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Introduction to Medication Safety

James Gibson, Pharm.D.

Medication Safety Pharmacist
University of Washington Medical Center - Montlake Campus

Objectives

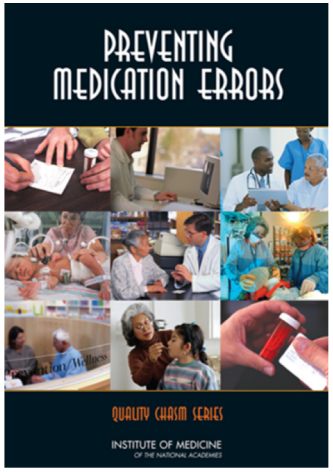
- Identify characteristics of a just culture
- Describe and apply error-reduction strategies to improve patient safety

Impact of Medication Errors

Preventing Medication Errors (IOM, 2006)

- Estimates 1.5 million Americans are harmed from medication errors each year
- Each hospitalized patient on average is subjected to at least one medication error per day
- Every $1.00 spent on prescriptions costs more than $1.33 in drug-related illness and complications (Harrison et al., 1998)

It is not enough to just "be careful"



What is a Medication Safety Pharmacist?

- Review all medication events/errors
- Identify areas of risk/harm to patients and staff
- Develop risk reduction strategies
  - Benchmarking, Self assessments, Gap analyses
- Patient safety committees
- Regulatory compliance
- Policy work

What is a Medication Safety Pharmacist?

- Root cause analyses
- Education
  - Onboarding, current staff, M&M
  - Didactic/experiential education for pharmacy students
- Alerts/BPA – creation and review
- Input on order sentences and order set builds
- Validation of IT changes
- Working as a front-line pharmacist

EVERY Provider Has a Role in Medication Safety

- Event reporting
- Workflow design/critique
- Technology enhancements
- Healthcare provider education
- Monitoring medication therapy
- Medication reconciliation
- Patient counseling

Event Reporting Basics @ UWMC

- What to report:
  - Medication errors, including:
    - Unsafe conditions – potential problems
    - Near misses – “close calls”
  - Adverse drug reactions
- Do’s and Don’ts
  - **DO** report as soon as possible
  - **DO** record the facts in the medical record
  - **DON’T** speculate or blame; be factual
  - **DON’T** use event reporting as a substitute for good teamwork or communication with peers

Case of Bactrim Overdose

- Patient diagnosed with PJP
- ID consult recommended IV Bactrim “15 mg/kg per day divided q8 hours”
- Primary team ordered 15 mg/kg every 8 hours (45 mg/kg/day)
- Pharmacist verified order
- Patient received two doses before error was caught

Creating a “Just Culture”

- Emphasize that errors usually arise from system issues, and NOT an individual’s performance
  - Ask: “What should happen? What prevented that from happening? Anything we can address?”
  - NOT: “Who messed this up?”

- Focus improvement efforts on workflows, work conditions, and technology enhancements, NOT disciplinary actions

Creating a “Just Culture”

- Encourage staff to report errors and near misses
  - Create a non-punitive environment to discuss errors
  - Share lessons learned from errors (omit individuals’ names)
  - Seek staff insight when reviewing errors or initiating/evaluating process improvements

Back to our case…

What were some contributing factors?

- Provider misunderstood ID's recommendation
  - Overrode prebuilt order sentence in CPOE

- Pharmacist misunderstood institutional guidance when double-checking dose

Is there a system issue we can address?

Error-Reduction Strategies

Error-Reduction Strategy	Power (leverage)
Fail-safes and constraints	High
Forcing functions	
Automation and computerization	
Standardization	
Redundancies	
Reminders and checklists	
Rules and policies	
Education and information	
Suggestions to be more careful or vigilant	Low

