Medication Reconciliation: It’s in the Bag

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Background

• 15% of patients experience a medication error or discrepancy after hospital discharge (Coleman & Chalmers, 2006)

• Medication discrepancies occur in 70% of patients at hospital admission or discharge (Mueller et al., 2012)

• Medication errors cost organizations $5.6 million annually (AHRQ 2012)

• Unplanned readmissions due to medication discrepancies cost $17.4 million annually and represented 17% of total hospital payments (CMS 2007, Coleman & Chalmers 2006, Mueller et al., 2012)
Medication Discrepancy

• Unexplained differences in documented medications between various points of care

• Have varying degrees of clinical significance:
  • may result in serious harm to patients
  • prolonged hospitalizations
  • post-discharge emergency department visits
  • readmissions
  • use of other healthcare resources
Reasons for Medication Discrepancies

- Miscommunication
- Financial disparities
- Personal preference
- Lack of understanding
- Physical abilities
- Health literacy
Local Strategies

- 2-day post-hospitalization phone calls by health coaches
  (Cawthon et al., 2012; Costa & Poe, 2011; Kripalani et al., 2012)

- 7-day post-hospitalization follow-up visits
  (Dedhia et al., 2009)

- Home visits for high-risk patients
  (Costa & Poe, 2011)

- Low-reading level medication pamphlets
  (Cawthon et al., 2012; Kripalani et al., 2012)

- Case management aligned with medical practices
  (McCoy, Davidhizer, & Gillum, 2007)
PICO Question

• In adult, inpatient, medical-surgical patients discharged to home with prescriptions, does the implementation of a bag medication reconciliation initiative, compared to usual care, result in decreased medication discrepancies at follow-up?
Evidence Synthesis

• Johns Hopkins Nursing Evidence-based Practice Model
  (Dearholt & Dang, 2012)

• Databases searched: CINAHL, PubMed, AHRQ

• Key words: “brown bag,” “discharge,” “adverse drug events” and “medication discrepancies”

• 41 articles used for the synthesis
  • 34 quantitative articles
  • 3 qualitative articles
  • 1 expert opinion
  • 3 quality improvement
Translation Model

- Ottawa Model of Research Utilization (Logan & Graham, 1998)
- Non-linear approach
- Involves patients in projects
- It is not sequential, but takes place over time and the sequence changes depending on the context
- The environment will affect all aspects of the process
Ottawa Model
Planning

• Identified project unit
  • 22-bed medical telemetry unit

• 2 Medical groups
  • Medical Residency service
  • Family Practice Residency service

• Hospital leadership
  • Clinical director of medical services

• 2 Outpatient clinics
  • York Healthy Community Clinic
  • Thomas Hart Family Practice Center
Stakeholder Involvement

• Identified point people
• Provided education and rationale
• Posted flyers
• Instructed and reinforced procedure for bags
Implementation

• Medication reconciliation bag initiative
  • All patients discharged to home
  • Member of the medical or family practice residency services
  • Patients/families given instructions
  • Post-hospitalization phone calls made within 2 days
  • Follow-up appointment planned within 7 days
  • Providers completed medication reconciliation at follow-up
  • Safety Reporting System event filed for medication discrepancies

• List of patients receiving bags

• Two out patient clinics were asked to keep records of bags returned
Patient Instructions

- All prescription medications
- All over-the-counter medications
- All herbal alternative medications
- Any organizational medication boxes
- A list of all doctors with phone numbers
- A list of all allergies especially to foods or medications
- A list of any questions or concerns related to medications
- A spouse or caregiver (AHRQ, 2012)
Evaluation Methods

• SRS reports compared pre and post implementation data
  • Pre-implementation data: April, May, June, 2013 (236 patients)
  • Post-implementation data: September, October, November, 2013 (203 patients)

• Demographic data
  • From all patients discharged from the project unit to home
Results

• Pre-implementation: 22 SRS filed from a total of 236 patients discharged to home (9.3%)

• Post-implementation: 4 SRS filed from a total of 203 patients (2.0%)

• Cox Stuart test produced a probability value of 0.125
Results

• Pearson’s Correlation
  • $r = -0.73$ indicating a strong inverse relationship between the decrease in SRS filings and passage of time
Demographics: AGE (18-94)

- Median: 61.5
- Mean: 59.8
- Mode: 49
Demographic: Gender

N=203

- Female: 91
- Male: 112
Demographic: Insurance Type

- Self-pay: 18
- HMO: 5
- Medicare/Medicaid: 79
- Private: 101

N=203
Demographic: Race

N=203

- white: 164
- black: 20
- other: 19
Demographic: Number of Medications (Range 0-34)

- Mean: 10.9
- Median: 11
- Mode: 11
Financial Implications

• Estimated cost of readmission per patient $10,240.00
• Cost of bag medication intervention $ 1,782.00
• Preventing 1 readmission per quarter $40,960.00
Limitations

• May have limited translation to more racially diverse areas
• SRS has limited validity due to the self-report process
• Small population over 200 patients in the project, but the hospital discharges an average of 100 patients per day
• Medical residency only cares for 10% of the patient population
• No record of whether the patient returned with the bag
Summary

• There was a 7.3% decrease in SRS filings after the bag medication initiative

• Potential cost avoidance of over $40,000.00 annually after bag medication intervention

• No time was added to the hospital discharge process

• Simple

• Cost-efficient
Next Steps

• Wider implementation
• Enhanced data collection
• Continue stakeholder involvement
Conclusions

- Multidisciplinary teams are necessary to sustain change
- Medication education is essential at transitions of care
- Decreasing medication discrepancies requires a multi-faceted approach
- The bag medication reconciliation intervention is low cost initiative to decrease medication discrepancies.
References


Questions?