



Software-aided compounding: adopting technology to improve patient safety and documentation

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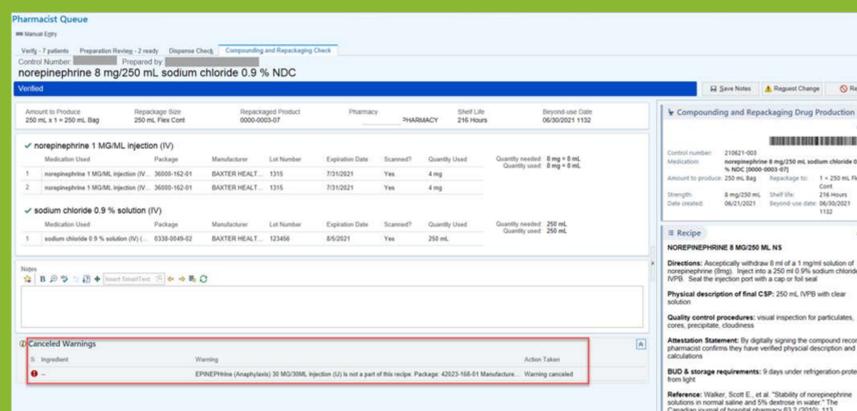
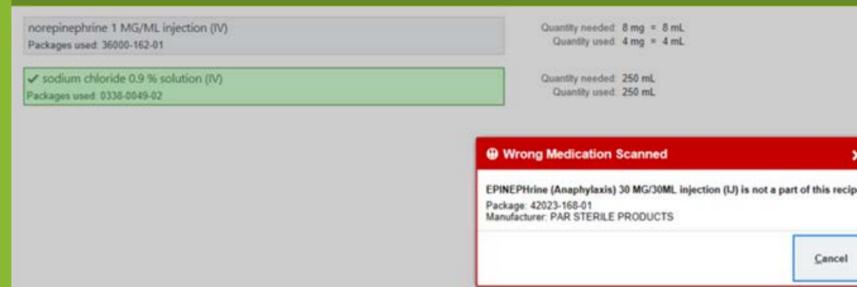
Introduction

- ❖ Compounding errors can be difficult to detect once they leave the pharmacy
- ❖ Standardizing sterile and non-sterile compounding formulas in the Electronic Health Record (EHR) aligns practice across sites
- ❖ Utilizing barcode scanning improves patient safety, documentation, and aligns with ASHP guidance
- ❖ Goals for the project
 - ❖ Standardize compounding across a 14 site health system
 - ❖ Build formulas into the EHR
 - ❖ Use barcode scanning for ingredient identification and pharmacist verification
 - ❖ Reach 80% compliance across the health system

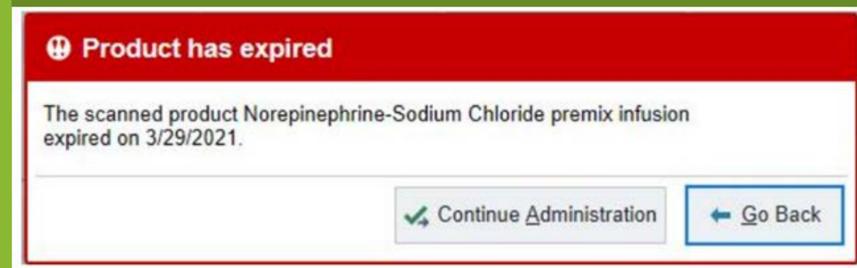
Description of the Program

- ❖ A system-wide committee standardized compounding formulas and assigned common Beyond Use Dates (BUDs)
- ❖ Used EHR (Epic®) activities Dispense Prep and Compounding and Repackaging (CNR)—configurable, included in software at no additional cost
- ❖ Compounding and verification process
 - ❖ Staff scans label barcode to enter CNR record and scan ingredients
 - ❖ Incorrect ingredients trigger a warning box that cannot be bypassed until correct ingredient is scanned
 - ❖ Pharmacist verifies from summary screen, which shows any errors
- ❖ The EHR can track product expiration
 - ❖ Nursing staff are alerted if an expired compound is scanned for administration
 - ❖ If bypassed, trackable data is generated that can be analyzed for trends and opportunities in training

Compounding Process and Error Screens



Administration Warning—Expired Drug



Experience and Outcomes of the Program

- ❖ Dispense Prep and CNR were widely accepted throughout the health system
- ❖ Productivity increased by eliminating hand-written documentation, and with electronically-retrievable records
- ❖ Captured data on errors created a Near Misses Dashboard to review software-discovered errors, identify trends, and reinforce training
- ❖ Compliance with the program is trackable at the facility level—in the first half of Fiscal Year 2021, system-wide Dispense Prep compliance reached 64.6%
- ❖ Barcode scanning validates NDC pass-through, ensuring 340B Drug Pricing program compliance

	Mar	Apr	May	MTD
MEDICAL CENTER	2.0 %	1.4 %	1.3 %	1.7 %
MEDICAL CENTER	1.4 %	1.7 %	1.8 %	1.7 %
MEDICAL CENTER	1.9 %	2.4 %	2.4 %	2.4 %
MC	9.0 %	5.2 %	6.2 %	4.2 %
CENTER	3.5 %	2.1 %	3.8 %	3.4 %
HOSPITAL	2.1 %	1.7 %	1.3 %	2.1 %
MEDICAL CENTER	1.3 %	1.6 %	0.8 %	0.0 %
MEDICAL CENTER	12.5 %	8.3 %	0.0 %	0.0 %

	Mar	Apr	May	MTD
MEDICAL CENTER	82.8 %	81.7 %	85.9 %	80.1 %
MEDICAL CENTER	82.6 %	81.8 %	83.9 %	80.9 %
MEDICAL CENTER	70.5 %	76.9 %	81.7 %	80.9 %
MC	58.8 %	67.4 %	61.2 %	62.3 %
MEDICAL CENTER	55.5 %	52.8 %	62.1 %	57.3 %
HOSPITAL	87.2 %	85.1 %	83.9 %	81.5 %
MEDICAL CENTER	70.0 %	72.0 %	75.1 %	61.9 %
MEDICAL CENTER	38.1 %	22.4 %	26.7 %	38.5 %

Conclusion and Discussion of Innovative Aspects of the Program

- ❖ EHR-built, standardized formulas, ensure all facilities consistently produce compounds with the same process
- ❖ The EHR is the source of truth, eliminating duplicative and time-consuming risks
- ❖ Metrics track compounding compliance, filling previous Quality, Safety, and Regulatory gaps
- ❖ Barcode scanning adds greater oversight, decreasing errors and expired medications that could reach the patient
- ❖ NDC pass-through prevents misbranding and preserves beneficial drug pricing
- ❖ Utilizing the EHR gained safety and accuracy without a large capital investment

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