org

A true comedy (tragedy) of errors

AM	1	2	3	4	5	6	7	8	9	10	11	12	PM	13	14	15	16	17	18	19	20	21	22	23	24

DATE 1.22	IVF: Sterile H2O @ 75 cc/h (Sterile Water)
TIME 1900	
PROCESSED BY:	
VERBAL ☐ TELEPHONE ☐	Print Name/Title of Person Giving Order / Signature/Title of Person Taking Order
DATE 1/22/03	TIME 1900 / DR. SIGNATURE [redacted] DR. # [redacted]

A true comedy of errors

- Attending MD tells the resident to give the patient “free water” (meaning let her drink water”)
- Resident assumes he meant an IV and writes for water to be given IV
- New RN can’t find IV water and calls pharmacy asking where they get IVs; pharmacy asks no questions and tells the RN they get them from C.S.
- RN obtains IV from C.S. never questioning RN why she by-passed pharmacy; water bag says “water for irrigation”

(*continued*)

A true comedy of errors

- RN attaches the bag to regular IV tubing; RN infuses 600 mL of “free water”
- At change of shift, more experienced RN notes patient is lethargic, sees bag of water, removes it, and calls MD

Free water has no electrolytes and would likely have caused burst red blood cells and death if the second RN hadn’t interceded

What did staff do wrong ? Should someone be fired ?

- MD #1: used an unfamiliar term “free water” when he meant let the patient drink water
- MD #2: intimidated to clarify so he wrote what he assumed was supposed to be an IV
- RN: well-meaning, wanted to help her patient; she called pharmacy and talked to whoever answered the phone; went to obtain the IV directly from Central Stores Dept

(*continued*)

What did staff do wrong ? Should someone be fired ?

- Pharmacy tech: didn't identify herself as a tech; didn't ask why the RN had this unusual request; didn't consider having pharmacist consult with RN
- C.S. staff: never questioned RN why pharmacy was not involved; provided drug directly to RN without normal pharmacy process

Treating employees with a Just Culture approach

Managing Errors

JUST CULTURE

- Concept

You are a fallible human being, susceptible to human error and behavior drift

- Human error
- At-risk behavior
- Reckless behavior

"Just Culture"
Human error

Inadvertently doing other than what should have been done; a slip, lapse, or mistake.

Manage through
- Choices
- Procedures
- Training
- Design
- Environment

Console

"Creating an Environment of Safety: Just Culture in the Workplace". ASHP. Nov 4, 2007.

"Just Culture"
At-risk behavior

A behavioral choice that increases risk where risk is not recognized, or is mistakenly believed to be justified.

Manage through:

- Removing incentives for at-risk behaviors
- Creating incentives for healthy behaviors
- Increasing situational awareness

Coach

"Creating an Environment of Safety: Just Culture in the Workplace". ASHP. Nov 4, 2007.

"Just Culture"
Reckless behavior

A behavioral choice to consciously disregard a substantial and unjustifiable risk.

Manage through:

- Remedial action
- Punitive action

Punish

Treating the employee (second victim)

Dealing with the SECOND VICTIM in a "Just Culture" environment

- Kimberly H, age 50, an RN with 27 years of pediatric experience
- She made a mathematical error that led to an overdose of calcium chloride and the subsequent death of a critically ill infant
- She was fired; her licensing board made her pay a fine and placed her on 4 years probation
- Despite receiving a perfect score in an advanced cardiac life support certification exam, she was refused work and could not find a job

http://seattletimes.nwsource.com/html/localnews/2014830569_nurse21m.html

Dealing with the SECOND VICTIM in a "Just Culture" environment

- With no job offers, she experienced increasing isolation, despair, regret, hopelessness, low self-esteem, and shame and guilt regarding her role in the fatal error

Kimberly took her own life
7 months after the death of
her patient

http://seattletimes.nwsource.com/html/localnews/2014830569_nurse21m.html

Dealing with the SECOND VICTIM in a "Just Culture" environment

Five rights of the second victim

TRUST:

- **T**reatment that is just
- **R**espect
- **U**nderstanding and compassion
- **S**upportive care
- **T**ransparency and opportunity to contribute

Denham C. TRUST: the 5 rights of the second victim. *J Patient Saf*. 2007;3(2):107-119.

