

Pilot for Dispensing Bulk Medications to Patients at Discharge and Impact on Readmission Rates

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Disclosure

- The speaker has no actual or potential conflict of interest in relation to this presentation.

Objective

- 1. Explain the benefits of dispensing remainder of multi-dose medications to patients at the end of hospital stay**
- 2. Identify barriers to implementing multi-dose medication dispensing at discharge program**

Background

Risk of patient not picking up prescription and having gap of therapy^{6, 8}

Patients with these disease states readmitted at higher rates compared to patients with other disease states^{2, 9}



Average stay 5.5 days, patient likely not using whole multi-dose container of medication⁷

Clinical Problem

Partially-used multi-dose containers dispensed to inpatients are often discarded when the patient is discharged despite the need for continued therapy; the patient is provided with a prescription at the time of discharge and incurs a copayment to obtain a new container of the same product.



Purpose of Study

To determine the impact of dispensing multi-dose medications including insulin pens, inhalers, and topical products on readmission rates at SSM Health Saint Mary's Hospital Saint Louis

Relevant Literature

Study Title	Dispensing inhalers to patients with chronic obstructive pulmonary disease on hospital discharge: Effects on prescription filling and readmission
Authors	Blee J, Roux R, Gautreaux S, Sherer J, Garey K
Objective	To determine 30-day all-cause hospital readmission rates before and after multi-dose medication dispensing on discharge (MMDD) implementation
Intervention	The intervention included pharmacist relabeling inhalers, providing counseling for appropriate use, and giving patients multi-dose inhalers at discharge.
Subjects	412 patients in pre-intervention group 208 patients in post-intervention group
Results	<ul style="list-style-type: none">• 88 of 412 patients (21.4%) in pre-intervention group readmitted• 18 of 208 patients (8.7%) in post-intervention group were readmitted.

Outcomes

Primary Outcome

- Evaluate **readmission rates** among study population

Hypothesis

- **Discharging patients with multi-dose medications will decrease readmission rates by 10% compared to the general hospital population readmission rates**

Outcomes

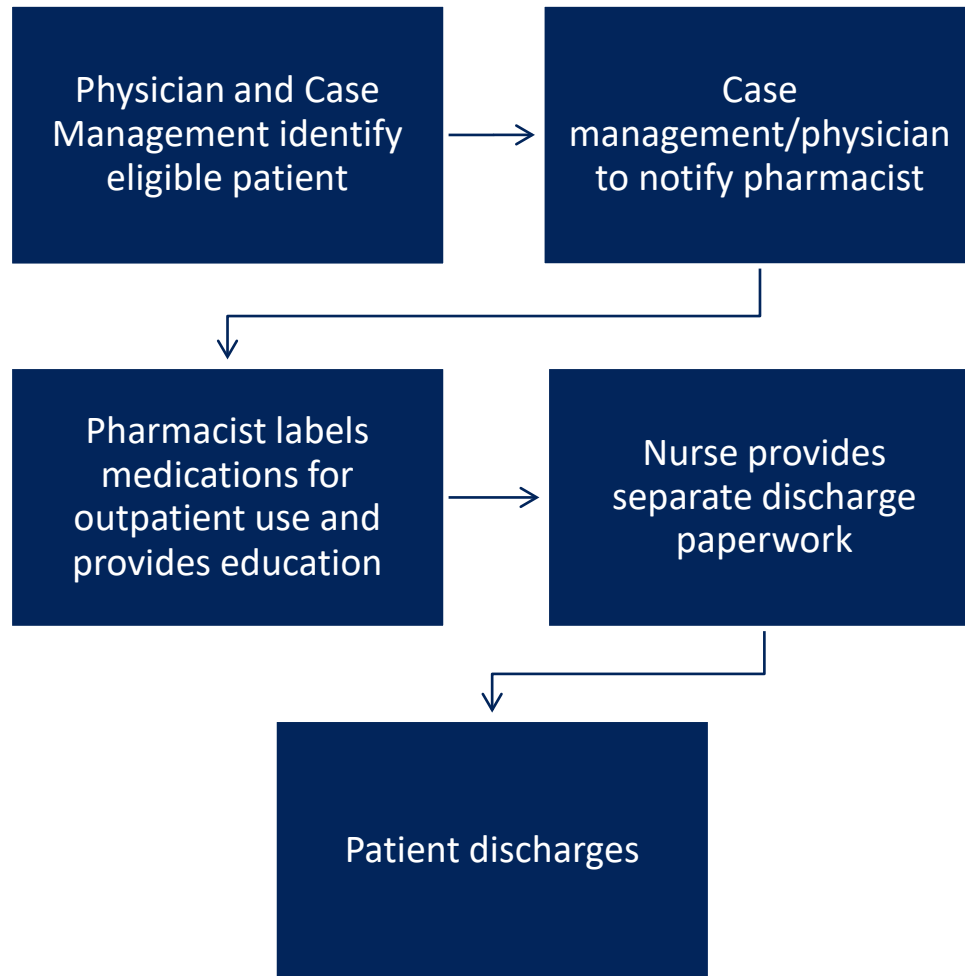
Secondary Outcomes

- Evaluate **number of hours spent** throughout intervention period
- Evaluate **number of multi-dose medications dispensed**

