Medication Reconciliation Discrepancies in Emr and Transitions of Care in Inpatient Pediatrics

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BACKGROUND

- Transitions of care from the inpatient setting present a significant challenge to the delivery of accurate, safe, and coordinated medical care. One such challenge is the guarantee of consistent medication information across transition points. This raises the specter of medication discrepancies, which have been shown to occur in the care of 22 to 72.3% of pediatric patients (Huynh et al). Though not all discrepancies cause direct harm, they can contribute to longer hospital stays, higher readmission rates, and increased utilization of the emergency room (Wong et al). To address this phenomenon, the Joint Commission included 'medication reconciliation' to its list of National Patient Safety Goals in 2005. This process is intended to identify and resolve unintentional discrepancies between medication lists at points of transition. However, the reconciliation process is itself fraught with hazard; one hospital's study found that failure of reconciliation at discharge accounted for 25% of its medication errors (Duran-Garcia et al).
- The purpose of this project was to identify the frequency and categories of medication discrepancies, uncorrected by reconciliation, among the pediatric inpatient population.

CURRENT CONDITIONS:

- Medication reconciliation needs to be performed for admission orders to be authorized.
- Medication reconciliation should be performed by everyone encountering patient.
- Home pharmacy is called for verification only if medications affect current admission problems.
- Home medications need to be entered manually; not all formularies are listed, so large volumes of information need to be entered quickly.
- Residents frequently use placeholder medication orders to avoid entering excessive information.
- Home medications then become registered as inpatient medications.
- Home medications are not transmitted to the outpatient environment.
- Duplicate medication orders frequently appear at the point of discharge.
- Residents are unable to delete medications and must select "Continue" or "Discontinue."
- Conflicting instructions are printed and given to patients at discharge (i.e. "Start" and "Stop" the same medication).

GOALS/TARGETS:

EMR

- Analyze errors during medication reconciliation process for each patient admitted to inpatient pediatrics in November 2015
- Reduce average error per patient during medication reconciliation process by 50%
- Reduce number of patients who experience errors during medication reconciliation process by 50%
- Reduce frequency of expressed confusion pertaining to discharge instructions about medications by 10%
- Link home medications from inpatient stay to outpatient charts via EMR
- Propose further countermeasures after analysis is completed

RESIDENTS

- Reduce pediatric resident dissatisfaction with the medication reconciliation process by 30%
- Reduce expressed difficulty of the discharge medication reconciliation process for pediatric residents by 10%

ANALYSIS:

- Subjective measure: Resident survey
  - Estimated confusion expressed by patients/ caregivers: "Often" (50% of respondents); "Sometimes" (25% respondents)
  - Who is performing the majority of medication reconciliation?
- Residents
  - Ranked difficulties with medication reconciliations
    1. Time burden
    2. Non-formulary medications
    3. EPIC-associated inefficiencies
  - Subjective difficulty of medication reconciliation: 5/10

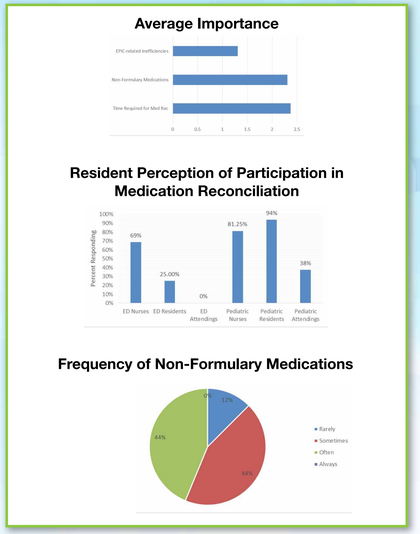
RESULTS:

- Data collected from all pediatric patients admitted to inpatient in month of November 2015
- Total medication duplications: 17
- Total instruction duplications: 5
- Total duplication errors: 22
- 100% involved patients admitted with home medications
- 80% of instruction duplications occurred during admission
- 76.4% of medication duplications occurred on admission
- Longer length of stay did not correlate with increased errors

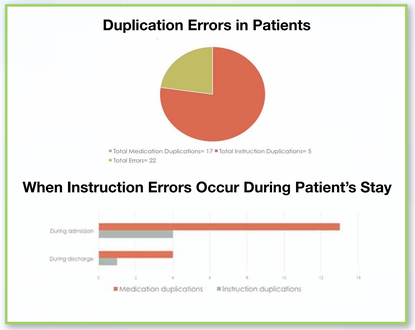
PROPOSED COUNTERMEASURES:

- Medication Reconciliation Process
  - Standardize the medication reconciliation process
  - Identify the responsible parties and the correct procedure
  - Communicate to those involved and provide education
  - Increase interdepartmental communication
  - Improve EPIC functions via IT liaison
  - Allow residents to record home medications that are not on formulary
- Enable function to link home medications to outpatient chart to facilitate follow up with PCP and other providers

ANALYSIS



RESULTS



PLAN:

- Drugs Formulary
  - Create list of common medications that are not included in the formulary and work with IT to bridge it into the system
  - Assemble a team to work with IT to improve EPIC functionality
  - Create a button that labels listed medication as a "home medication"
  - Create a "free text" portion during admission process that will allow residents to specify route, dosage, and/or name to eliminate "hard stop" during medication reconciliation process
- Ordering Medications
  - Create a "link button" that will link the medication given while inpatient to the home medication list
- Discharge Duplications
  - Create a "delete button" to delete duplicate orders on the discharge summaries
  - Allow the discharge summary to be more easily editable

FOLLOW-UP:

- Accountability
  - Assign champion to assemble key players for communication with IT
  - Administer survey and collect new data after changes have been implemented to evaluate goal achievements
- Direction of study
  - Use study as starting point for future projects
  - Target future projects based on follow-up data collection

References:

1. Huynh C, Wong ICK, Tomlin S, Terry D, Sinclair A, Wilson K, Jani Y. Medication discrepancies at transitions in pediatrics: a review of the literature. *Pediatr Drugs* 2013, 15: 203-215.
2. Wong JD, Bajcar JM, Wong GG, Alibhai SM, Huh JH, Cesta A, Pond GR, Fernandes OA. Medication reconciliation at hospital discharge: evaluating discrepancies. *Ann Pharmacother* 2008, 42(10): 1373-9.
3. Durán-García E, Fernandez-Llamazares CM, Calleja-Hernández MA. Medication reconciliation: passing phase or real need? *Int J Clin Pharm* 2012, 34(6): 797-802.

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