

Introduction

- Previous research findings have shown that medication errors are the most frequent error in patient safety.
- Current literature cites these errors to be the result of incomplete or inaccurate medication reconciliation.
- Inadvertent medication reconciliation discrepancies are defined as inconsistencies between medications that the patient actually takes and the documented medication list obtained on admission.
- Trauma patients are especially vulnerable to inadvertent medication reconciliation discrepancies, as it is not always possible to provide accurate medication name, dosage, or frequencies due to a variety of reasons, such as limitations in patient knowledge, lack of available family support, or resources to obtain the information under the emergent conditions they are seen.
- The purpose of our study is to evaluate the incidence and type of inadvertent medication reconciliation discrepancies among trauma patients at USA Health University Hospital.

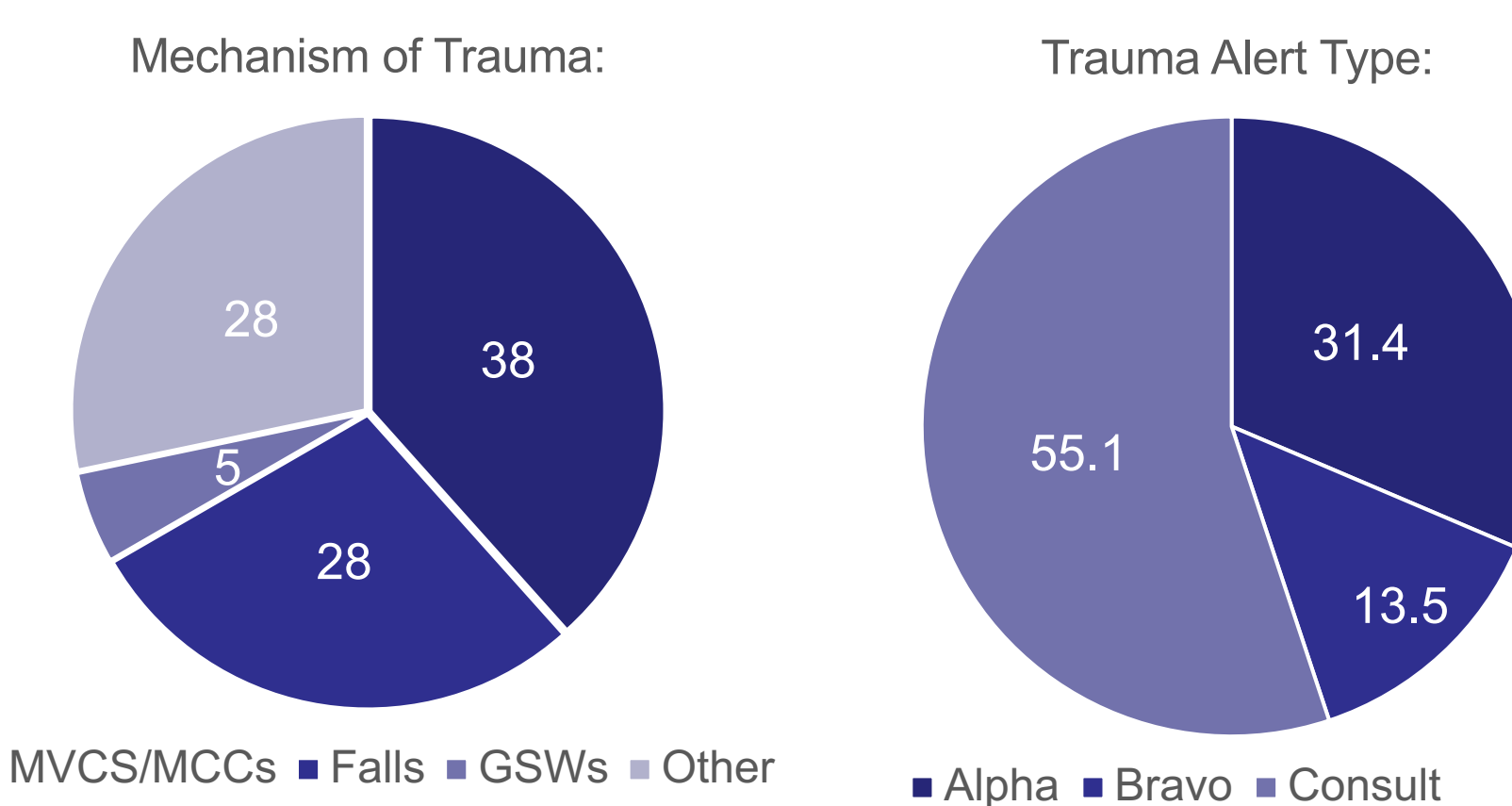
Methods

This study is a prospective study of all patients admitted to the Fanny Meisler Trauma Center at USA Health University Hospital over a 30-day period. All patients admitted to the trauma service were prospectively assessed using Cerner Powerchart electronic medical record. Patients age <18 years old, admission Glasgow Coma Scale (GCS) <13, and those discharged within 24 hours were excluded. The remaining patients were interviewed for accuracy of their admission medication reconciliation (AMR), and their AMR was compared to independent data sources, including family, home pharmacy, and primary care physician records. Inadvertent medication reconciliation discrepancies were defined as an error of documentation of medication, including name, dose, or frequency. The frequency of each category of discrepancies was then assessed by each drug type. Additional factors collected were age of the patient, time of admission, time from admission to completion of medication reconciliation form, the role of the person completing the AMR, and number of medications to be reconciled.

