Evaluation of Discharge Transitions of Care from an Acute Care Setting

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Disclosures

- IRB Status
  - Not required
- Co-investigators:
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  - Brittny Hobbs, Pharm.D., BCPS
- Conflicts of Interest
  - Nothing To Disclose
- Project Sponsorship
  - None

Learning Objectives

- Describe the impact transitions of care can have on both patient safety and healthcare costs
- Describe pharmacists’ role in transitions of care

Study Facility

- Providence St Patrick Hospital
  - Located in Missoula, Montana
  - 253 licensed beds
  - Not-for-profit medical facility
  - Level II Trauma Center
  - PGY-1 Pharmacy Practice Residency Site

Background

- During discharge transitions of care from an acute care setting, an adverse event is estimated to occur in approximately 1 in 5 patients, the majority of which are due to medication errors.1,2
- Adverse events occurring at discharge transitions of care cost an estimated $12-44 billion annually.1,2

Study Objectives

- Evaluate the rate of medication errors occurring at discharge transitions of care
- Identify "high-risk" medications where errors often occur during transitions of care for our facility
- Develop a role for pharmacy services during discharge transitions of care processes

Methods: Study Design

- Prospective, single-center study which included all patients discharged from St Patrick Hospital to a skilled nursing facility (SNF) from January 1, 2016 – March 31, 2016.
- Patients who were discharged with comfort care orders or those with no changes in, and appropriate indications for, all prior-to-arrival (PTA) medications were excluded from this review.

Methods: Data Collection

- Patient profiles/medication regimens were reviewed for the following information:
  - Unintended discrepancies in changes to PTA medications or new medications
  - Appropriate indications for all medications
  - Dose adjustments
  - Potential adverse effects and drug-drug interactions
  - Immunization status (pneumococcal and influenza vaccines)
  - Appropriate guideline-recommended therapy for patients with a history of acute myocardial infarction or congestive heart failure
- Recommendations or discrepancies were communicated to the nurse or pharmacy staff at the respective skilled nursing facilities

Study Population

- One-hundred fifty seven admissions reviewed for inclusion
  - 144 patient encounters included in this review
  - 13 patient encounters met exclusion criteria
- Baseline Characteristics:
  - Average age (SD): 75.5 (12.2)
  - Gender:
    - Percent female: 48% (69/144)
    - Percent male: 52% (75/144)

Results

- 87 unintended discrepancies noted in 53 patient encounters
  - Discrepancy rate per total study population: 37% (53/144)
  - Discrepancy rate per total number of medications: 3.53% (87/2,465)

"High-risk" medication classes

- Antibiotics
- Blood thinners
- Hypertension medications
- Diabetes medications
- CNS depressants
- Other

Reasons for discrepancies at discharge

- Omitted medications
- Dose discrepancy
- Duration of therapy discrepancy
### Results: Other Interventions

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<thead>
<tr>
<th>Intervention</th>
<th>Count</th>
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<tbody>
<tr>
<td>Duplicate Orders</td>
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<td>Unclear Indication</td>
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<tr>
<td>Dose Adjustments</td>
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<tr>
<td>Potential Adverse Effects</td>
<td>5</td>
</tr>
<tr>
<td>Drug-Drug Interactions</td>
<td>5</td>
</tr>
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</table>

### Results: Cardiovascular Guideline-directed therapy (GDT)

- **Congestive Heart Failure**
  - 20 patients included in this review had a diagnosis of systolic heart failure of which:
    - 40% met GDT (8/20)
    - 22% of which had achieved recommended doses (2/9)
    - 13% had contraindications to GDT (3/20)
    - 37% were not on GDT and had no reported contraindications or reasons documented in chart for lack of GDT (8/20)

- **Myocardial Infarction**
  - 23 patients included in this review had a history of coronary artery disease with stent placement of which:
    - 32% met GDT (7/23)
    - 27% had contraindications to GDT (6/23)
    - 41% were not on GDT and had no reported contraindications or reasons documented in chart for lack of GDT (9/23)

### Immunization Status

- Only 18% (26/144) of patients were up-to-date on their pneumococcal and influenza vaccinations.
- Of the 117 patients (82%) in the study population who were eligible to receive a vaccine, only 2 patients (1.7%) had a documented refusal of vaccination on the medication administration record (MAR).

### Overall Interventions

- **Number of encounters in which at least 1 recommendation was made:**
  - 95% (137/144)

- **Average Number of Recommendations per encounter (SD):**
  - 2.17 (1.23)

- **Not including recommendations for vaccinations:**
  - **Number of encounters with at least 1 recommendation:** 74% (107/144)
  - **Average number of recommendations per encounter (SD):** 1.35 (1.16)

### Limitations

- Recommendations were communicated to staff at the skilled nursing facilities through weekly phone calls or letters unless the intervention was deemed urgent. Because of this lag time, the impact on patient safety and readmission rates could not be assessed.
- Lack of access to all patient records

### Conclusion

- Pharmacist involvement at discharge transitions of care helped identify unintended discrepancies and caught unintentional medication errors.
Future Directions

- Present findings to the hospitalist group to educate providers.

- Educate pharmacy staff on findings and encourage incorporation of feasible changes that may improve patient outcomes into daily workflow (i.e. better screening for immunization status).

- Consider collecting data to see the impact pharmacy services may have on readmission rates and medication adherence in an expanded population to strengthen the justification for increased pharmacy resources at discharge transitions of care.

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