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Evaluation of Transitional Care Interventions from a Decentralized Clinical Pharmacist in a Small Inpatient Geriatric Psychiatry Unit

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PROVIDENCE Health & Services

Background

- Transitioning between healthcare settings increases the risk for medication errors. Geriatric and mental health populations are especially vulnerable with polypharmacy and cognitive impairment.
- A systematic review of 26 studies comparing medication reconciliation interventions demonstrated consistent reductions in adverse drug events. Intensive pharmacist involvement and focus on high risk populations were the most successful.[1]
- Providence Milwaukie Hospital houses a small 19 room unit providing short term psychiatric care for patients typically 65 years and older. A certified psychiatric pharmacist is nested within the team and plays a critical role by reconciling medications upon admission and discharge.
- There is limited data surrounding inpatient geriatric behavioral health.
- In a 29-bed geriatric ward, pharmacist led medication histories were compared to those done by physicians. Pharmacists identified at least one drug discrepancy in 60.4% of the 197 patients and found 379 (24.2%) medication discrepancies. Pharmacists identified more preadmission drugs per patient compared to the physician group (8 vs 6, p <0.001).[2]

Purpose

- This study evaluates transitional care interventions made from an in-unit clinical pharmacist in an inpatient geriatric behavioral health setting with the purpose of both establishing a baseline and identifying potential areas for future quality improvement projects.

Objectives

- Identify the value of a clinical pharmacist to transitions of care in a unique practice setting.
- Compare transitional care interventions made by a nested pharmacist to familiar areas of practice.

Methods

- Single center retrospective chart review using the electronic health record, EPIC. Data was gathered using the EPIC reporting tool. Documentation via pharmacy interventions (i-vent) and chart notes were also reviewed.
- Institutional Review Board approved.

Study Population

- Inclusion Criteria
  - Adults ≥ 18 years discharged from the Providence Milwaukie Hospital Senior Psychiatric Unit.
  - Study period: January 1st, 2019 to January 1st, 2020.
- Exclusion Criteria
  - Length of stay ≤ 3 days.
  - Preadmission medication list reconciled by a pharmacist within 14 days prior to admission.
  - No preadmission medication list.
  - Discharge to medical unit without readmission.

Study Endpoints

- Primary outcome: Preadmission medication list changes upon pharmacist reconciliation on admission and discharge.
- Secondary outcome: Discharge education interventions.

Results

Baseline Characteristics

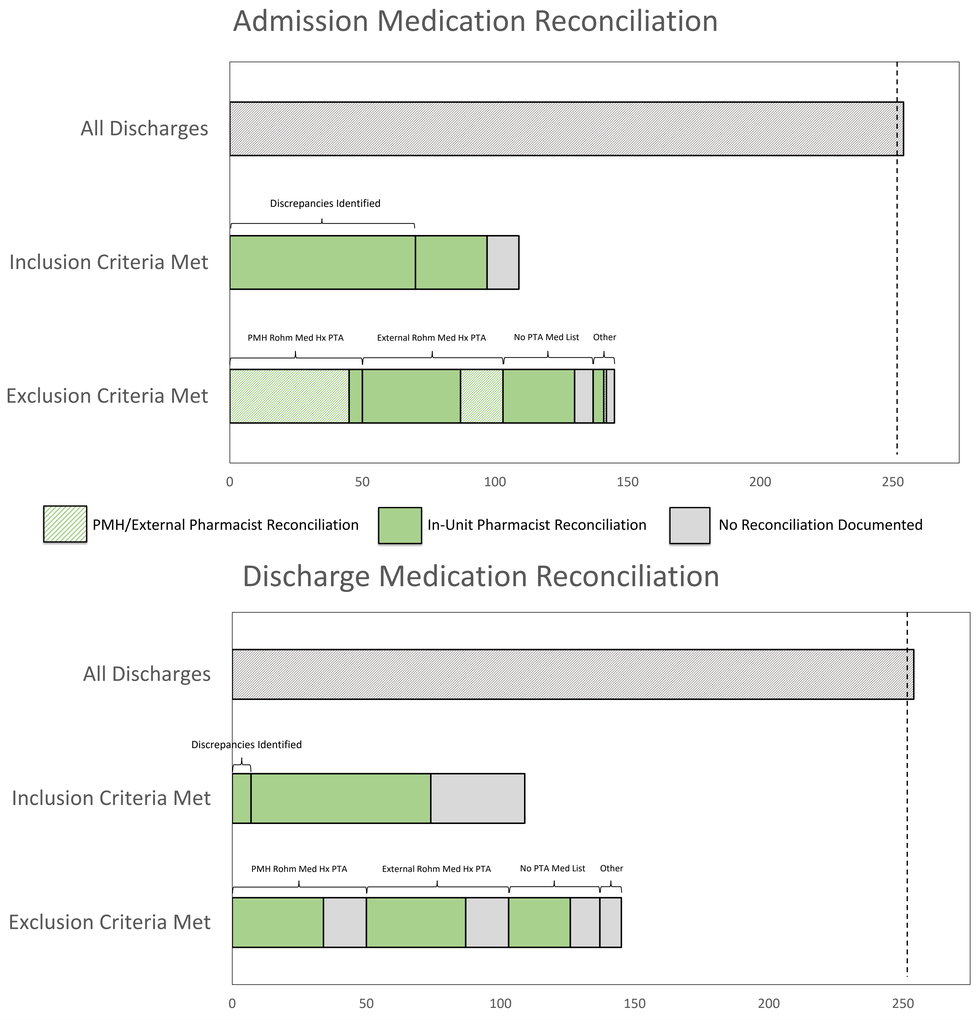
Discharges (N = 254)	
Age, Years	75
Female, N (%)	168 (66.1)
Ethnicity, White or Caucasian, N (%)	212 (83.5)
Average Length of Stay, Days	25
Admission Diagnosis	**N (%)**
Dementia	60 (23.6)
Depression +/- Suicidal Ideation	43 (16.9)
Bipolar Disorder / Bipolar Depression	17 (6.7)
Psychosis	17 (6.7)
Schizophrenia / Schizoaffective Disorder	17 (6.7)
Other	16 (6.3)
No Admission Diagnosis	84 (33.1)
Discharge Disposition	**N (%)**
Home or Self Care	102 (40.2)
Home with Home Health	65 (25.6)
Intermediate Care or Non Skilled Facility	27 (10.6)
Skilled Nursing Facility	25 (9.8)
Other	34 (13.8)
Inclusion Criteria Met, N (%)	**109 (42.9)**
Exclusion Criteria Met, N (%)	**145 (57.1)**
Length of stay < 3 days	5 (2.0)
PMH PharmD Med Hx < 14 days	50 (19.7)
External Pharm.D Med Hx < 14 days	53 (20.9)
No PTA medication list	34 (13.4)
Discharge to medical without readmit	3 (1.2)

