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Medication Errors:
A Continuous Quality Improvement Approach To Prevent Errors
David Joffe BSPharm, CDE

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Retail Pharmacist 30 years experience with Joel & Jerry, Eckerd, CVS, Sweetbay, Winn-Dixie
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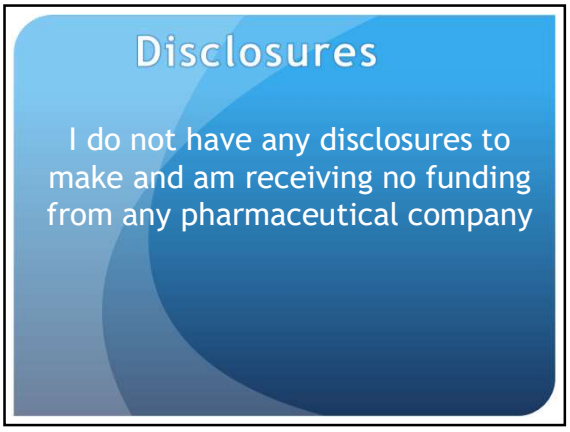
Disclosures
I do not have any disclosures to make and am receiving no funding from any pharmaceutical company

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Objectives

Upon completion of this activity, the pharmacist and nurse will be able to:

- Define elements of a Continuous Quality Improvement (CQI) Program
- Identify a pharmacy practice to address quality related events
- Discuss how to use Root Cause Analysis (RCA) to prevent errors
- Define an action plan to address quality of care in pharmacies with a goal towards error reduction and prevention
- Recite quality improvement regulations for Florida pharmacies
- Explain the value of Medication Therapy Management (MTM) for reducing drug errors
- Discuss programs to improve patient safety in pharmacy health care systems

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Objectives

- **Upon completion of this activity, the pharmacy technician will be able to:**
- **Define Continuous Quality Improvement (CQI)**
- **List the most common medication errors**
- **Recognize techniques to reduce medication errors by using CQI**
- **Recall the "5 Rights" entitled to patients**

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Polling Question

- What color is a yield sign?

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Pharmacist

- One of the most trusted medical professionals in the United States.
- Patients rely on pharmacists for medications that keep them alive and alleviate suffering.
- Medications can range from simple but powerful pain relievers, to sophisticated anti-cancer drugs, to the latest treatment of AIDS and HIV.
- As the population of America continues to age, more and more people will come to rely on the drugs dispensed by their local pharmacy.

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Polling Question

❖Where do you think CQI started?

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CQI History and Origins

✓ Airline Industry

✓ Nuclear Energy

✓ Automobile

✓ Engineering

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Polling Question

❖What kind of tires exploded on the Ford Explorer?

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An Emerging CQI Culture in Healthcare

- Started in Hospitals in surgery departments
  - Infection control
  - Procedural steps for surgical process
    - "Count the wipes"
  - Training
  - Documentation
- Spread to other departments
  - E.R., MRI, lab
  - Pharmacy

Do we need CQI??

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U.S. is Non-Parallel in Medical Errors

Health Affairs, Nov. 2016

- NEW YORK, Nov. 4 - The U.S. leads an international parade of six major nations in medical errors, according to a survey.
- Thirty-four percent of Americans reported at least one of four types of medical errors in the past two years. These included receiving a wrong drug, incorrect treatment, incorrect test results, and delayed test results.
- This finding in the U.S. suggests "a more fragmented health care system".

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An Emerging CQI Culture in Healthcare

- CQI in Hospital Pharmacy
  - In the beginning:
    - Proper medication
    - Sterile techniques for IV preps
  - Now
    - Allergic reactions
    - Interactions
    - Customized dosage for:
      - Weight
      - Liver and Kidney function
      - Effects of other Drugs

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CQI in Extended Care

- Pharmacist activities
  - Chart review
    - Proper medications and dosage
    - Drug interactions
    - Adverse effects
  - Med-pass training and review
    - Nurse training
    - Patient name checks
    - Documentation

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CQI in Retail Pharmacy

- Pharmacist Activities
  - Prescription interpretation
  - Drug selection
  - Side effect profile
  - Drug interactions
  - Abuse or overuse
  - Poly-pharmacy
  - Patient counseling
  - Vaccinations
  - Technician supervision
    - Assistance in prescription preparation
    - Focus them on non-medical tasks

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Statistics[1]

- Each year in the United States, nearly **7 billion prescriptions are filled** and that number is expected to increase.
- It is estimated that between **3.2 million and 4.7 million** medication dispensing errors have occurred in the U.S. **in each of the past eight years** which **caused serious health problems or death.**
- According to the FDA, over **1.3 million** people are **injured** each year due to medication mistakes.
- **Preventable** adverse drug events (**ADEs**) cost the healthcare system **$3.5 billion every year.**

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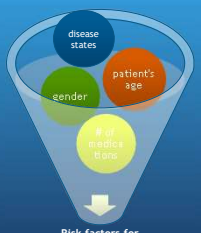
Adverse Drug Event[2]

When something goes wrong and there's an injury due to a medication =
adverse drug event



Risk factors for adverse drug event

adverse reactions | **medication errors**

not always preventable

Ex: patient experiences a rash when no previous drug allergy was known.

could have been prevented with safety checks

Ex: dispended wrong dose to pt

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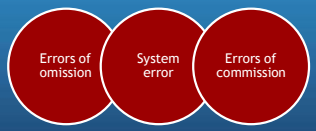
What is Medication Error[3]

The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP)

- 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.



Knowing what a medication error is helps health care providers and patients identify and report it to national organizations that track errors.
Once an error is identified, strategies can be developed to prevent it.

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Medication Error Sightings

Errors can occur at any step:

- Prescribing
- Order communication
- Preparation
- Dispensing
- Administration

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Prescribing Errors[4]

Patient Name: John Smith
Address: 400 E Las Olas Blvd
Fort Lauderdale FL 33312

Metoprolol 50
One Daily x30 days

No refills
Date: 1/1/2014
Dr. So Forgetful DEA #: AB123456

Errors of omission

- **Prescribing errors account for somewhere between 20%-60% of all medication errors.**
  - **Doctors, physician's assistants, or nurse practitioners**
- Missing information on prescriptions is the most common type of prescribing error.