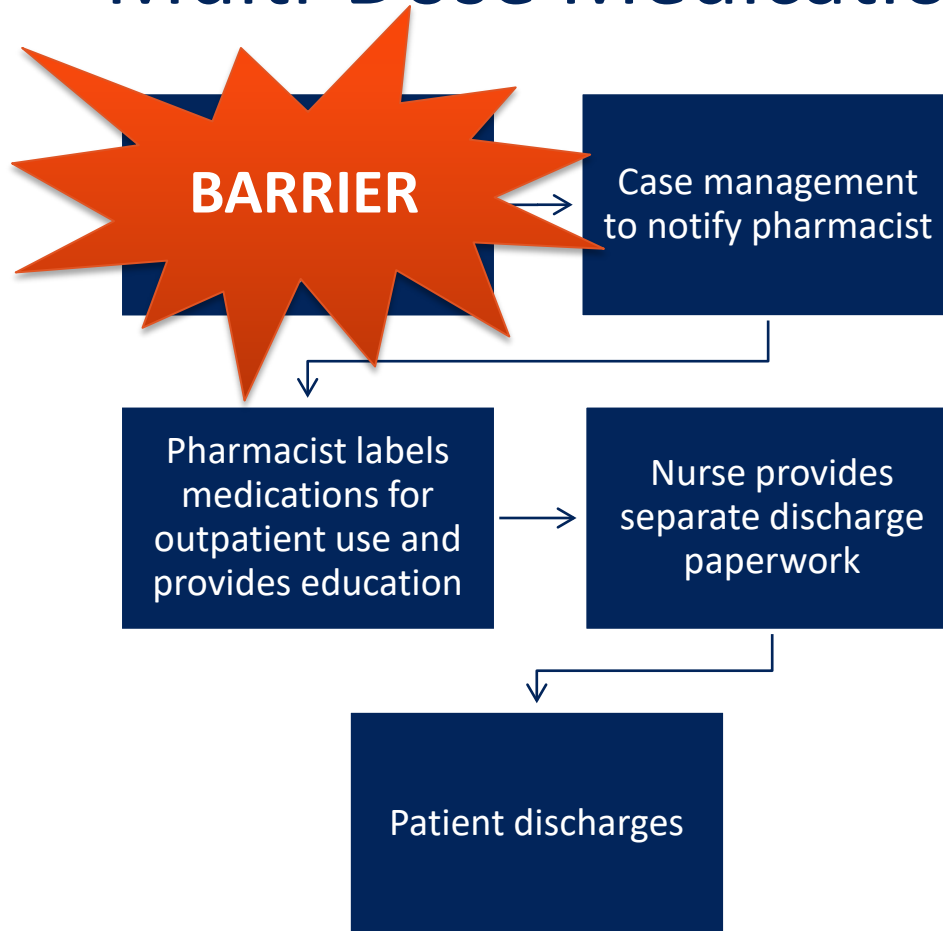
Study Design

Phase 1		Phase 2
Pre-Intervention	Intervention	Post-Intervention
October 1, 2019 – November 31, 2019	December 1, 2019 – December 31, 2019	January 1, 2020 – March 30, 2020
<ul style="list-style-type: none"> Develop list of eligible medications <ul style="list-style-type: none"> Insulin pens Inhalers Topical gels/ creams/ ointments/ lotions Eye/ear drops Establish criteria for case management to identify eligible candidates Training of pharmacy staff involved in discharge process 	<ul style="list-style-type: none"> Case management will identify patients to be distributed multi-dose medication Pharmacists will re-label medication being dispensed, and file outpatient Rx Discharge medication education will be provided by pharmacist 	<ul style="list-style-type: none"> Collect and review data on patients readmitted within 30 days of discharge Perform data analysis

