



Impact of a Clinical Decision Support System (CDSS) Alert on Medication Administration Discrepancies in the Emergency Department



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BACKGROUND

- Based on previous analyses in the emergency department (ED) at Blount Memorial Hospital (BMH), it is estimated 2.5 of every 100 medications removed from the automated dispensing machines (ADM) do not have documentation of being administered or returned to the ADM. This suggests medications are either:
 - Administered without documentation (resulting in inaccurate medical records and missed medication charges)
 - Incorrectly removed and wasted after opening or preparation
 - Diverted
- BMH implemented a CDSS in August 2020
- A CDSS alert was built to identify when medications are either removed from an ED ADM without documentation of administration or not returned to the ADM within 2 hours (discrepancy)
- A CDSS alert could potentially reduce discrepancies, resulting in improved medical record accuracy and increased revenue (due to decreased missed medication charges)

OBJECTIVES

- Primary**
 - Determine the impact of a real-time CDSS alert on the discrepancy rate in the ED
- Secondary**
 - Determine the financial impact of a real-time CDSS alert on potential missed medication charges

METHODS

- Design**
 - IRB-approved, retrospective cohort analysis
- Population**
 - Patients with medications removed from the ED ADM
- Inclusion criteria**
 - Patients with medications removed that trigger a CDSS alert due to either:
 - No documentation as administered to the patient within 2 hours
 - Not returned to the ADM within 2 hours
- Exclusion criteria**
 - Patients with medications documented as administered after 2 hours
 - Patients with medications returned to the ADM after 2 hours
 - Medications determined to be wasted
 - Controlled substances with record of being wasted
 - Medications without record of being wasted but are presumed to have been wasted after investigation
- Procedures**
 - Pre-Intervention:** Determine a baseline discrepancy rate and financial impact of potential missed charges
 - Intervention:** Employ a process to alert nurses in real-time of discrepancies
 - Post-Intervention:** Pre- and post- intervention discrepancy rates and missed charges will be compared to determine the overall impact of the alert

RESULTS

	Pre-Intervention	Post-Intervention	Δ	Confidence Interval
Medications removed from ADM (No.)				
Medications accounted for at hour 2 (No.)				
Initial medication discrepancies at hour 2 (No., %)				
Initial medication discrepancies resolved after hour 2 (No., %)				
Documented as administered (No., %)				
Returned to ADM (No.,%)				
Wasted (No., %)				
Controlled substance (No., %)				
Undocumented waste (No.,%)				
Primary				
Medication discrepancies (Final)(No.,%)				
Secondary				
Charges associated with discrepancies				
Charges per ADM transaction				
Charges per study period				
Charges per year				

DISCLOSURES/CORRESPONDENCE

The authors of this presentation have the following information regarding possible financial or personal relationships with commercial entities that have a direct or indirect interest in the subject matter of this presentation to disclose:

- Elizabeth Pollard Nothing to disclose
- Tanner Shields Nothing to disclose
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CONCLUSIONS

Research in progress