EVALUATION OF MEDICATION OVERRIDE PRACTICES AT A LARGE, ACADEMIC MEDICAL CENTER

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THE UNIVERSITY OF KANSAS HEALTH SYSTEM

BACKGROUND

- Medication override is defined as removal of a medication from an automated dispensing system (ADS) prior to pharmacist verification.
- Administration of medications prior to pharmacist review bypasses many medication safety checks, such as assessment of allergies, drug-drug interactions, duplicate therapy, and inappropriate dosing.
- Current best practice at our institution is to link the provider order to the medication override cabinet pull when documenting administration in the electronic medical record (EMR).
- The purpose of this project was to evaluate medication override practices at The University of Kansas Health System (TUKHS), to understand deficiencies in current processes and implement changes to increase compliance of linked override medication administrations.

OBJECTIVES

- Determine if a provider order was entered and linked to the override medication administration.
- Evaluate the appropriateness of medications removed from the automated dispensing system using the override function.

METHODS

Study Design: A retrospective review of ADS override reports was completed to establish a baseline compliance rate. A pilot study in the Surgical Intensive Care Unit (SICU) was conducted from March 1, 2021 to March 31, 2021.

Inclusion criteria: Administered medications removed on override and listed on the TUKHS override medications policy.

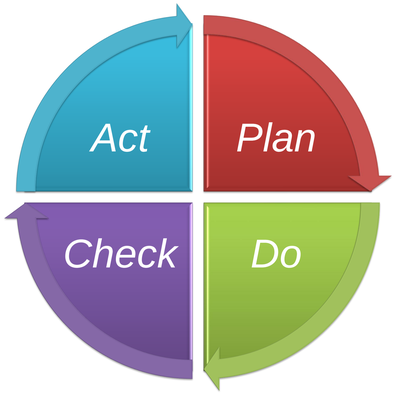
Exclusion criteria: Intravenous fluids, devices, kits, medications removed from a non-profiled ADS and medications removed by a pharmacist.

Interventions:
- Education presented to SICU Nursing Practice Council
- Override tip sheet included in SICU monthly newsletter
- Step-by-step instructions on how to link orders posted around workstations
- 1:1 coaching provided by Unit Nurse Educator as needed
- Daily ADS override reports were evaluated during the month

Data collected:
- Number of medications removed on override
- Number of override medications linked to provider order
- Medication name
- Administration documentation
- MAR action (given, canceled, cabinet pull, etc.)

PDCA Cycle

Model for Continuous Performance Improvement
The Plan, Do, Check, Act (PDCA) technique was used to measure change and guide interventions.



RESULTS

Pre-intervention (Dec 2020) — Compliance rate = 43.4%

Post-intervention (March 2021) — Compliance rate = 76.7%

Target compliance rate for linked override medication orders: 75%
Percent increase from baseline: 58.9%

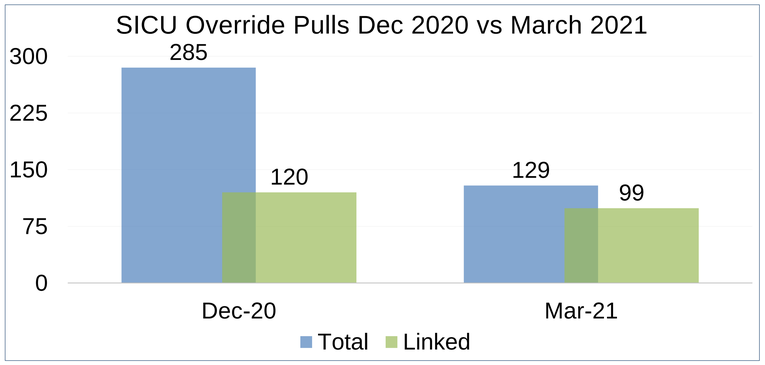
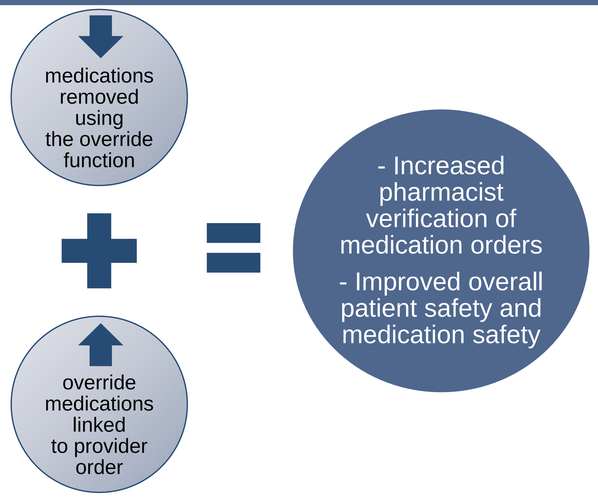


Table 1: Chi-Square Results, n [expected cell frequency]

	Linked	Not Linked	Total
December 2020	120 [150.76]	165 [134.24]	285
March 2021	99 [68.24]	30 [60.76]	129
Grand Total	219	195	414
X^2 (1, N = 414) = 42.7, p <0.0001			

DISCUSSION



Additional findings:
- Inconsistent MAR documentation using "cabinet pull" and "canceled" MAR actions on overrides not linked to provider order made it difficult to determine if medication was administered.

CONCLUSIONS

- Significant improvements in medication override practices were observed with education and hands-on coaching in the SICU.
- Removed obsolete MAR action "cabinet pull" from EMR.
- Optimized functionality within EMR to include "Override Pulls" tab for easily reconciling unlinked override medication orders.

LIMITATIONS

- Limited duration for pilot data
- Single center, single unit study
- May only be applied to institutions using the same EMR
- Descriptive, quality improvement study

FUTURE DIRECTIONS

- The results of this project showed significant improvements in medication override practices which we anticipate will reduce medication errors, prevent potential patient harm and improve overall patient outcomes within the health system.
- A phased roll-out plan will be developed to implement interventions across the health system.

CONTACT INFORMATION

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