

# Strategies for Creating a Safer Decentralized Pharmacy

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## LEARNING OBJECTIVES

- Discuss how to develop a strategic action plan to reduce missed doses using pharmacy technology and unit-based inventory optimization, leading to value creation, sustainability and competitive advantage.
- Explain how to streamline team-based workflows between nursing and pharmacy services lines to improve overall patient care and satisfaction.
- Identify how to solve pharmacy workflow bottlenecks through decentralization to reduce pharmacy technician labor while improving technician engagement within the health system.

## BACKGROUND

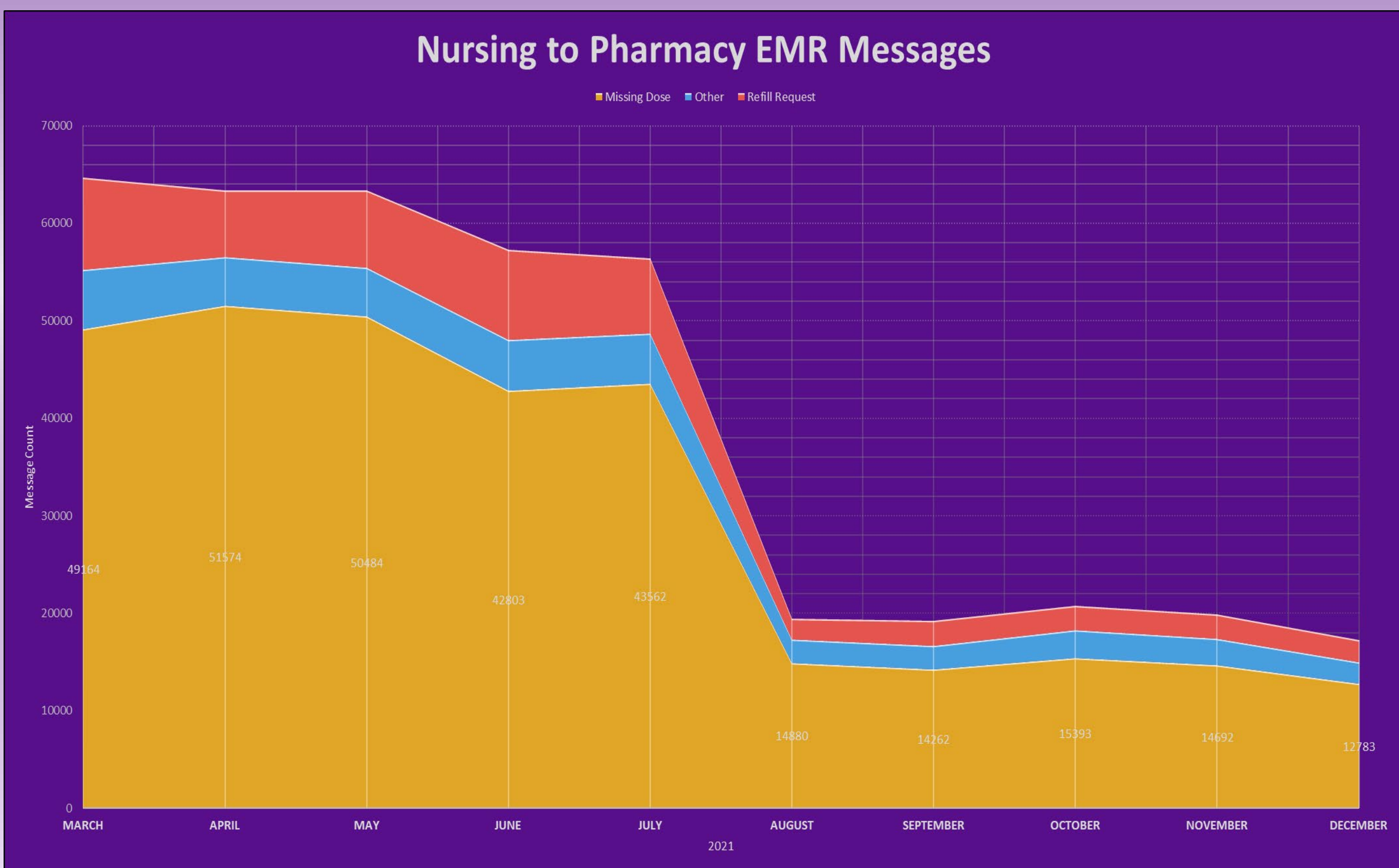
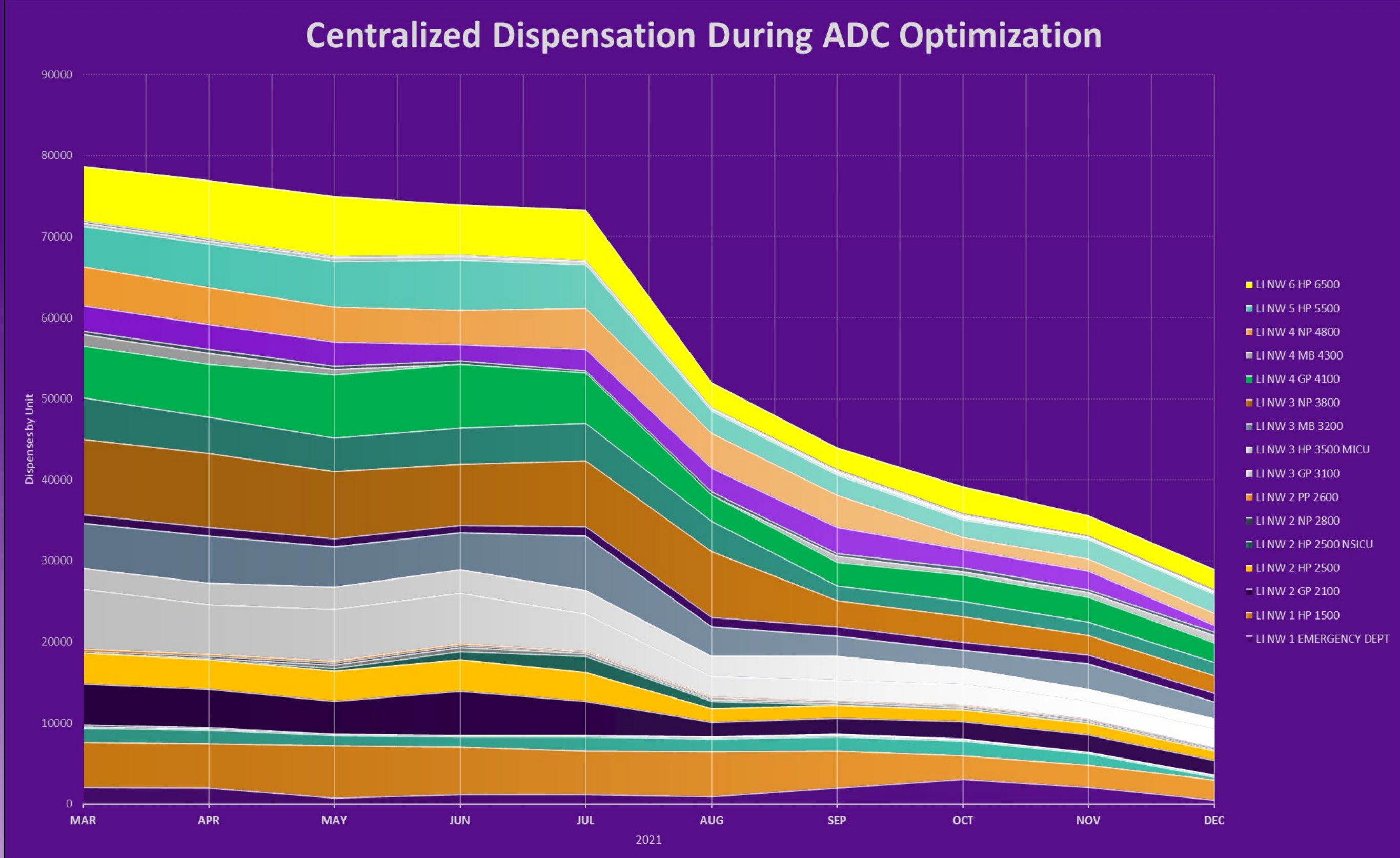
- Hospital pharmacies have increased use of the decentralized pharmacy model to improve patient safety and satisfaction through operational efficiency and leverage of safety features, including automatic dispensing cabinet (ADC) based order-profile associated dispensing and barcode scanning.
- Optimization of ADC inventories puts medications closer to the patient, decreasing time to medication administration, reduces medication errors, decreases missing doses and subsequent requests, and improves the workflows between pharmacy and nursing.<sup>2</sup>

