Admission Medication Reconciliation Process to Improve Patient Outcomes
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Background

Medication reconciliation is the process of reviewing and reconciling the patients current medications with what the patient is taking at transitions in care; admission, transfer, and discharge. The goal of the process is to prevent medication errors from drug interactions, dosing errors, duplications, or omissions. A thorough completion of the reconciliation process is instrumental in ensuring patients have the correct medications continued on admission and at discharge .

TJC found the risk to be of such importance that a National Patient Safety Goal (NPSG) was included in the section addressing the improvement of safety in medication use. This project assessed if providing additional education to staff nurses on a medical surgical unit will increase knowledge and decrease medication errors related to the admission medication reconciliation. Additionally information was gathered regarding nurses perceived barriers of medication reconciliation.

Problem

In spite of advancing technology and the implementation of an electronic medical record (EMR) there are still many factors that affect the medication reconciliation process including the technology itself and issues from each discipline involved, nurses, physicians, and pharmacists. In a 2010 study by Porcelli, Waitman and Brown the admission medication orders of 151 patients' were reviewed by pharmacists and 53.9% had a minimum of one medication reconciliation discrepancy while another study reviewed 3755 patients and found medication errors in 67% of patients. Medication reconciliation issues are captured in data for medication errors. The Institute of Medicine 2006 report, "Preventing Medication Errors", notes that on average a patient will experience one medication error per day of hospitalization, harming at least 1.5 million patients per year at an estimated cost of 3.5 billion dollars per year.

The Joint Commission (TJC) has identified that the number of patients taking multiple medications and the difficulty in managing these medications creates a safety issue with the medication reconciliation process.

Design

- Pre-Intervention Test
- Educational Intervention
- Post-Intervention Test
- Survey Distribution
- Survey Collection Deadline

Questions

1. Admission medication reconciliation knowledge change after educational intervention (difference between pre/post-test)
2. Admission medication reconciliation knowledge retention 60-90 days after the educational intervention
3. Barriers to admission medication reconciliation process
4. Medication errors rates related to admission medication reconciliation (pre and post)

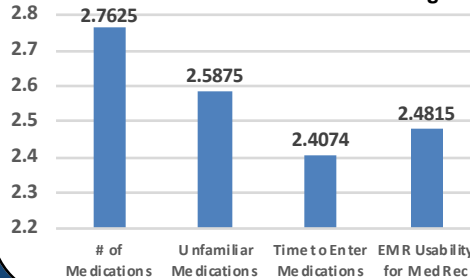## Data

Knowledge Retention Questions (1-6)
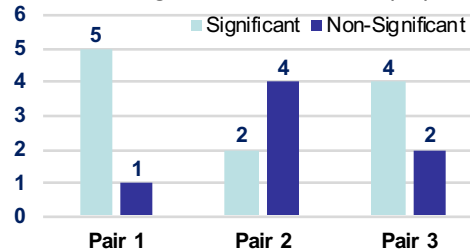
* Pair 1 = Pre-Test / Post-Test   Pair 2= Pre-Test / Survey   Pair 3= Post-Test / Survey
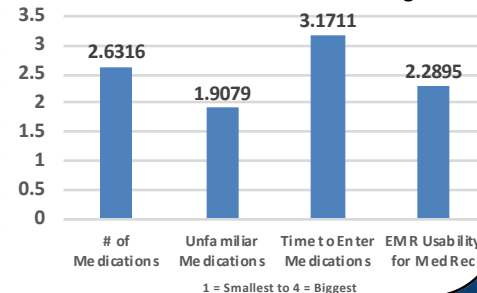
Comfort Levels (Questions 7-10)

	Pair 1 S/NS	Pair 2 S/NS	Pair 3 S/NS
Computer Literacy	NS	NS	NS
Medication Reconciliation	S	S	NS
Medication Reconciliation in EMR	S	S	NS
Navigating EMR	S	S	NS

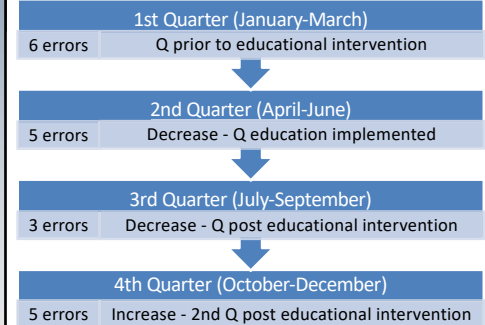* Pair 1 = Pre-Test / Post-Test   Pair 2= Pre-Test / Survey   Pair 3= Post-Test / Survey

Mean - Comfort Level Rating

Mean - Barrier Ranking

1 = Smallest to 4 = Biggest

Medication Error Data

1st Quarter (January-March)	
6 errors	Q prior to educational intervention

2nd Quarter (April-June)	
5 errors	Decrease - Q education implemented

3rd Quarter (July-September)	
3 errors	Decrease - Q post educational intervention

4th Quarter (October-December)	
5 errors	Increase - 2nd Q post educational intervention

Findings & Next Steps

- Measuring the nurse's knowledge and retention provided insight as to whether the process was hardwired and assessed the need for additional education.
- This data prompted consideration of other strategies and next steps to mitigate barriers to accurate and timely documentation of patient's home medications.
- Identification of the barriers provided the opportunity for further interdisciplinary collaboration to influence change in the admission medication reconciliation process with the goal of impacting patient outcomes.

- Review resources available to staff
- Identify strategies to maintain comfort levels with medication reconciliation, medication reconciliation in the electronic medical record, and navigation of the electronic medical record over time
- Further examine barriers identified by staff
- Consider additional methodologies for teaching and staff support to increase nurse's knowledge retention

References

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Porcelli, P.J., Waitman, L.R., & Brown, S.H. (2010). A review of medication reconciliation issues and experiences with clinical staff and information systems. Applied Clinical Informatics, 1, 442-461.