Prevention:
Templates for "ideal" prescriptions
- Name, strength, dose, frequency, etc..
- Medication's indication
- Include leading zeros, used before a decimal quantity less than one. Trailing zeros should not be used after a decimal.(0.1 yes, 1.0 no)
- Specific directions for use, not "use as directed"
- Prescriptions should include relevant patient information (age, weight, etc.)

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Dispensing Errors

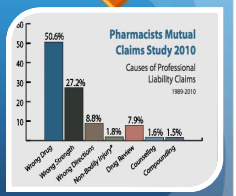
Medication Errors

- Of all medication errors, dispensing errors account for 6%-12%.[5]

Dispensing Errors

- On a national level
  - At least 4 errors for every 250 prescriptions daily.[6]

Malpractice claim



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Outcome of Dispensing Errors[8]

- Serious morbidity and mortality
- Economic burden on society
- Litigation
  - Expensive
  - Increased costs for professional liability insurance coverage
- Dispensing in error is traumatic for
  - Patient
  - Pharmacist

The goal of every pharmacy is to reduce the amount of dispensing errors.

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What can you do to the layout of a pharmacy to reduce Errors?

Discussion

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Reality

- Mistake by a pharmacist can have disastrous consequences.
- Patients are at risk of harm from medication error on a daily basis.
- Automated machines and computers aid in quick, more accurate service.
- Errors are often the result of error-prone systems and processes, rather then individual.
- Main strategy is to reduce dispensing errors by implementing a system oriented approach rather than a punitive approach targeted at an individual.

CONSTANT VIGILANCE IS A MUST

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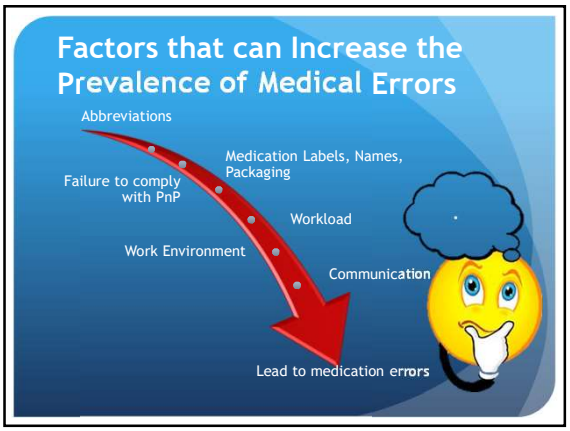
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Medication Labels, Names, Packaging
Failure to comply with PnP
Workload
Work Environment
Communication
Lead to medication errors

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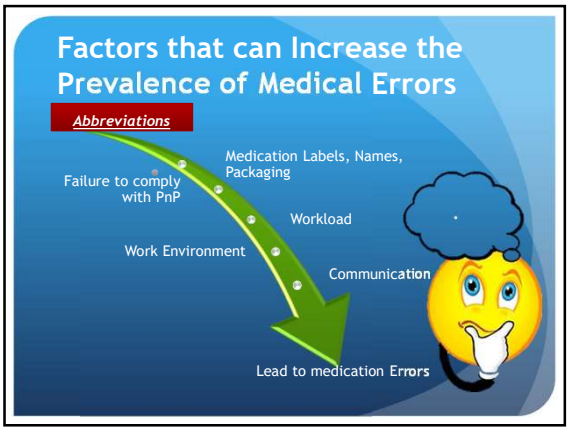
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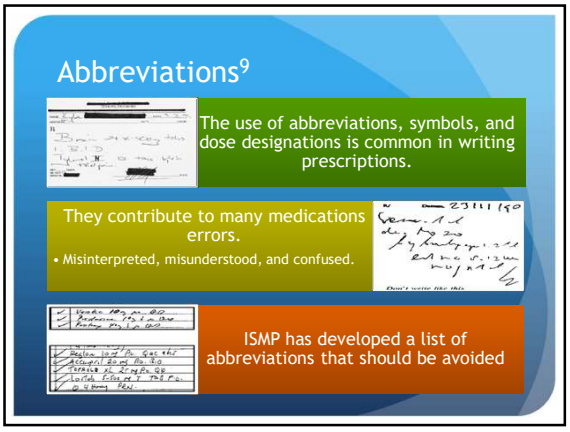
Abbreviations[9]
The use of abbreviations, symbols, and dose designations is common in writing prescriptions.
They contribute to many medications errors.
• Misinterpreted, misunderstood, and confused.
ISMP has developed a list of abbreviations that should be avoided

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ISMP's List of Error-Prone Abbreviations[9]

Abbreviations	Intended Meaning	Misinterpretation	Correction
µg	Microgram	Mistaken as "mg"	Use "mcg"
AD, AS, AU	Right ear, left ear, each ear	Mistaken as OD, OS, OU (right eye, left eye, each eye)	Use "right ear," "left ear," or "each ear"
OD, OS, OU	Right eye, left eye, each eye	Mistaken as AD, AS, AU (right ear, left ear, each ear)	Use "right eye," "left eye," or "each eye"
BT	Bedtime	Mistaken as "BID" (twice daily)	Use "bedtime"
cc	Cubic centimeters	Mistaken as "u" (units)	Use "mL"

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ISMP's List of Error-Prone Abbreviations[9]

D/C	Discharge or discontinue	Premature discontinuation of medications if D/C (intended to mean "discharge") has been misinterpreted as "discontinued"	Use "discharge" and "discontinue"
IJ	Injection	Mistaken as "IV" or "intrajugular"	Use "injection"
IN	Intranasal	Mistaken as "IM" or "IV"	Use "intranasal" or "NAS"
HS hs	Half-strength At bedtime, hours of sleep	Mistaken as bedtime Mistaken as half-strength	Use "half-strength" or "bedtime"
IU**	International unit	Mistaken as IV (intravenous) or 10 (ten)	Use "units"

