

BACKGROUND

- Medication reconciliation is an important intervention in a patient's journey in the hospital.
- If not done properly it could lead to medication errors and adverse drug events.
- According to one estimate, medication errors cost \$3.5 billion and contribute to 7000 deaths in the US annually (1).
- The Institute of Medicine in the US also found that a patient could experience more than one medication error per day on average during their stay in a hospital (1).
- In Australia, medication errors have been associated with adverse events in hospital and contribute to mortality, morbidity, and extended length of stay (LOS) (2).
- Approximately 2-4% of all hospital admissions experience a medication-related error in Australia (3).
- The use of an electronic Medication Management System (eMMS) has shown promising results in the USA (4, 5), Europe (6) and Australia to improve patient safety, efficiency and the cost.
- In Australia, hospitals are in early stages of using electronic medication management systems.
- No study till date in Australia to look at Med Rec tool in eMMS.
- First research project to in Australia to evaluate the electronic Med Rec Tool to improve Med Rec processes in eMMS.

AIM

We aim to compare medication reconciliation in paper based medication management system and eMMS.

METHODS

- The design of the study is pre and post eMMS implementation in which we plan to compare the data from the paper-based system with an electronic system.
- In the first phase of research, we randomised the patients who were admitted to the hospital over six consecutive months between 01/07/2016 & 31/12/2016.
- We excluded the data too close to the go-live date to avoid unnecessary bias due to irregularities relating to the go-live preparation.
- In the second phase, we plan to collect data from another random list of patient records in post eMMS implementation from the same 6-month period in 2017, i.e. between 01/07/2017 & 31/12/2017 and compare them with the paper-based medication management system.
- We collected the data retrospectively specific to medication reconciliation using Comprehensive Medication Reconciliation Audit Tool developed by Centre of Excellence Commission (CEC).

Inclusions

Admitted as an inpatient AND
 On regular medication OR
 Discharged with medications

Exclusions

Discharges from ED
 Admissions to ICU and Mental Health Unit
 Patient admitted and discharged with no medication

DATA COLLECTION

Total	205
On Meds on admission or discharge	143
Not on meds on admission and discharge	62

MEDICATION RECONCILIATION PROCESS IN HOSPITAL



Best Possible Medication History (BPMH)

- Allergy and allergy details
- Medication history
- Source of medication history

Admission Reconciliation

- Omission of medication on inpatient medication chart
- Discrepancies in medication orders

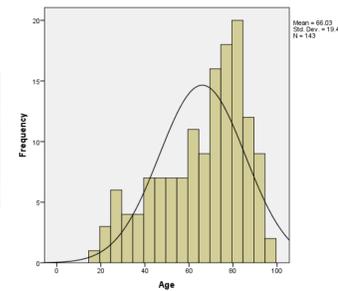
Discharge Reconciliation

- Omissions
- Change not documented
- Reason for the change in medication not documented

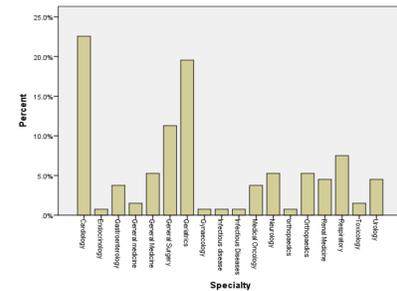
RESULTS

Demographics

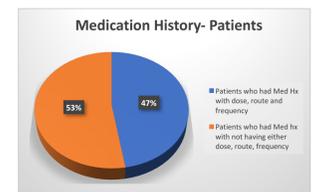
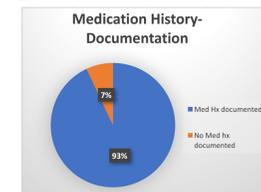
Male	70	49%
Female	73	51%



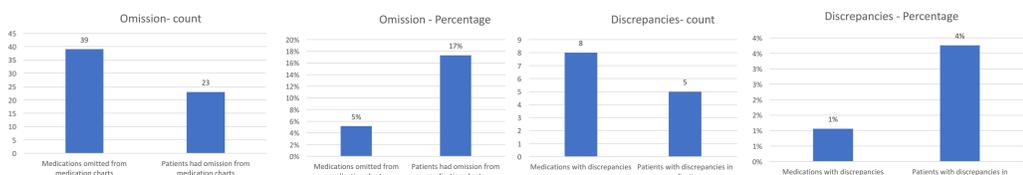
Patient distribution by specialty



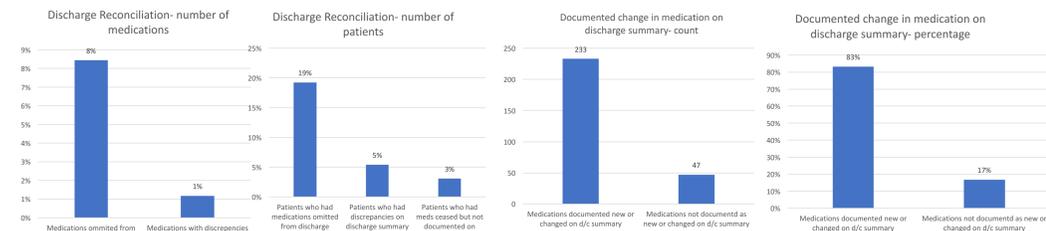
Best Possible Medical History (BPMH)



Admission Reconciliation



Discharge reconciliation



CONCLUSION

- 7% of the patients had no medication history documented on admission.
- 59% of the patient had not had complete allergy details documented on admission
- 17% of the patient had at least one medication omitted on their in-patient medication chart
- 8% of the medications were omitted on discharge summary
- 17% of the medications were not documented as new or changed in the discharge summary

Med Rec tool in eMEDs



POTENTIAL BENEFITS OF eMMS MED REC TOOL

- Accuracy & clarity in documentation of medications
- Improvement in the documentation of allergy and type of allergy
- Auto population of medication list in discharge summary
- Data analytics capability of eMMS to see the overall compliance of medication management in the hospital

FUTURE RESEARCH

- Data collection post eMMS implementation
- Comparison of the data pre and post implementation of Med Rec tool
- Future implication for implementation of Med Rec Tool in hospitals based on the results

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