Data Tables

Inclusion Criteria Met (N = 109)	N (%)
Admission Reconciliation Intervention	97 (89.0)
Discharge Reconciliation Intervention	74 (67.9)
Discharge Education Intervention	10 (9.2)
Admission Reconciliation Interventions (N = 97)	
PTA Medications Reviewed	854 [12.7/person]
Behavioral Medications Reviewed	238 [3.6/person]
Discrepancies, N (%)	70 (72.2)
Med Added	197 [2.8/person]
Med Removed	116 [1.7/person]
Med Modified	87 [1.2/person]
Dose Added	5 [0.1/person]
Dosage Change	44 [0.6/person]
Formulation Change	3 [0.04/person]
Frequency Change	46 [0.7/person]
Behavioral Med Added/Removed/Modified	102 [1.5/person]
Discharge Reconciliation Interventions (N = 74)	
Discrepancies, N (%)	7 (9.5)

Exclusion Criteria Met (N = 145)	N (%)
PMH PharmD Med Hx < 14 days	**50 (19.7)**
Admission Reconciliation Intervention	5 (10)
Discharge Reconciliation Intervention	34 (68)
Discharge Education Intervention	5 (10)
External PharmD < 14 days	**53 (20.9)**
Admission Reconciliation Intervention	37 (69.8)
Discharge Reconciliation Intervention	37 (69.8)
Discharge Education Intervention	7 (13.2)
No PTA med list	**34 (13.4)**
Admission Reconciliation Intervention	27 (79.4)
Discharge Reconciliation Intervention	23 (67.6)
Discharge Education Intervention	3 (8.8)

Data Graphs



Discussion

Baseline Population

- Mean age was 75 years with a higher proportion of females at 66.1%.
- Average length of stay was 25 days including time spent in medical units if readmitted to the behavioral health unit.
- Most common admission diagnosis related was to dementia.
- Discharge to home with self care was the most frequent followed by home with home health.
- Excluded high proportion for recent pharmacist medication reconciliation prior to admission.
  - A focus on accurate medication lists for behavioral patients in the emergency department was emphasized during the midpoint of the study period. Consequently, there was an increase in exclusions for recent PMH pharmacist reconciliations prior to admission

Study Endpoints

- Admission reconciliation was documented in 89% of discharges
  - In-unit pharmacist identified at least one discrepancy in 72.2% of reconciliations
    - On average, 2.8 medications were added, 1.7 medications were removed, and 1.2 medications were modified per person
      - Dosage and frequency changes were the most common modification
    - On average, 1.5 behavioral health medications were added, removed, or modified per person
- Discharge reconciliation was documented in 67.9% of discharges
  - In-unit pharmacist identified at least one discrepancy in 9.5% of reconciliations. Three behavioral health medications were not ordered, two behavioral health medication doses were modified, two medications were recommended to start on discharge, and one duplicate medication was removed
- Discharge education was documented in 9.2% of discharges
- In-unit pharmacist interventions on excluded populations:
  - Documentation of re-reconciliation after recent external pharmacist reconciliation occurred in 69.8% of cases
  - All drugs were added to a blank PTA list in 27 discharges
- Admission medication lists were reconciled by an in-unit pharmacist, PMH pharmacist, or an external pharmacist within 14 days of admission in 239 (94.1%) discharges.

Recommendations

- Implement a proactive transitional care workflow on discharge
  - Screen for high risk patients based on disposition and potential drug management barriers and provide medication counseling
    - Incorporate a checklist for discharge reconciliation to improve occurrence of interventions

Study Limitations

- Retrospective, non-randomized, no comparator group
- Documentation highly variable with rotating pharmacy residents within the unit
- Interventions of excluded populations were not evaluated

Conclusion

- In-unit pharmacists are heavily involved in the transitions of care process for the Providence Milwaukie Hospital Senior Psychiatric Unit. Impactful changes are made on patients' medication lists upon admission and often involve behavioral health medications
- Implementing a proactive workflow upon discharge was recognized as an area where pharmacists may optimize transitions of care

References

1. Mueller SK, Sponsler KC, Kripalani S, et al. Hospital-based medication reconciliation practices: a systematic review. Arch Intern Med. 2012 Jul 23;172(14):1057-69. doi: 10.1001/archinternmed.2012.2246.
2. Steurbaut S, Leemans L, Leysen T, et al. Medication history reconciliation by clinical pharmacists in elderly inpatients admitted from home or a nursing home. Ann Pharmacother. 2010 Oct;44(10):1596-603. doi: 10.1345/aph.1P192. Epub 2010 Aug 24.