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ISMP's List of Error-Prone Abbreviations[9]

o.d. or OD	Once daily	Mistaken as "right eye" (OD-oculus dexter), leading to oral liquid medications administered in the eye	Use "daily"
OJ	Orange juice	Mistaken as OD or OS (right or left eye); drugs meant to be diluted in orange juice may be given in the eye	Use "orange juice"
Per os	By mouth, orally	The "os" can be mistaken as "left eye" (OS-oculus sinister)	Use "PO," "by mouth," or "orally"
q.d. or QD**	Every day	Mistaken as q.i.d., especially if the period after the "q" or the tail of the "q" is misunderstood as an	Use "daily"
qhs	Nightly at bedtime	Mistaken as "qhr" or every hour	Use "nightly"

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ISMP's List of Error-Prone Abbreviations[9]

qn	Nightly or at bedtime	Mistaken as "qh" (every hour)	Use "nightly" or "at bedtime"
q.o.d. or QOD**	Every other day	Mistaken as "q.d." (daily) or "q.i.d. (four times daily) if the "o" is poorly written	Use "every other day"
q1d	Daily	Mistaken as q.i.d. (four times daily)	Use "daily"
q6PM, etc..	Every evening at 6 PM	Mistaken as every 6 hours	Use "6 PM nightly" or "6 PM daily"
SC, SQ, sub q	Subcutaneous	SC mistaken as SL (sublingual); SQ mistaken as "5 every;" the "q" in "sub q" has been mistaken as "every" (e.g., a heparin dose ordered "sub q 2 hours before surgery" misunderstood as every 2 hours before surgery)	Use "subcut" or "subcutaneously"
ss	Sliding scale (insulin) or ½ (apothecary)	Mistaken as "55"	Spell out "sliding scale;" use "one-half" or "½"

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ISMP's List of Error-Prone Abbreviations[9]

SSRI SSI	Sliding scale regular insulin Sliding scale insulin	Mistaken as selective-serotonin reuptake inhibitor Mistaken as Strong Solution of Iodine (Lugol's)	Spell out "sliding scale (insulin)"
i/d	One daily	Mistaken as "tid"	Use "1 daily"
TIW or tiw	3 times a week	Mistaken as "3 times a day" or "twice in a week"	Use "3 times weekly"
U or u**	Unit	Mistaken as the number 0 or 4, causing a 10-fold overdose or greater (e.g., 4U seen as "40" or 4u seen as "44"); mistaken as "cc" so dose given in volume instead of units (e.g., 4u seen as 4cc)	Use "unit"

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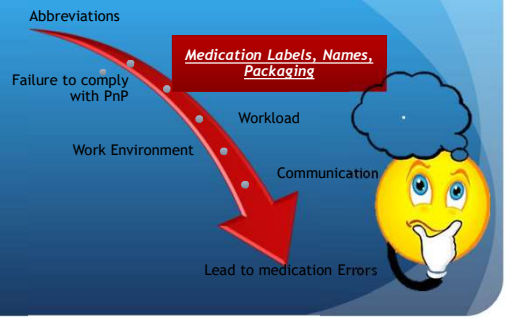
Factors that can Increase the Prevalence of Medical Errors



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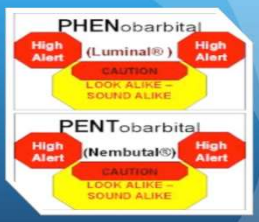
Medication Names, Labels, Packaging

- Drug names:
  - Look-alike
  - Sound-alike
- Drug Labels
  - look-alike
- Drug Packaging
  - Look-alike



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Look-alike / sound-alike medications[5]

- Similar drug names account for one-third of medication errors.
- Some names are accidents waiting to happen...Keppra, *Kaletra*, and *Keflex*, for example. *Keflex* and *Keppra* confusion is especially likely because both are available as 250 mg and 500 mg.
- FDA is taking the issue of drug names seriously. They are looking closely at drug names, labeling, and packaging of drugs to increase safety. Some drug manufacturers are changing drug names prior to FDA approval.

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Look-Alike/Sound-Alike Suggestions[4]

- Prescribers should:
  - ✓ Prescriptions should be written clearly
  - ✓ Include both brand and generic names to provide additional clarification.
  - ✓ Spell out confusing drug names on verbal prescription orders
  - ✓ Educate pt. on the purpose of medication prescribed
  - ✓ Include the indication for use on prescriptions
  - ✓ Avoid abbreviations

FDA is also working on reducing errors with existing generic medications that have similar names. FDA now recommends "TALL man lettering" for similar sounding generics.

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Look-Alike/Sound-Alike Suggestions[8]

Pharmacists should:

- During counseling should double-check:
  - what drug the patient is expecting
  - for what indication
  - how the prescriber said to use it

  Use the patient's answers to double-check your work.
- Be especially vigilant of drugs with similar names **and** doses.
  - separating look-alike drugs on your shelves
  - putting alerts in your computer
  - highlighting bottles with stickers
- Similar packaging
  - should **not** be placed side by side

  When pulling medications look closely at NDCs, as they can appear very similar.

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Drug Labeling

Not only do medication names look or sound alike, but different packaging also can look alike

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Look-alike Packaging

Avoid using color as a means to recognize a product.

For commonly confused or high-risk medications, double-check is a must.

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Drug Name Suffixes[8]

- The suffixes at the end of drug...XL...SR...CD
- Ex: Morphine Sulfate, Metoprolol, Wellbutrin
- Errors that result due to:
  - not knowing what the suffix means
  - lack of standardized meanings of suffixes
  - Missing suffix
- Leads to product mix-ups, prescriptions written with incorrect dosing intervals or frequencies, omission of a suffix, incorrect suffix, etc..[4]

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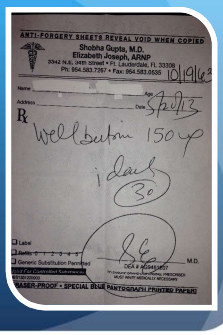
Drug Name Suffixes



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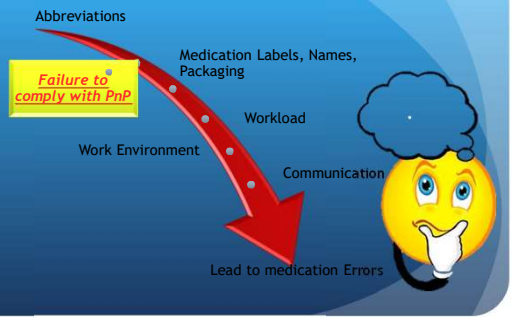

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Comply with Policies and Procedures[10]

Deviation from or absence of the standard medication dispensing / administration procedures can result in medication errors.