Process for Discharging Patients with Multi-Dose Medications



Process for Discharging Patients with Multi-Dose Medications

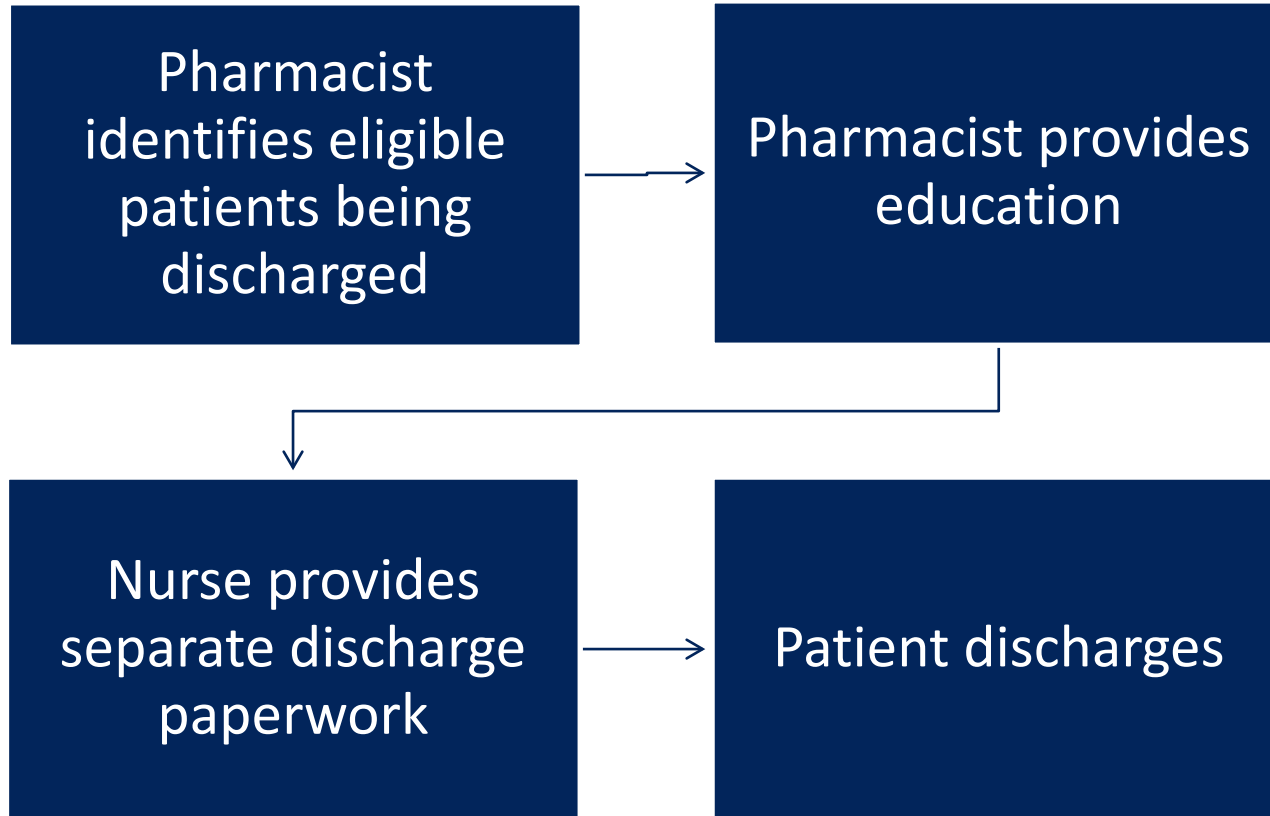


DHHS Rule Change

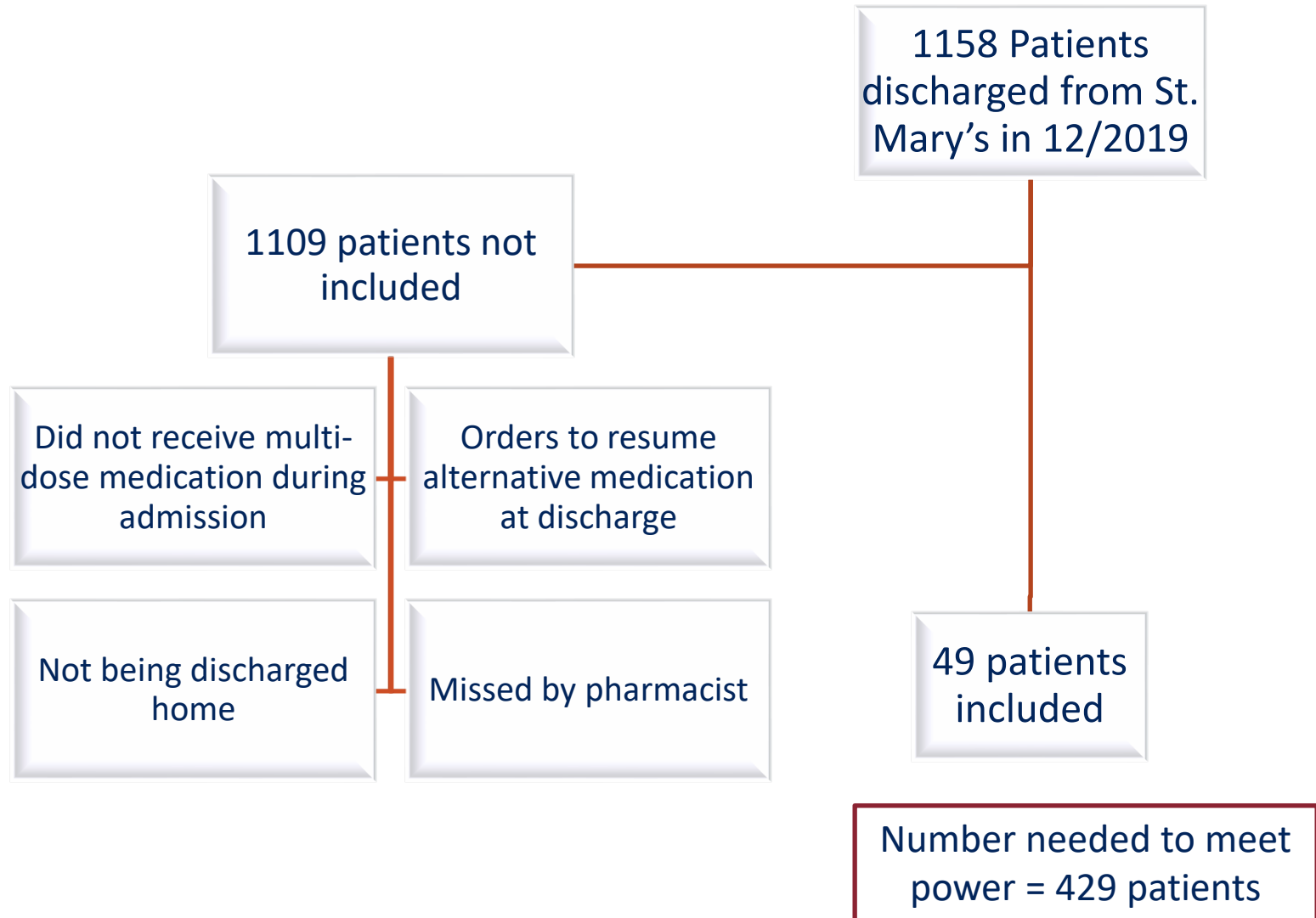
- Under DHHS 19 CSR 30-20.100 Pharmacy Services and Medication Management:

“Medications in multi-dose containers that were administered to or used for the patient during the patient's hospital stay may be sent with the patient at discharge when so ordered by an authorized practitioner”

Process for Discharging Patients with Multi-Dose Medications



Study Flowchart



Results

Primary Outcome

- Readmission rates among study populations

	Not Readmitted	Readmitted	Readmission Rate
Hospital Population	1041	117	10.1%
Project Population	43	6	12.2%

- Of note – only 1 of 6 of the readmissions from the intervention group had same primary diagnosis from original admission

Results

- Secondary Outcomes

- Time Commitment

- Total time spent on interventions: **~10 hours**
 - Average intervention time per patient: **12.2 minutes**

- Number of multi-dose medications dispensed

28 Insulin Pens	26 Inhalers	17 Eye Drops	9 Nasal Sprays	2 Topicals
12 Lantus	19 Symbicort	6 Latanoprost	9 Fluticasone	1 mupirocin cream
9 Novolog	3 Albuterol HFA	3 Alphagan		1 collagenase ointment
7 Levemir	3 Spiriva Respimat	3 Timolol		
	1 QVAR	2 Cosopt		
		1 Dorzolamide		
		1 Prednisolone		
		1 Tobradex		

Discussion

Limitations

- Readmission data not available if patient went to non-SSM hospital
- Inability to track patient adherence outpatient
- Limited number of patients included in intervention, power not met
- Intervention population higher risk of readmission

Strengths

- Assessment of real world data
- Barriers were identified
- Decreased waste

Conclusions

- A pharmacist led intervention resulted in a **12.2%** readmission rate among study population
 - Readmission rates for all hospital discharges during the same time period was **10.1%**
- Each intervention took on average **~12 minutes**
- The study revealed barriers that can be overcome prior to rolling out larger-scale program

Future Directions

- Nurse in-service on educating patients on bulk-medications
- Formalize discharge process at SSM St. Mary's
- Considerations for future investigations
 - Evaluating different outcomes
 - Patient satisfaction?
 - Longer study period, larger population
 - Focus on one disease state and specific readmissions
 - Example: diabetes and readmissions for DKA or hyperglycemia

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References

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