The Impact of a Formalized Medication Reconciliation Process in the Emergency Department

Hilary Rowe, BSc(Pharm); Cynthia Turner, B.Pharm; Richard Wanbon, PharmD; Sean Spina, PharmD; Richard Bachand, PharmD

Introduction
Accreditation Canada and Safer Health Care Now! have established both requirements and guidelines to improve medication management and safety upon admission to hospital. Recent literature suggests home medication prescribing upon hospital admission is often incomplete and, in many cases, inaccurate. What is Medication Reconciliation?

1. Documenting a complete and accurate list of home medications called a Best Possible Medication History (BPMH)
2. Resolution of discrepancies between BPMH and home medication admission orders

Best Possible Medication History sources include:
- Patient &/or family interview
- Medication bottles
- Patient medication list - prescription, non-prescription, herbal
- Pharmacist
- Health records
- Community Pharmacy
- Family Physician
- Physician medication samples

Objectives

Primary Objectives
Baseline Study (Phase I):
- Quantify home medication discrepancies, without proactive reconciliation, by 2400hrs one day post presentation to the Emergency Department (ED)
- Quantify the number of discrepancies resolved due to a Medication Reconciliation intervention

Pilot Study (Phase II):
- Characterize the severity of home medication discrepancies (type of Drug Related Problems [DRP] & medications involved) without proactive reconciliation by 2400hrs one day post presentation to the ED
- Determine if the discrepancies were undocumented intentional or unintentional

Secondary Objectives (Baseline Study Phase I & Pilot Study Phase II)
- Characterize the severity of home medication discrepancies (type of Drug Related Problems [DRP] & medications involved) without proactive reconciliation by 2400hrs one day post presentation to the ED
- Determine if the discrepancies were undocumented intentional or unintentional

Methods

Design
- Single center
- Prospective study
- Observational

Patient Inclusion Criteria (consent obtained)
Baseline study (Phase I):
- Admitted to the ED at the Royal Jubilee Hospital (RJH) in Victoria, BC
- Required admitting orders written in the ED by 2400hrs one day post presentation to the ED
- Admitted to ED at RJH

Pilot study (Phase II):
- Admitted to Clinical Teaching Unit (patients involved in another protocol)
- If sent directly to a procedural location (limited time in ED)
- Under 18 years of age due to confidentiality concerns
- Admitted to psychiatric emergency service, violent or in isolation

Protocol (research activities conducted by Clinical Pharmacists)
Baseline Study (Phase I):
- BPMH was obtained and discrepancies identified by 2400hrs one day post presentation to the ED
- Patient was interviewed as close to admission as possible (<24 hours)

Pilot Study (Phase I):
- Patient was interviewed as close to admission as possible (<24 hours)

Pilot Study (Phase II):
- BPMH and clinical pharmacy note, identifying the discrepancies to be resolved was left in the chart for physician to review
- Resolved discrepancies were quantified by 2400hrs one day post Medication Reconciliation intervention

Results

Figure 1: Number of Discrepancies in Baseline Study (Phase I)

Figure 2: Number of Discrepancies Pre & Post Intervention Pilot Study (Phase II)

Figure 3: Number of Discrepancies Pre & Post Intervention up to 36 hours beyond goal timeframe Pilot Study (Phase II)

Findings
- There was an average of 8.23 medications per patient in Phase II
- There were 1.9 unintentional home medication discrepancies per patient at the RJH ED
- Leaving a BPMH and a clinical pharmacy note outlining the existing medication prescription, non-prescription, herbal, and number of discrepancies per patient in the baseline and pilot study groups
- The type of discrepancies were also needed

Discussion

Findings
- There was an average of 8.23 medications per patient in Phase II
- There were 1.9 unintentional home medication discrepancies per patient at the RJH ED
- Leaving a BPMH and a clinical pharmacy note outlining the existing medication prescription, non-prescription, herbal, and number of discrepancies per patient in the baseline and pilot study groups
- The type of discrepancies were also needed

Discussion
- Drug Related Problems (DRP) & medications involved
- See Figure 1 for mean number of discrepancies per patient pre and post intervention
- Proportional distribution of medication discrepancies prior to pilot study

Conclusion
- This study quantified -1.9 unintentional home medication discrepancies without proactive Medication Reconciliation in both phases.
- This confirmed the need for a Medication Reconciliation process in the ED to improve the ordering of home medications at admission.
- This demonstrated a statistically significant reduction in the number of unintentional discrepancies post Medication Reconciliation, proving that a BPMH with a clinical pharmacy note outlining the discrepancies identified, decreased the unintentional discrepancies by 64%.
- DRP’s can be identified and their resolution initiated with a Medication Reconciliation process.
- This study trialed a Medication Reconciliation process that could be adopted and modified by ED’s to improve the accuracy of ordering home medications at admission to hospital.

References available on request
Project References