- Skipping a final check (common cause of dispensing errors).
- Prescription is filled from a label rather than checked against the original prescription.
- Dispensing medication later then scheduled (Hospital).

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At-risk behaviors[3]

- At-risk behaviors frequently result from workarounds of existing workflow systems. The most commonly reported at-risk behaviors include the following:
  - Not fully reading medication labels before dispensing, administering, or restocking them.
  - Intimidation, or reluctance to ask for help or clarification
  - Using a medication without complete knowledge of that particular medication.
  - Not double-checking "high-alert" medications before dispensing or administering them.
  - Not communicating important information, like patient allergies, co-morbidities, weight, etc..

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At-risk behaviors[3]

- Safeguards established in the pharmacy were developed to prevent medication errors or in response to them.
- Although the pharmacist may view these safeguards as time-intensive, they exist for a purpose.
- Bypassing such systems, including computer alerts and bar coding, increases the risk of medication errors.

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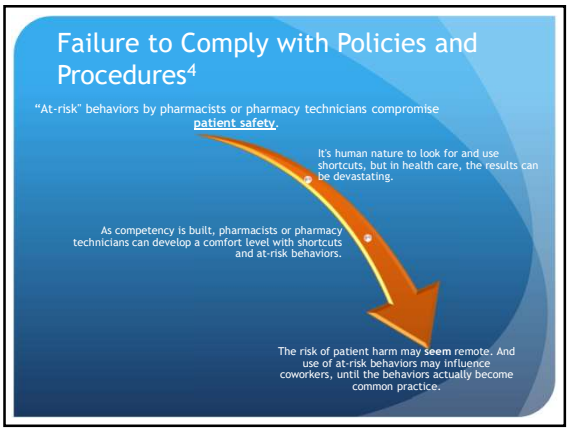
Failure to Comply with Policies and Procedures[4]
"At-risk" behaviors by pharmacists or pharmacy technicians compromise patient safety.
It's human nature to look for and use shortcuts, but in health care, the results can be devastating.
As competency is built, pharmacists or pharmacy technicians can develop a comfort level with shortcuts and at-risk behaviors.
The risk of patient harm may seem remote. And use of at-risk behaviors may influence coworkers, until the behaviors actually become common practice.

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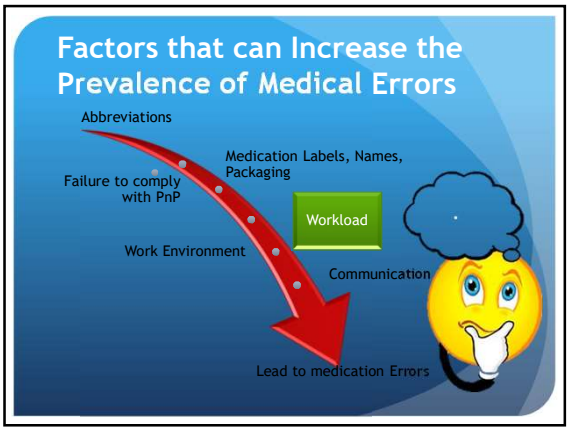
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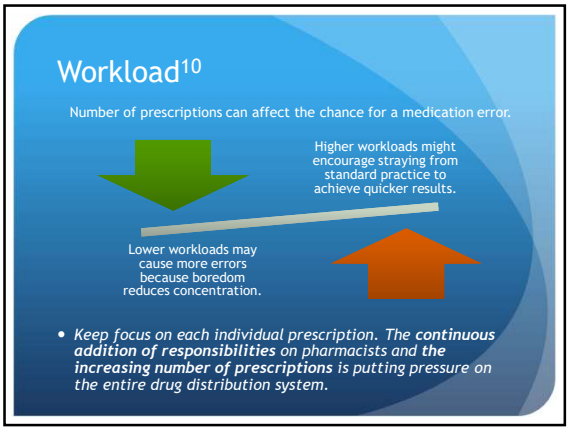
Workload[10]
Number of prescriptions can affect the chance for a medication error.
Higher workloads might encourage straying from standard practice to achieve quicker results.
Lower workloads may cause more errors because boredom reduces concentration.
• Keep focus on each individual prescription. The continuous addition of responsibilities on pharmacists and the increasing number of prescriptions is putting pressure on the entire drug distribution system.

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Workload[8]

- Do not self-check prescriptions!
  - Confirmation bias and preconceived notions makes self-checking a poor method to reduce errors.
  - If this is not possible, use the delayed self-checking strategy.
  - Delayed verification will allow the pharmacist to study the prescription from a fresh perspective, which will help in identifying the error that may not have caught his/her attention the first time the prescription was handled.

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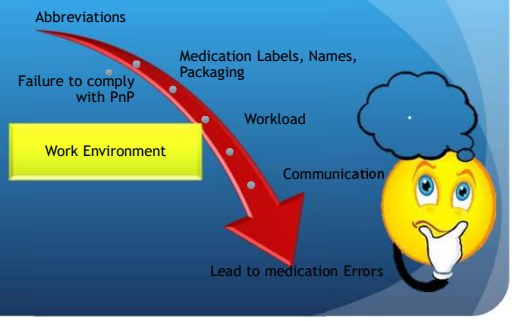
Factors that can Increase the Prevalence of Medical Errors



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Work Environment[10]

- Keep workspaces where medications are prepared clean, orderly, well lit, and free of clutter, distraction, and noise.
- To help reduce distractions, keep conversations short and work related.
- Initiate a "No Drama Policy."

