

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.
- External review of events via Institute for Safe Medication Practices Safety Alerts, JCAHO Sentinel Event Alerts.

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.

JCAHO National Patient Safety Goals

- 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

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

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

N5107920201



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

CHLORPROMAZINE HCl
100 mg TABLET

N5107951601



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

- Hirsch KA, Wallace DT, *Step-by-Step Guide to Effective Root Cause Analysis*. Opus Communications, 2001.
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- Fletcher CE, *Failure Mode and Effects Analysis, An Interdisciplinary Way to Analyze and Reduce Medication Errors*. *JONA*, 1997; 27:19-26.
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