Demonstrating the value of an innovative transition of care pharmacy service with quality measures and a unique way of gauging significance of pharmacy interventions.

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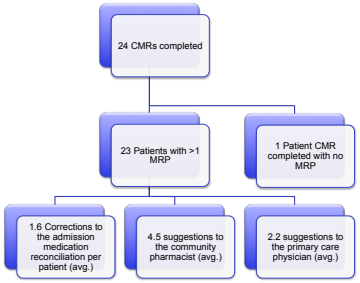
Introduction and Purpose

- The objective of this study is to quantify and describe outcomes achieved through an innovative clinical pharmacy service that initiates collaboration between hospital and community pharmacists and physicians to improve medication use through care transitions.
- Comprehensive medication reviews (CMRs) are completed during hospitalization and medication-related problems (MRPs) are identified and then addressed with physicians as needed.
- Acute and chronic care issues are communicated with hospital and community physicians respectively.
- A summary of the CMR and suggested follow-up interventions is shared with the patient's community pharmacist.
- The goal of this service is to improve patient outcomes by promoting safe and effective medication use.

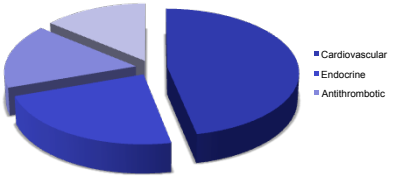
Methods

- This observational study evaluated outcomes achieved during a 20-day timeframe. Eligible patients were admitted to the hospital, had multiple chronic diseases, at least five chronic medications, and a planned discharge to home.
- Data was gathered on the number of CMRs completed and the number and type of MRPs identified.
- Additionally, the clinical significance of each pharmacist intervention was scored criteria - criticality as related to clinical evidence and medication safety, and relevance as related to priorities of the patient.
- Criteria for high criticality: Recommending therapy where evidence of improved outcomes is widely accepted, or intervening to prevent a major adverse drug reaction.
- Criteria for high relevance: Issues related to cost, convenience, or improving a patient-oriented outcome such as mortality.

Results



Drug Classes Involved in MRPs



Interventions that scored as high criticality, high relevance, or both:

Cardiovascular Issues

- Recommend statin for secondary prevention of stroke/ TIA
- Recommend high intensity statin in patient with CAD s/p stent
- Recommend ACEI in patient with HF
- Recommend ACEI for patient with uncontrolled HTN and DM
- Recommend thiazide for secondary stroke prevention + HTN

Diabetes

·Insulin orders incorrect on home and discharge med lists
·Recommend metformin for DM type 2 and A1c of 9.5
·Recommend d/c glipizide in patient with A1c 5.1 and basal insulin

Pulmonary

Routine use of multiple anticholinergic inhalers and nasal spray.
Recommended flu vaccine in patient with severe COPD
Recommend LAMA (Spiriva) for patient admitted with COPD exacerbation to prevent recurrent exacerbation

Antithrombotic / Bleeding Prevention

- Patient with CrCl of 14 receiving Enoxaparin 1mg/ kg q24 for DVT prophylaxis (not treatment). Recommended switch to heparin SQ.
- Recommend stress ulcer prophylaxis in patient with thrombocytopenia.
- Identified naproxen use in patient admitted with GIB

Psych / CNS Side Effects / Fall Prevention

·Recommend avoid alprazolam in patient with recent falls
•Alprazolam prescribed BID PRN; patient takes about 2/week; ordered BID on home and hospital orders (**med rec error**)
·Alprazolam prescribed TID PRN; patient takes HS PRN at home; ordered TID in hospital (**med rec error**)
·Recommend switch oxybutynin from IR to ER because patient % dry mouth and also prevent other CNS SE's
•Recommend reduction of citalopram dose due to increased risk of QT prolongationOpioid naive patient prescribed Hydromorphone 2mg IV (dose too high)
•Opioid naive patient prescribed Hydromorphone 2mg IV (dose too high)

Results

- Twenty-four CMRs were completed and all but one had at least one MRP.
- There was an average of 1.6 corrections to the admission medication reconciliation per patient, 4.5 suggestions for the community pharmacist per patient, and 2.2 suggestions for the primary care physician per patient.
- Cardiovascular drugs were the most frequent class involved in a MRP (37%) followed by endocrine (18%), antithrombotic (13%) and gastrointestinal (11%) drug classes.
- Eleven percent of pharmacist interventions were scored as having high criticality related to clinical evidence, and 18% had both high criticality and high relevance to the patient.

Limitations and Conclusions

- This study demonstrates the productivity of an innovative pharmacy service focused on improving medication use and safety during care transitions.
- The service generated data demonstrating the need for pharmacists to complete a CMR and collaborate with hospital and community healthcare providers to resolve or prevent MRPs during error prone transitions of care.
- Measuring criticality related to clinical evidence and relevance to the patient is a unique strategy to describe the value of this service that has the potential to add an important dimension of information that can be used to solicit stakeholder support for clinical pharmacy services.

Future Direction

- We are continuing to refine and validate a tool for reporting and quantifying the significance of interventions recommended by pharmacists for the resolution of MRPs.

Disclosures

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.
Judith Kristeller: Nothing to disclose Dana Manning: Nothing to disclose