Pharmacies that have a counseling area and cash register away from the primary workspace may be more successful at improving this process.[4]

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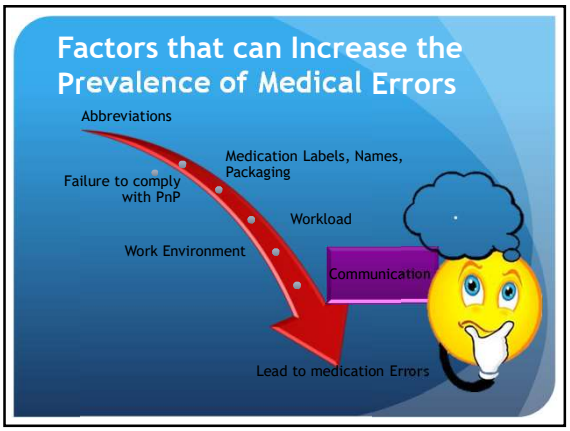
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Communication[10]
Ineffective communication is the most frequently cited cause of serious patient harm.
"Verbal order read-back" is a must for phone orders.
Helps improve:
Effectiveness of communication.
Ensuring that important information is relayed accurately.
Write down the complete order,
Read back the order,
Receive confirmation from that the information is correct.

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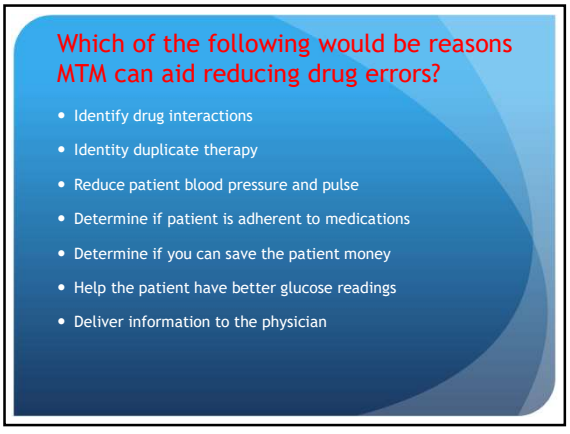
Which of the following would be reasons MTM can aid reducing drug errors?
Identify drug interactions
Identity duplicate therapy
Reduce patient blood pressure and pulse
Determine if patient is adherent to medications
Determine if you can save the patient money
Help the patient have better glucose readings
Deliver information to the physician

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Thorough Patient Counseling[8]

- Approximately 83% of errors are discovered during counseling.
- Communicate with each patient about the medication and ask questions.
  - Make sure the patients take their medication everyday and according to directions.

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Reducing the number of medication errors.

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Reducing the number of medication errors - National Level[3]

- Numerous national endeavors are under way to reduce the number of medication errors.
- Many of these efforts are coordinated by the:
  - Food and Drug Administration (FDA)
  - Institute for Safe Medication Practices (ISMP)
  - The United States Pharmacopeia (USP)
  - National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP)

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Where Was the Breakdown?

- Mary A. 65 y/o suffered seizures and brain damage from an overdose of Haloperidol
- The family sued the pharmacy and pharmacist after the hard copy showed that the physician had written Haldol 0.5mg and first Rx was filled correctly
- The plantiffs attorney showed 2 Rx labels from 2 bottles one with haloperidol 0.5 and the other with haloperidol 5mg and the pills in the vial for 5 mg were correct

What could have happened?

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Additional Details

- When history of labels run it was found:
  - Rx number was consistent throughout
  - Original label stated: haloperidol 0.5mg replaces Haldol 0.5mg
  - Intermediate label stated: haloperidol 0.5mg
  - Intermediate label stated: Haldol 5.0mg replaced by haloperidol 0.5mg
  - Final label stated Haldol 5.0mg replaced by haloperidol 5.0mg

❖**What could have happened?** Open Poll

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Additional Details

- Two major software upgrades occurred

Any thoughts on what might have happened?

- Generics originally linked to brand
- Brands now linked to generics

Any thoughts on what might have happened?

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The Error Trail

1. Original written for Haldol 0.5 replaced by haloperidol 0.5 was dispensed correctly
2. First Software update was such that only generic printed on refills
3. Second update linked by generic to brand and was connected wrong to Haldol 5mg
4. This error was corrected and since Haldol 5mg was there it was replaced by haloperidol 5mg

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Polling Question

❖Was the pharmacist liable?

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The Outcome

- The lawsuit against the pharmacist was dropped
- The pharmacy agreed to terms with the plaintiff
- The judge dismissed the case
- The pharmacist went out and bought professional liability insurance

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Polling Question

❖Do you need Professional Liability or Malpractice Insurance?

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Polling Question

❖Do you have liability insurance?

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- As with other professionals, including those in the medical field, pharmacists and pharmacy technicians may occasionally be prone to human error.
- In fact, it was estimated that a pharmacist who is 99% accurate over 40 years of practice in which 480,000 prescriptions are dispensed will likely cause the death of six patients.*
- (200/day = 2 million Rx's)
- Pharmacist's need to lead the effort to examine where the errors occur and establish a quality assurance program.

*U.S. Pharmacist

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Are We the Next Great Pocket??

- *"Pharmacists have great jobs, a super income, and own big houses and cars, and we are going after them."*

Arnold Sterba, Attorney at Law, with Sterba, Nussbaum and Sink, Orlando, FL

Comment made at APHA conference 2014

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Reducing the number of medication errors – State / Local Level

- State Boards of Pharmacy
  - Developed strategies to reduce medication errors.
  - Ex: Some state boards have established hotlines.
    - Pharmacies are required to post signs notifying patients of these hotline phone numbers.
    - For patients who do not feel comfortable.
    - Reporting the error to the pharmacy directly by calling the hotline.
    - The state board can then investigate the error to identify the cause.
- Pharmacies
  - Developed mechanisms to track medication errors.
  - The pharmacy gathers information to identify the cause of the error so that system changes can be implemented to prevent further errors.
    - Medication involved.
    - Number of staff working at the time of the error.
    - How many prescriptions were filled during that time of day.

