

Let’s Do the Math: Collaboration & Optimization Leads to Shared Cost Savings

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INTRODUCTION

- Healthcare costs are on the rise
- A significant source of medical expense is medication inventory in automated medication dispensing cabinets
 - Regularly stocked, upon predefined parameters, by the Pharmacy department
 - Independent of department specific demand
- We aimed to reduce expenses, minimize waste, increase operational efficiency, and improve patient safety through optimization of frequently utilized medications stocked in automated medication dispensing cabinets based on department-specific demand

Locations Medication Inventory was Analyzed	Medication Usage Parameters
Main Operating Rooms (ORs)	Total amount of the medication used within the given period
Ambulatory ORs	Maximum amount used in one day
Endoscopy Suites	Average daily use
Neurointerventional	How many days the medication ran out
Labor & Delivery	

INTERVENTION

- Multiple medications were stocked at high inventories in areas where usage was rare, or not at all
 - This leads to significant hospital expense and medication waste
- To mitigate waste, inventory adjustments were considered to consolidate minimally used medications into a central, yet easily accessible, location
 - Maintains safety while achieving shared cost savings
- Any medications not used within their respective automated medication dispensing systems during the study period were evaluated for removal with discussion and mutual agreement between the Anesthesiology and Pharmacy departments

Current Medication	Avg Daily Use	Cost Per Vial	Medication Change	Cost Per Vial	Savings
Lidocaine 2% (Abboject) 100mg/5mL 5mL syringe	31.261	\$4.47	Lidocaine 2% 5 mL vials	\$1.95	\$28,754.15
Ketamine 200mg/20mL 20mL vial	0.538	\$11.11	Ketamine 50 mg/5 mL syringe	\$4.63	\$1,271.74
Propanolol 1mg/1mL 1mL vial	0.000 –0.001	\$9.32	Remove majority, keep minimum quantity as backup	NA	\$932
Trimethobenzamide 200mg/2mL 2mL vial	0.000	\$42.73	Remove	NA	\$854.60
Lidocaine 2%/Epi MPF1:200,000 1vial/20mL 20mL vial	0.005	\$16.72	Remove from individual ORs	NA	\$601.92
Vecuronium 10mg/1 vial 1 vial	0.000 – 0.085	\$4.63	Remove majority, keep minimum quantity as backup	NA	\$476.89
Enalapril 2.5mg/2mL 2mL vial	0.000	\$7.74	Remove	NA	\$154.80
Furosemide 20mg/2mL 2mL vial	0.000	\$0.62	Remove from individual ORs	NA	\$37.20

OUTCOMES

- By optimizing automated medication dispensing cabinets, a source for significant institution-wide cost savings was uncovered
- Inventory adjustments were made based on usage including quantity, concentration, and location
- Post-analysis will be completed to determine optimization effectiveness as well as medication substitutions in terms of medication location, necessity, and provider satisfaction with a planned annual analysis of medication utilization in collaboration with the Pharmacy department

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