Rank order of error-reduction strategies

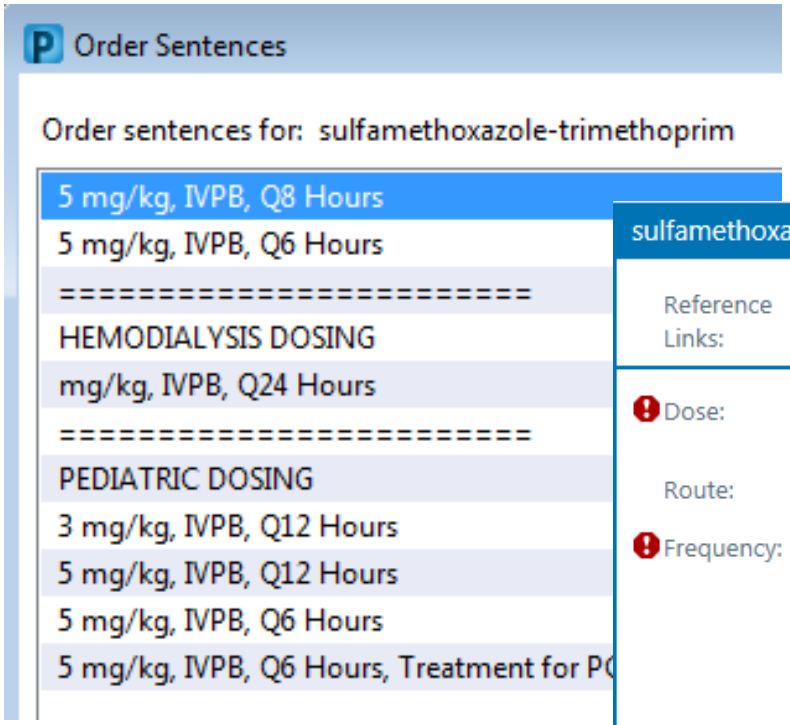
- Fail-Safes/Constraints:
  - Removing concentrated potassium chloride from patient-care areas
- Forcing functions
  - Requiring med reconciliation occurs before closing an encounter
- Standardization
  - Order sets
- Redundancies
  - Independent double-check for high risk medications

Error-Reduction Strategies

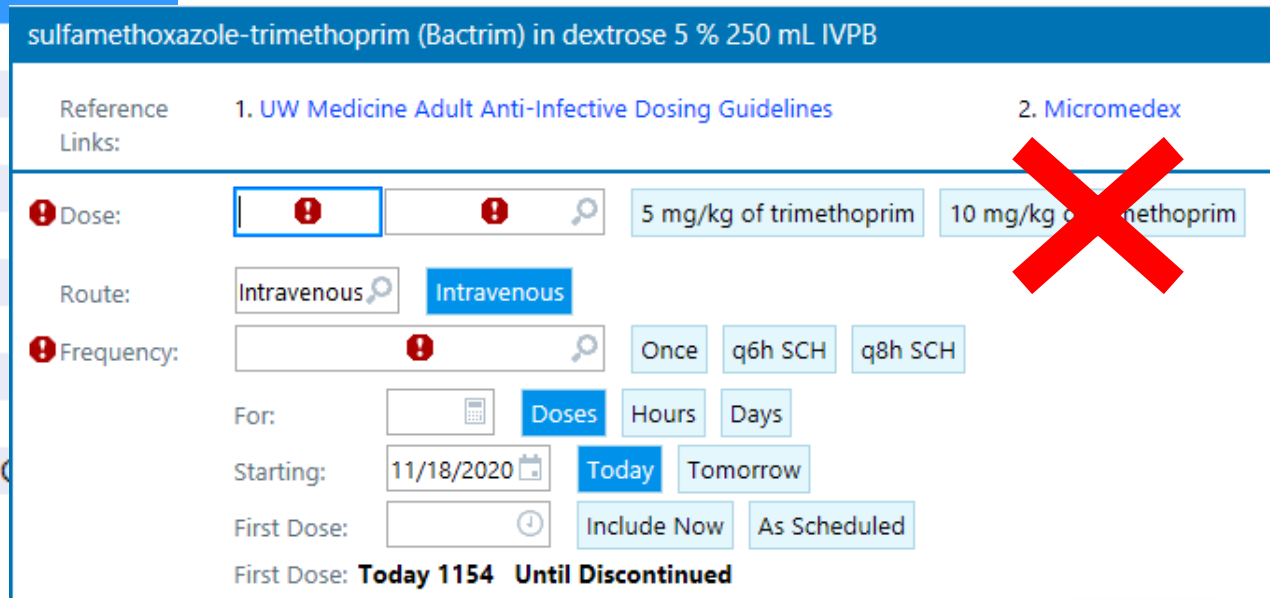
- Weigh benefits of higher strength error-reduction strategies with workflow impact
  - Typically reserved for high risk and/or recurrent errors
  - Was a high-alert medication involved?
    - List maintained by each institution, as well as risk reduction strategies employed for each

Back to our case…

- What did the provider see when ordering?