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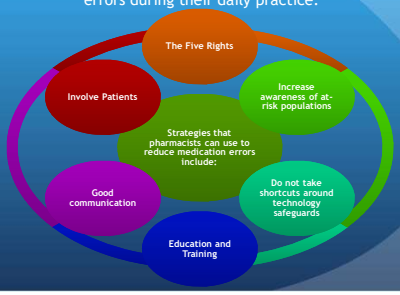
Reducing the number of medication errors – Individual Level[8]

Pharmacists can use a variety of strategies to reduce medication errors during their daily practice.



72

The Five Rights & Label Rights[4]

1. **Right patient**
2. **Right drug**
3. **Right dose**
4. **Right time**
5. **Right route**

- Prescription labels need to show additional "rights," including
  - **right** physician
  - **right** instructions
  - **right** number of refills
  - **right** quantity
  - & other legally required information

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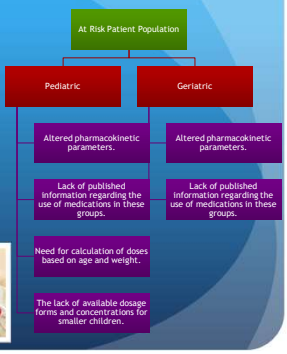
Increase awareness of at-risk populations[4]

- Two groups of patients are at increased risk of adverse effects due to medication errors: pediatric and geriatric patients.
- Due to this increased risk of adverse effects, medication errors may do the most harm in these groups.



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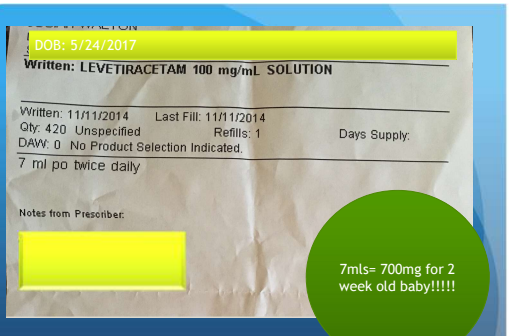

7mls= 700mg for 2 week old baby!!!!!

75

High-Alert Medications[11]

- **HIGH-ALERT MEDICATIONS** are drugs that bear a heightened risk of causing significant patient harm when they are used in error.
- Although mistakes may or may not be more common with these drugs, the consequences of an error are clearly more devastating to patients.
- ISMP maintains a list of drugs and drug classes that have the highest risk of causing harm to patients if used inappropriately.
- These medications may need to have special safeguards in place to reduce the risk of errors.

- Warfarin
- Lovenox (enoxaparin)
- Fentanyl patches
- Methotrexate
- Hydrocodone with acetaminophen
- Oxycodone with acetaminophen
- Humalog (insulin lispro)
- NovoLog (insulin aspart)
- Lantus (insulin glargine)
- Apidra (insulin glulisine)
- Levemir (insulin detemir)

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High-Alert Medications[11]

- Community pharmacy practitioners can use this list to determine which medications require special safeguards to reduce the risk of errors and minimize harm.
- This may include strategies:
  - Mandatory patient education.
  - Improving access to information about these drugs.
  - Using auxiliary labels and automated alerts.
  - Employing automated or **INDEPENDENT CHECKS.**
  - Standardizing the prescribing, storage, dispensing, and administration of these products.

High-Alert Medications in Community Pharmacy

Drug Class/Category	Examples	
Antiretroviral agents	abacavir atazanavir didanosine lamiVUDine ritonavir zidovudine	Combination products such as: Combivir Atripla Epzicom Kaletra
Chemotherapy, oral (exclusion: hormonal agents)	busulfan chlorambucil cyclophosphamide lomustine melphalan	mercaptopurine methotrexate procarbazine temozolomide
Hypoglycemic agents, oral	chlorproPAMIDE glipiZIDE	glyBURIDE repaglinide
Immunosuppressant agents	azaTHIOprine cycloSPORINE daclizumab mycophenolate	pimecrolimus sirolimus tacrolimus
Insulin	NPH/Regular aspart detemir	glargine glulisine lispro
Opioids, all formulations	butorphanol fentaNYL HYDROmorphone meperidine	methadone morphine opium: tincture oxyCODONE
Pregnancy category X drugs	atorvastatin bosentan estazolam	ISOtretinoin simvastatin temazepam
Pediatric liquid medications that require measurement		
Institutional Drugs		
carBAMAzepine		
chloral hydrate liquid (for sedation of children)		
heparin (unfractionated and low-molecular weight)		
metFORMIN		
methotrexate (non-oncologic use)		
midazolam liquid (for sedation of children)		
propylthiouracil		
warfarin		

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Education and Training

- Continuing education for pharmacists and pharmacy technicians helps promote patient safety.
  - Newly approved drugs are always arriving in the pharmacy.
  - New drug interactions or side effects are uncovered on a regular basis.
- Basic pharmacology for pharmacy technicians is helpful for recognizing typical uses and doses of medications.
  - For example, an order for Bactrim DS 2bid for a child, *Methotrexate 10 mg daily, or vitamin D 50,000* IU daily should alert **any** staff member to seek clarification.

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What are some common medical errors and how can CQI help eliminate each one

Discussion

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Good communication[10]

- Good communication is one of the best ways to decrease errors.
- Establish an open line of communication with all staff.
- Make sure any unclear instructions or prescriptions are clarified.
- Encourage open communication and be willing to accept and provide constructive input on how to improve your system to help decrease errors.

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Which of the following concepts can improve patient safety in pharmacy health care systems?

