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## Background

- Discharge medication reconciliation is a process that can lead to discrepancies such as medication duplication, omission, or unnecessary continuation of therapy.
- Current practice at Olathe Medical Center is provider completion of discharge medication reconciliation.
- Data has shown that discharge medication reconciliation completion by a pharmacist has reduced potential adverse drug events.<sup>1</sup>
- Pharmacy led medication reconciliation helps to decrease the number of discrepancies for patients who are admitted to the hospital.<sup>2</sup>
- A previous quality improvement study at Olathe Medical Center demonstrated a lower rate of discrepancies in the medication history process when the history was completed by pharmacy technicians compared to nursing staff.
- Olathe Medical Center utilizes a scoring tool that classifies patients who are at high risk for readmission. The scoring is a modified LACE score, which is defined as length of stay, acuity of admission, comorbidities, and emergency department visits. This score helps to identify patients who are at high risk for readmission to the hospital. A LACE score > 11 is considered high risk for readmission.

## Purpose

Pharmacy led medication reconciliation can help prevent harm, reduce discrepancies at discharge, and promote patient safety. The goal of this research project was to promote patient safety through evaluation of pharmacist impact on discharge medication reconciliation by assessing occurrence rate and quantification of discrepancies.

## Results

### Pharmacist Intervention Group

119 discrepancies corrected  
1072 prescriptions  
49% of patients were considered high risk for readmission (LACE > 11)  
49% of patients had a medication history at admission completed by pharmacy staff  
Discrepancy per patient: Mean = 1.7, Min = 1, Max = 12

### Provider Group

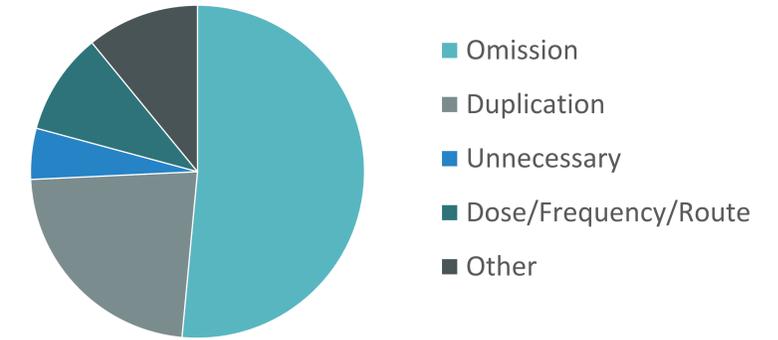
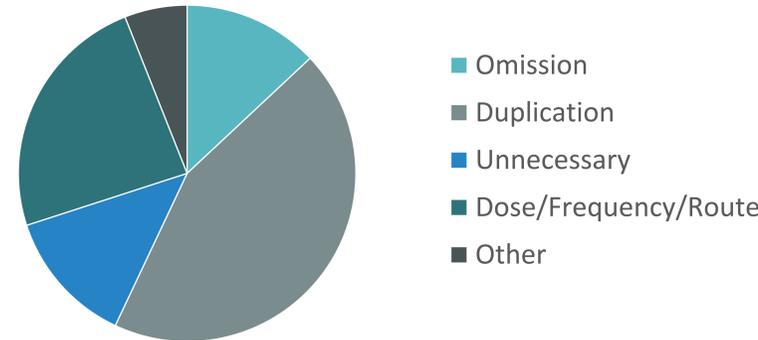
113 discrepancies  
917 prescriptions  
10% of patients were considered high risk for readmission (LACE > 11)  
18% of patients had a medication history at admission completed by pharmacy staff  
Discrepancy per patient: Mean = 1.6, Min = 0, Max = 14

### Discrepancies Avoided with Pharmacist Intervention

Type	#	%	*Rate	%	% Discrepancies Corrected
Omission	15	13%	15/1072	1.4%	100%
Duplication	52	44%	52/1072	4.9%	100%
Unnecessary	16	13%	16/1072	1.5%	100%
Dose/Frequency/Route	29	24%	29/1072	2.7%	100%
Other	7	6%	7/1072	0.65%	100%
<b>Total # of Discrepancies</b>	<b>119</b>				
<b>Total # of Patients</b>	<b>70</b>				
<b>*Rate = # of discrepancies/ total # of prescriptions</b>					

### Discrepancies without Pharmacist Intervention

Type	#	%	*Rate	%
Omission	59	52%	59/917	6.4%
Duplication	26	23%	26/917	2.8%
Unnecessary	5	4%	5/917	0.5%
Dose/Frequency/Route	11	10%	11/917	1.2%
Other	12	11%	12/917	1.3%
<b>Total # of Discrepancies</b>	<b>113</b>			
<b>Total # of Patients</b>	<b>70</b>			
<b>*Rate = # of discrepancies/ total # of prescriptions</b>				



## Methods

- Utilizing observational retrospective data, one independent reviewer evaluated discharge medication lists and identified discharge discrepancies. The study population included adult patients who were discharged from Olathe Medical Center between October 1, 2019 to January 31, 2020.
- There were two groups of 70 patients. The first group included patients discharged with provider completion of medication reconciliation without pharmacy intervention. The second group included patients discharged with provider completion of medication reconciliation with pharmacy interventions.
- The primary endpoint was the rate of discrepancy on discharge medication lists with and without pharmacist intervention. Secondary endpoints included types of discrepancies, rate of discrepancy per patient, and discrepancies per total number of prescriptions.
- Pharmacy interventions were documented corrections of discharge discrepancies. The interventions were caught by a pharmacist, pharmacy resident, or pharmacy student and ultimately prevented patient harm.
- Discrepancies were categorized as omission, duplication, unnecessary therapy, dose, frequency, duration, or other.

Inclusion	Exclusion
<input type="checkbox"/> Adults age > 18 years old <input type="checkbox"/> Patients with a LACE score > 11, indicating a high risk for readmission <input type="checkbox"/> Patients without a LACE score > 11 <input type="checkbox"/> Patients who have a medication history completed by a pharmacy staff member <input type="checkbox"/> Patients who have a medication history completed by a non-pharmacy staff member	None

Type of discrepancy	Definition
Omission	Missing prescription
Duplication	Duplicate prescription
Unnecessary	Prescription without an indication
Dose/Frequency/Route	Prescription with incorrect dose, frequency, route or duration
Other	Prescription with major drug-drug interactions

## Discussion and Conclusion

- The primary endpoint for the provider group resulted in 113 discrepancies out of 917 prescriptions compared to 119 discrepancies out of 1072 prescriptions for the pharmacist intervention group.
- Omission was the most common type of discrepancy resulting from provider completed discharge medication reconciliation, whereas duplication was the most common type of discrepancy caught in the pharmacist intervention group.
- There were more patients who were classified as high risk for readmission based on a LACE score of > 11 in the pharmacist intervention group.
- Pharmacist intervention did impact patient care by preventing harm from discharge discrepancies. Without pharmacist interventions on discharge medication reconciliation, discrepancies do occur and have the potential to cause serious harm to patients.
- Without pharmacist intervention, discharge discrepancies go home with the patient unresolved and have potential to cause patient harm or readmission to the hospital. This study showed that pharmacist interventions at discharge prevented 119 discrepancies. Pharmacy does have a positive impact on patient care.