MEDICATION SAFETY

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Objectives

- Review systems approach for analyzing and improving safety in the medication use process.
- Describe strategies currently being used by health care organizations to reduce medication errors.
“Blame and move on” approach

- Find out who did it.
- Blame the employee.
- Sanction the employee.
- Retrain the employee.
- Move on.
- Same error will happen again.
Systems Approach

- Medication systems are extremely complex.
- Most errors occur when more than one step in the process breaks down.
- System analysis digs deep into the process to identify and understand what went wrong.
Human Component to Error

- Humans make mistakes.
- Humans tend to err when relying heavily on memory and observation.
System Oriented Approach to Med Error Reduction

- Multi-faceted approach
- Proactive
- Learning environment
- Track and analyze data
Multi-faceted Approach

- Review internal medication events as part of the learning process.
  - Develop on-line reporting systems.
Promote a learning environment

- Encourage staff to share safety concerns with managers.
- Non-punitive, anonymous reporting.
- Be open about medication errors and share ideas and strategies with staff.
  - It is important that staff know their concerns are being addressed. Will increase reporting.
Root Cause Analysis

- Process for identifying the basic or causal factors that underlie variation in performance, including the occurrence of a sentinel event.
- Sentinel Event is an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof.
Medication errors: Potential factors

- Patient identification process
- Staffing levels
- Orientation and training of staff
- Competency assessment/credentialing
- Supervision of staff
- Communication among staff members
- Availability of information
- Adequacy of technological support
- Equipment management/maintenance
- Physical environment
- Control of medications: storage and access
- Labeling of medications
JCAHO National Patient Safety Goals

- Improve the accuracy of patient identification
- Improve the effectiveness of communication among caregivers
- Improve the safety of using high-alert medications.
JCAHO National Patient Safety Goals

- Improve the safety of using infusion pumps
- Review look-a-like/sound-a-like drugs annually.
- Medication labeling on and off the sterile field.
Medication Reconciliation across the continuum of care

- Complete list of home medications
- Compare home list to admit, transfer and discharge orders.
- Needs to occur in ambulatory setting.
Medication Use Standards

• New JCAHO standards Jan 2004
• Focus on medication safety strategies
• Order legibility
• Order clarity (no blanket orders, appropriate use for titrating orders, tapers, dose range orders)
• Medication labeling
Standardization

- Preprinted order sets
- Avoid abbreviations
- Spell out “units”
- Equipment (infusion pumps)
- Drug concentrations
Verbal Orders

- Verbal orders for medications should only be taken in an emergent situation.
- Telephone orders for medications should always be read back to the prescriber AFTER the order has been transcribed to paper.
- When reading back orders verify numbers.
  - 15 could be mistaken for 50.
# Dangerous Abbreviations

<table>
<thead>
<tr>
<th>UNACCEPTABLE</th>
<th>ACCEPTABLE</th>
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<tbody>
<tr>
<td>U or u (mistaken for 0, or c.c.)</td>
<td>Always spell out “units”</td>
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<tr>
<td>IU (mistaken for IV or 10)</td>
<td>Write “units”</td>
</tr>
<tr>
<td>Q.D. or Q.O.D. (may be misread as QID)</td>
<td>Write “daily” and “every other day”</td>
</tr>
<tr>
<td>Trailing zero (X.0 mg) or Lack of leading zero (.X mg)</td>
<td>Never write a zero after a decimal point (X mg), always use a zero before a decimal point (0.X mg)</td>
</tr>
<tr>
<td>MS, MSO4, MgSO4</td>
<td>Write “morphine sulfate” or “magnesium sulfate”</td>
</tr>
<tr>
<td>MTX (for Methotrexate) may be confused for Mitoxantrone</td>
<td>Always spell out drug names</td>
</tr>
<tr>
<td>Epi (for Epidural or Epinephrine)</td>
<td>Always spell out drug names</td>
</tr>
<tr>
<td>µg (for micrograms)</td>
<td>Write “mcg”</td>
</tr>
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Physician Order Entry

- Prevents misinterpretation of handwritten orders.
- Provides decision support.
- Avoid double entry systems.
Automation Systems

- Drug interactions
- Allergy alerts
- Duplicate therapy alerts
- Dose-range checking
- Point-of-care
- Smart pump technology
High Risk Drugs

- Chemotherapy
- Neonatal\Pediatric doses
- Warfarin\Heparin
- Insulin
- Potassium chloride
Similar Packaging
CHLORPROPAMIDE
100 mg TABLET

Lot 0B207 Exp. 2/02
PKG. BY: UDL, ROCKFORD, IL

CHLORPROMAZINE HCl
100 mg TABLET

Lot 0V568 Exp. 9/02
PKG. BY: UDL, ROCKFORD, IL
Look-a-like/Sound-a-like Drugs

- Review how drug is displayed in computer system. If doses are similar will it be easily confused?
- Review storage of the medications. Separate and use alerts.
- Tall-man letters
  - doPAMine
  - doBUTamine
Pharmacist on Patient-Care Team

- Leape, 1999

- Rate of preventable prescribing ADE’s decreased by 66% when pharmacist on ICU service.
Unit-Dose Medications

- Avoid dispensing bulk items
- Do not floor stock concentrated electrolyte solutions.
Access to Patient Information

- Allergies
- Weight
- Labs
- Electronic chart
- Problem list
Drug Allergies

- Drug allergies should be assessed by a health care professional on admission.
- All drug orders are reviewed by a pharmacist before administration of first dose.
- Bar-code technology to ensure patients do not receive a drug that patient is allergic to.
- Standardize documentation of drug allergies in the medical record.
Patient

■ Talk to patients about their medications.

■ Involve patients in verifying or clarifying allergies.

■ Give patients written/verbal information about medications.

■ Listen to your patients.
For More Information

- Institute for Safe Medication Practices, [www.ismp.org](http://www.ismp.org)
- *To Err is Human*, Institute of Medicine, National Academy Press, 1999.
- [www.jcaho.org](http://www.jcaho.org)