- Keep workspaces where medications are prepared clean, orderly, well lit, and free of clutter, distraction, and noise.
- Keep conversations short and work related.
- Initiate a "No Drama Policy.
- Work to assign blame to the person causing error
- Include all stakeholders(workers) in designing the system
- Avoid use of automation because of software glitches

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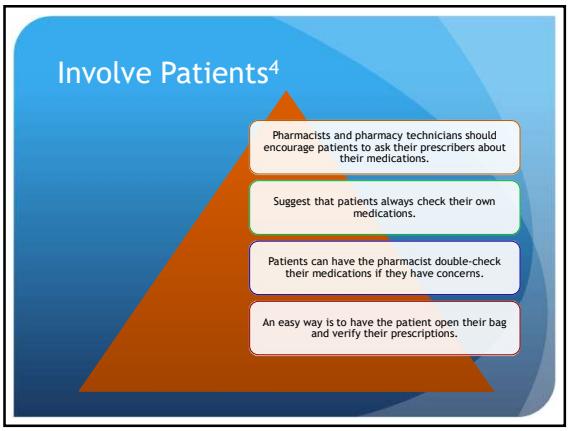
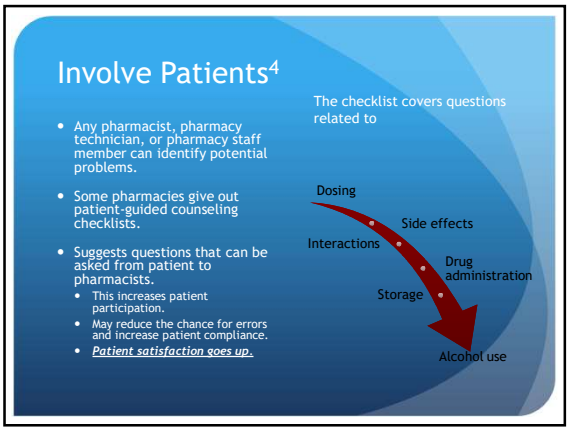

Involve Patients4
Pharmacists and pharmacy technicians should encourage patients to ask their prescribers about their medications.
Suggest that patients always check their own medications.
Patients can have the pharmacist double-check their medications if they have concerns.
An easy way is to have the patient open their bag and verify their prescriptions.

82


Involve Patients4
Any pharmacist, pharmacy technician, or pharmacy staff member can identify potential problems.
Some pharmacies give out patient-guided counseling checklists.
Suggests questions that can be asked from patient to pharmacists.
This increases patient participation.
May reduce the chance for errors and increase patient compliance.
Patient satisfaction goes up.
The checklist covers questions related to
Dosing
Side effects
Interactions
Drug administration
Storage
Alcohol use

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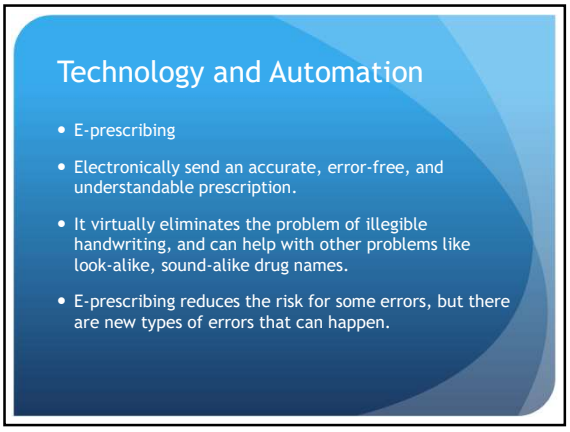
Technology and Automation
E-prescribing
Electronically send an accurate, error-free, and understandable prescription.
It virtually eliminates the problem of illegible handwriting, and can help with other problems like look-alike, sound-alike drug names.
E-prescribing reduces the risk for some errors, but there are new types of errors that can happen.

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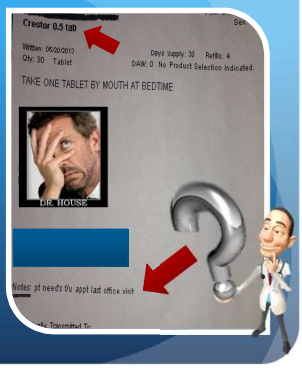
E-prescribing

- Computerized physician order entry reduces illegible scribbles, allow prescriptions to get to pharmacies quicker, reduce errors with similar drug names, etc..
- More education on using the e-prescribing programs is need to decrease user error.



85

Medication Reconciliation[4]

- On the list of National Patient Safety Goals.
- The process of reconciling patients' medication lists at all points in the health care system to provide seamless care.
  - Patients transfer:
    - Into
    - Out of
    - Between health care facilities
  - Community pharmacies and hospitals must share information from patients' medication profiles.

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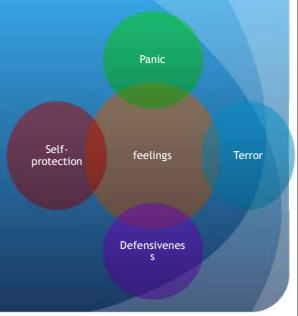
Responding to Medication Errors[10]

- Pharmacists and pharmacy technicians are extremely concerned when a medication error occurs.
- These feelings can adversely affect the manner in which the pharmacist or pharmacy technician reacts to the situation.



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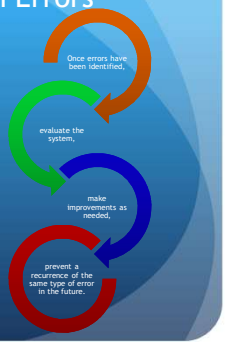
Reporting Medication Errors

- Pharmacists and pharmacy technicians should be comfortable in identifying and reporting errors without fear of punishment.
- There is often concern that reporting an error might result in disciplinary action.
  - The focus these days is on improving systems, not punishing individuals. Mistakes can happen even with well-trained, focused personnel.
- Many groups discuss errors during their staff meetings. Bringing errors into the open helps everyone pay more attention, be more careful, and helps prevent future errors.



88

Which of the following are the 5 rights every patient is entitled to

- Right price
- Right patient
- Right drug
- Right vial lid
- Right dose
- Right time
- Right route
- Right quantity
- Right color pill
- Right insurance
- Right doctor
- Right counseling
- Right days supply
- Right brand

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Analysis of medication errors[10]

- Analysis can only occur if the errors are detected and reported.
- Voluntary medication error reporting systems rely on the ability and willingness of individual physicians, pharmacists, and nurses to detect and report errors as part of routine practice.
- Some factors can deter reporting.
  - Ex: Management practices that punish an individual when the error may be a result of poorly designed systems.