Focusing in on long-term care

Med errors in nursing homes

- 12-month observational study
- 18 participating nursing homes
- 28,839 nursing home resident-months

- 546 drug events (1.89 per 100 resident-months)
  - 1 fatality
  - 31 (6%) were life-threatening
  - 206 (38%) were serious
  - antipsychotics, antidepressants, sedatives/hypnotics and anticoagulants were most common

Incidence and preventability of adverse drug events in nursing homes. Gurwitz JH. Am J Med. 10:87-94. August 2000.

Nursing home non-physician errors

- In 2005, a Gurwitz study[1] estimated 800,000 medication errors yearly in LTC facilities.
- Barker[2] reported average error rates in nursing homes / SNFs = 12.2%
  - non-prescribed drug = 44.8%
  - wrong dose = 11%
  - wrong route = 2%
  - wrong dosage form = 0.4%

1. Gurwitz JH et al. American Journal of Medicine. 118(3):251–258. 2005 ***2. Barker KN et al.*** *American Journal of Hospital Pharmacy.* 39:987–991. 1982.

Prescription errors of omission in nursing homes

Patient Type	Drug Omission
65+ with CHF	62% no ACEI[1]
65+ with MI	60% no aspirin[1]
65+ with MI	74% no beta-blocker[1]
65+ with stroke	37% no anticoag or ASA[1]
65+ with osteoporosis	51% no treatment[1]
patients with depression	45% no treatment[2]
patients with pain	20-55% uncontrolled[3]

1. Sloane PD et al. *Archives of Internal Medicine.*164(18):2031–2037. ***2. Brown MN et al.*** *Journal of the American Geriatrics Society.* 50:69–76. ***3. American Geriatrics Society***. *Journal of the American Geriatrics Society.* 50(Suppl. 6):S205–S224.

OK – so what can we do ?

Reducing medication errors in long-term care facilities

- In general:
  - a safety culture is pivotal to improving medication safety (encourage voluntary reporting)
  - senior management must devote adequate attention to safety
  - provide sufficient resources to quality improvement and safety teams
  - authorize resources to invest in technologies, such as computerized provider order entry (CPOE) and electronic health records

Preventing Medication Errors: Quality Chasm Series. accessed 2010. www.nap.edu/catalog/11623.html.

Reducing medication errors in long-term care facilities

- Prescribers:
  - use sound med reconciliation techniques
  - avoid verbal orders except in emergencies
  - avoid abbreviations (U for units seen as a 0)
  - inform patients of reasons for all medications
  - work as a team with consultant pharmacists and nurses
  - use special caution with high-risk medications
  - report errors and ADEs

Preventing Medication Errors: Quality Chasm Series. accessed 2010. www.nap.edu/catalog/11623.html.

Reducing medication errors in long-term care facilities

- Pharmacists:
  - monitor the medication safety literature
  - in conjunction with doctors and nurses, develop, implement, and follow a medication error avoidance plan
  - verify the accurate entry of data on new prescriptions (avoid abbreviations; use TALLman lettering)

    e.g. Morphine HYDROmorphone
  - report errors and near misses to internal and external medication error reporting programs

Preventing Medication Errors: Quality Chasm Series. accessed 2010. www.nap.edu/catalog/11623.html.

Reducing medication errors in long-term care facilities

- Nurses:
  - foster a commitment to patients' rights (YOU are the patient's advocate)
  - be prepared and confident in questioning medication orders
  - participate in, or lead, evaluations of the efficacy of new safety systems and technology
  - support a culture that values accurate reporting of medication errors

Preventing Medication Errors: Quality Chasm Series. accessed 2010. www.nap.edu/catalog/11623.html.

Questions