Future State Epic Ordering Window



Back to our case…

- What did the pharmacist see when double-checking dose?

Drug	CrCl > 50 (mL/min)[a]	CrCl (mL/min) 10 - 50	CrCl (mL/min) <10	Hemodialysis[b,+] Assumes TIW HD; give doses after HD if possible
Trimethoprim/ Sulfamethoxazole (TMP/SMX(IV/PO) **In obese pts, use Adjusted Body weight**	10mg TMP/kg/day *divided* q6-8h	***10-30***:5mg TMP/kg/day *divided* q12h	2.5mg TMP/kg q24h	2.5mg TMP/kg q24h
	PJP/Steno Treatment	**PJP/Steno Treatment**	**PJP/Steno Treatment**	PJP/Steno Treatment
	>30:15mg TMP/kg/day *divided* q8h	***10-30***: 10mg TMP/kg/day *divided* q12h	5mg TMP/kg q24h	5mg TMP/kg q24h
	PJP Prophylaxis	**PJP Prophylaxis**	**PJP Prophylaxis**	PJP Prophylaxis
		30-50: 1 SS tab q24h	1 SS tab q48h	1 SS tab q48h
		15-30: 1 SS tab q48h		

Back to our case…

- Action's taken:
  - Education/follow-up with staff involved
  - Changes made to ordering window to help providers prescribe the correct dose
  - Revisions to institutional dose guidelines to remove confusing/uncommon verbiage of "mg/kg/day divided"

- Remember peer support
- If available, report errors with poor outcomes to risk management team

Other Safety Initiative Examples

UW Medicine

Nursing Practice Alert:

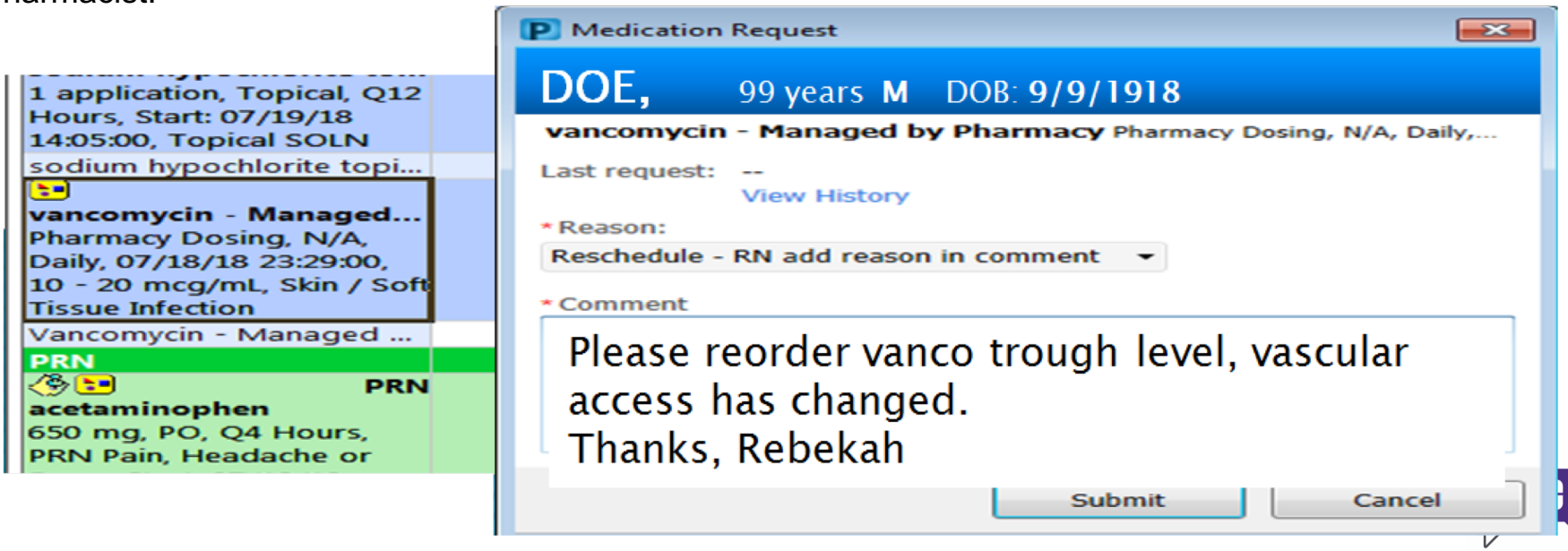
Vancomycin Trough Level Orders

Situation: When Vancomycin Trough Levels are Cancelled/Reordered by the RN to change the lab draw from RN Collect to Lab Collect, the timing of the lab draw is frequently being changed in error, resulting in inappropriately timed lab draws and/or multiple lab draws.

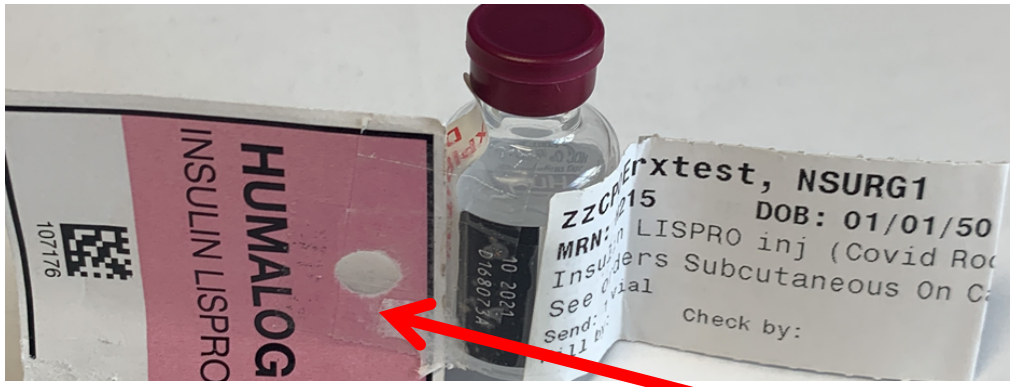
Background: Last year, the Pharmacists took over the management of trough levels ordered under the Vancomycin – Managed by Pharmacy power plan in order to improve correct timing of vancomycin trough levels.

Assessment: The Pharmacy team are the primary managers of the vancomycin trough level orders, but when RNs Cancel/Reorder a lab, it may be re-timed incorrectly, AND it no longer shows up on the list of Pharmacy generated orders so that they can track and manage the lab draw.

Recommendation: If a vancomycin trough level order needs to be changed, please contact the Pharmacy through the Medication Request feature or by phone and request that the lab be reordered by the Pharmacist.



COVID Room Insulin Vials



Affected Insulins:

Insulin lispro (HumaLOG)
Insulin regular (HumuLIN R)
Insulin aspart (NovoLOG)

- To conserve PPE, short acting insulin vials can be requested for use in COVID rooms.
- RN will request a vial be dispensed for applicable patients.
- Pharmacy will enter and label these vials **patient-specific**, for storage in the patient's room.
- The usual BCMA scan tag will accompany the vial for charting.
- **On discharge, RN should discard the vial and not return to Pyxis or pharmacy.**

Medication Safety Resources

- Institute of Safe Medication Practices
  - www.ismp.org
  - Many free resources
  - Newsletters require subscription
- Patient Safety Authority
  - http://patientsafety.pa.gov/
- The Joint Commission Sentinel Event Alerts
  - www.jointcommission.org/resources/patient-safety-topics/sentinel-event

Thank you!

James Gibson, PharmD

Contact: jamesg1@uw.edu