## GOALS

- Increased use of profile-limiting dispensation and barcode scanning to improve safety and accuracy
- 50% reduction in central pharmacy dispenses
- 50% reduction in missing dose requests
- 60% reduction in “first doses” from central pharmacy

## CHANGE IMPLEMENTATION

- Unit-Based Targeted Approach**
- Selection of ADC additions based upon EMR data for each individual patient care unit
  - Dispensations, Administrations, and First Doses / Missing doses
  - Three month retrospective data evaluation for each unit
  - Engagement of nursing management for each inventory load
- Drug Selection**
- Inclusion criteria: current central pharmacy automated and manual fill options
  - Low to medium daily dose administration frequency
  - Potential addition for future-state “ADC Only” category
- Interventions**
- Optimization of one care unit every 7 to 14 days
  - Initiation of project with short-stay units to immediately reduce medication waste
  - Transition into Medical / Surgical / Telemetry units
  - ED and ICUs reserved until end to evaluate overall medication order and patient flow
- Impact Tracking**
- Monthly monitoring and tracking of dispensation and utilization data
  - Routine feedback monitoring from nursing and pharmacy staff
  - Quality assurance monitoring for restock accuracy with increased Pharmacy workload



## RESULTS

- 65% overall reduction in central pharmacy automation dispenses and workload
- 36% overall reduction in total manual fill dispenses from main pharmacy
- 65% overall reduction in first dose dispenses from main pharmacy
- 71% reduction in EMR nursing to pharmacy messages
- 74% reduction in missing dose requests

## OUTCOMES

- Value Generation**
- Leveraged use of data-driven automation, which enables pharmacists, nurses, and pharmacy technicians to put greater focus on clinical activities.<sup>1</sup>
  - Improved internal and interdepartmental efficiencies and reductions in medication waste
  - Increased dispensation using safety features of the ADCs
  - Improved nursing satisfaction based on management feedback
- Limitations**
- Limited ADC real estate
  - Supply chain-induced drug shortages
  - Larger reliance on technology system that is subject to downtime
  - Higher drug procurement cost through increased use of unit dose presentations

## RECOGNITION

Fatima Alladin, CPhT  
 Robert Dixon, CPhT  
 John Dolan, CPhT  
 Christina Lima, CPhT

Kenneth Palces, CPhT  
 Vita Patti, CPhT  
 Nicole Rock, CPhT  
 Sonnet Son, CPhT

Our entire hardworking Pharmacy Technician team

## REFERENCES

1. Flynn AJ, Fortier C, Maehlen H, et al. A strategic approach to improving pharmacy enterprise automation: Development and initial application of the Autonomous Pharmacy Framework. *Am J Health Syst Pharm.* 2021 Mar 18;78(7):636-645.
2. Svirsko AC, Norman BA, Hostetler S, Parry B Pharm D. Optimizing the Medication Distribution Process for Inpatient Units. *J Med Syst.* 2022 May 3;46(6):32.

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## SPEAKER DISCLOSURES

The authors have no relevant financial relationships to disclose.