Team Approach to Compounding Safety
IV Workflow Bypass Rates

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Problem

- The Institute of Safe Medication Practices has recommended the adoption of IV Workflow Technology to support the safe preparation of sterile compounds after several national reports of serious and fatal compounding errors.
- Sterile compounds at UCM are prepared through DoseEdge software. One of the key safety features is barcode scanning to ensure correct product selection and to provide preparation directions.
- When a medication is not captured via bar-code scanning the pharmacy technician can bypass the barcode scan and proceed to compound manually. Use of the bypass function leads to increased risk of compounding errors.
- This QI project was initiated to decrease the amount of medications prepared via bypass function with the goal of preventing compounding errors from reaching patients and to prevent harm.

Goal

- The goal of this project is to increase patient safety by decreasing the number of medications bypassed in the IV room by achieving a 50% decrease in the number of by passed medications over the course of 3 months.

Strategy

- Comer 2 Sterile Compounding area prepares hazardous and non-hazardous sterile compounds for inpatient pharmacy services. Key team members included : IV Room Pharmacy Staff, Pharmacy Informatics and Automation Team

Cycle 1 Prepare for Change

Policy and Procedures revised
  - PH 02-310 Downtime Processing and System Bypass Policy
  - PC 143 High Alert Medication Policy
- Update IV Workflow Bypass Computer Based Training and Competency Assessment module
- Baseline Metrics compiled
  - Top Bypass Medications
  - Top Bypass Medications/Hour
  - Bypass Rate
  - Bypass Reason
- IV Room Safety Huddles biweekly started to launch initiative

Cycle 2 Building Momentum

- Informatics Ticket Tracking Document developed
- Active Escalation of High Alert by Ops Managers
- Pharmacy Informatics Ticket Process reviewed
- IV Room Staff enrolled in Absorb Training Module

Cycle 3 Sustain the Change

- Monitor for reported near miss and actual medication events

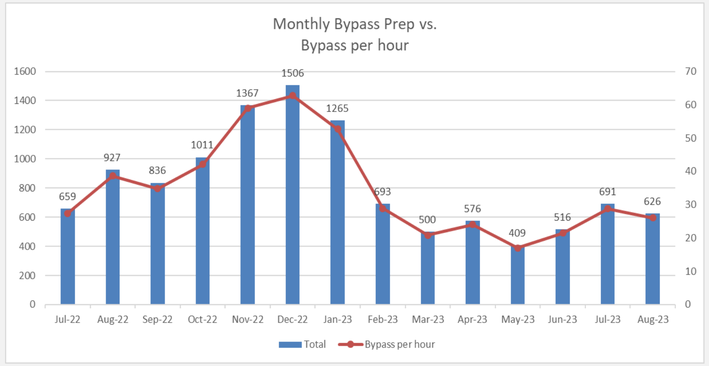
Bypass Label Reasons
- Product/Drug not defined in Formulary
- Bar-code could not be scanned
- Prepare at other location
- Dosedge component malfunction
- Downtime processing

DoseEdge Technology
- Queue Issues
- Compound Recipe update
- New NDC/Bar-code entry
- Pharmacy Informatics Ticket Process

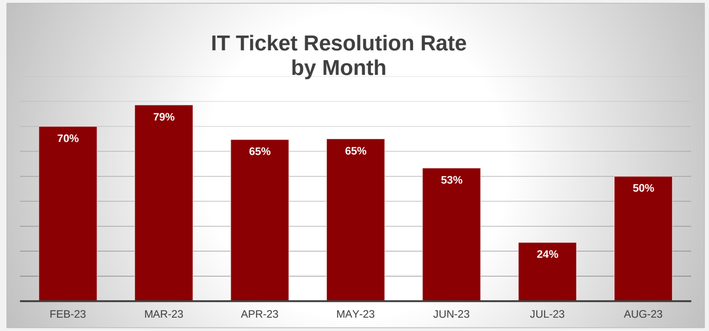
Culture of Safety
- Compounding work areas
- Team Communication
- Staffing
- Compounding volumes (drug shortages)
- Error reporting and feedback loop

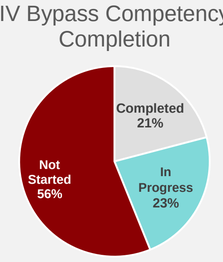
Table 1. Affinity Diagram

Results to Date



Reported safety events	
Jan-23	Near miss event
Feb-23	Actual event (MERP Score: Category C)
Mar-23	None
Apr-23	None
May-23	Unsafe condition – technician workaround identified
Jun-23	None
Jul-23	None
Aug-23	None





Lessons Learned and Next Steps

- Bypasses did decrease dramatically at the beginning of the project and has reached another steady-state averaging ~550 bypass medications per month. More work needed to sustain improvement.
- The on-going main drivers of bypassing are: staffing, drug shortages, and poor IT ticket resolution rates.
- Will work with pharmacy informatics to identify upstream processes to improve the efficiency of adding new NDCs to DoseEdge.
- On-going staff education how to avoid bypassing bar-code scanning. For example, processing batched medications that are routed to DoseEdge.

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