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How to Report Medication Errors[8]

- Reporting medication errors plays an important role in preventing further errors.
  - Intent is not to point blame at anyone.
  - Identify system failures that can be altered to prevent future errors.
- Medication Errors Reporting Program (MERP) Individual health care providers and consumers may report medication errors confidentially to this USP-ISMP program. 1-800-233-7767 www.ismp.org 1-800-FDA-1088 www.fda.gov/medwatch
- MedMARx Hospitals can anonymously report medication errors to this subscription database. Hospitals can also track medication errors and adverse drug reactions. www.medmarx.com

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Caveat to Error Reporting[4]

- Make sure error reports are written as separate quality assurance documents and are not inserted as a part of the patient drug profile or medical record. This is important from a legal perspective. If an error report is included as part of a patient drug profile, it becomes a part of the patient's medical record.
- Medical records can be subpoenaed by a court. If error report in record, it can now be used in the court of law.
- Having the error report out of the medical records may make it more comfortable for an organization to record errors in the hopes of improving quality assurance without fear of having the documentation used against the organization in a legal matter.

Error records are meant to be used as learning tools, not punishment.

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Notifying the patient[4]

- When an error has occurred, the patient or caregivers should be notified.
  - The pharmacist should acknowledge that the event occurred and provide the patient with available facts about the incident.
  - The patient should be informed of the impact that the event will have on the patient now or in the future, along with steps being taken to mitigate the effects of the injury.
- It is appropriate to apologize, take responsibility, and show commitment to finding out why the error occurred.
- The patient will also appreciate learning the steps being taken to prevent a recurrence.

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In Summary

- Medication errors are always an unwelcome occurrence. Various organizations, including ISMP and the Joint Commission, provide guidance on ways to prevent errors and make the health care system safer for patients.
- This guidance helps organizations create policies to ensure the highest possible level of safety for patients.
- Individual health care professionals must continuously learn and incorporate these safe practices into daily activities of patient care.

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Remember

- Listen to patients, provide them with written information, encourage them to ask questions on the proper use of their medication.
- Always use the patient's name, this helps with accuracy. Ask for correct spelling if needed.
- Ask for **all** known allergies.
- Make sure allergies are in the computer system.
- Keep and update a patient's disease status.
- Add OTC and dietary supplements to patient records.

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Remember

- Obtain missing information or clarify confusing prescriptions or orders.
- **Don't assume.** Don't complete the dispensing process until the problems are resolved. Never guess on a poorly written or confusing prescription or order.
- Write down verbal orders immediately. Read transcribed prescription back to prescriber.
- Watch for maximum daily doses. (Acetaminophen is an important one!) Be sure that route-dose (IV to PO) conversions are correct.
- Be sure the pharmacist adjusts for patient-specific characteristics (age, renal function, weight, etc..).
- Obtain the intended indication for medication use.

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What are quality improvement regulations for Florida pharmacies

- Each pharmacy shall establish a Continuous Quality Improvement Program
- prescription department manager or the consultant pharmacist of record to ensure that the committee conducts a review of Quality Related Events at least every three months.
- A planned process to record, measure, assess, and improve the quality of patient care
- The procedure for reviewing Quality Related Events.
- Records maintained as a component of a pharmacy Continuous Quality Improvement Program are confidential

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Check List

- Encourage management to minimize distractions.
- Adhere to systematic processes for double-checking final prescriptions, including a comparison of the prescription to the product, patient profile, and label.
- Double-check calculations and drug preparation.
- Refer to the original prescription, not other labels.
- Separate look-alike, sound-alike drugs on the pharmacy shelves.
- Separate high-risk or hazardous substances (chemotherapy, concentrated solutions, etc.) from other drug products.
- Keep a record of all information gathered for prescription clarification or error correction.
- Encourage the use of both generic and brand names on prescriptions or orders.
- Encourage the use of dosage form (including sustained release) on prescriptions/orders.
- Re-read finished labels for accuracy and clarity.
- Keep the "Will call" area in a pharmacy clean and current.
- Listen to your patients. (Patient counseling is very important in preventing errors.)

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Questions

- What are some components of a Continuous Quality Improvement (CQI) Program?
- What is one thing you could do in your pharmacy to address a quality issue?
- What is one step in evoking Root Cause Analyis?
- What one thing can you do to help reduce or elimante errors?
- Are there quality improvement regulations in Florida Law?
- T or F… MTM reduces medication errors
- Do errors occur in hospitals and LTC facilities

99

Questions?

100

References

1. Medication Safety Basics. Centers for Disease Control, and Prevention. September 2010. Web. April 2013.
2. The Official "Do Not Use" List. Joint Commission on Accreditation of Healthcare Organizations. June 2012. Web. April 2013.
3. About Medication Errors. 2013 National Coordinating Council for Medication Error Reporting and Prevention. 2013. Web. April 2013.
4. Risk Management and Preventing Medication Errors. Prescriber's Letter. Web. April 2013
5. Strategies to Reduce Medication Errors: Working to Improve Medication Safety. The Food and Drug Administration. 2013. Web. April 2013
6. Flynn EL, Barker KN, Carnahan BJ. National Observational Study of Prescription Dispensing Accuracy and Safety in 50 Pharmacies. *J Am Pharm Assoc*. 2003. Web. April 2013
7. McGuire D. Understanding the Data of Pharmacy Errors. Pharmacists Mutual Companies. Risk Management. Risk Management . Vol 20. Issue 1. Spring 2011. Web. April 2013.
8. Nair RP, Kappil D, Woods TJ. 10 Strategies for Minimizing Dispensing Errors. Pharmacy Times. January 2010. Web. April 2013
9. *ISMP's List of Error-Prone Abbreviations*, Symbols, and Dose Designations. Institute for Safe Medication Practices. 2013. Web. April 2013
10. Henriksen K, Battles JB, Marks ES, et al. **Development and Validation of the Medication Administration Error Reporting Survey.** Advances in Patient Safety: From Research to Implementation (Volume 4: Programs, Tools, and Products). Agency for Healthcare Research and Quality Use. 2005. Web. April 2014
11. High Alert Medications. Institute for Safe Medication Practices. Appendix A. 2012. Web. April 2013

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