Results

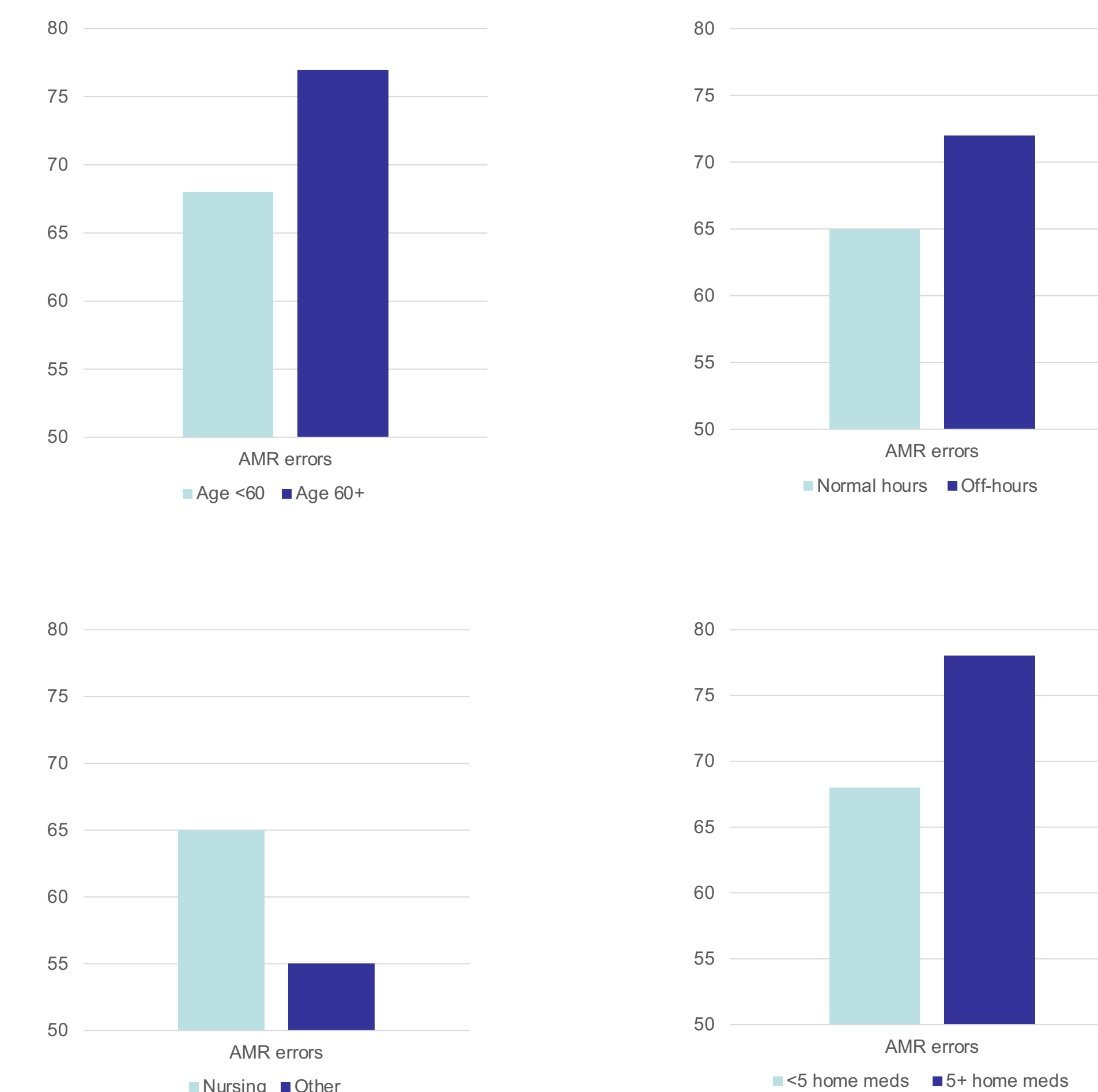
Patient and Admission Demographics

Table 1	
Patients screened	159
Patients excluded	5
• Due to age<18	16
• Due to GCS<13	49
• Discharged within 24 hours	
Patients included	89
Age, mean (IQR)	52 (35-66)
Male	53 (60%)
Female	36 (40%)
Mean number of comorbidities	2.5
Off-hours admission (4p-7a or weekend day)	69 (78%)
AMRs 0-24 hours	57 (62%)
AMRs 25-48 hours	5 (6%)
AMRs 49-72 hours	1 (1%)
AMS not completed	26 (29%)



- Many patients (30%) were discharged within 24 hours.
- Patients had a high number of co-morbidities.
- The majority of patients were admitted in off-hours.
- If patients did not get an AMR within 24 hours, the likelihood that one would be done later was less than 20%.

- On average, patients had 6.8 medications.
- Twenty-six (29%) patients had completed and accurate AMRs.
- Among patients with a complete AMR, 30 (48%) had at least 1 error.
- On average, patient with a discrepancy had 3.6 medication discrepancies.



- All factors had a high likelihood of an inadvertent medication reconciliation discrepancy.
- No particular factor was predictive of an inadvertent medication reconciliation discrepancy.

Conclusions

- Our data shows that trauma patients have a high risk of inadvertent medication reconciliation discrepancies.
- Most medication reconciliations are filled out within 24 hours, and those who did not receive one within 24 hours of admission were unlikely to receive one at all.
- Errors in frequency were the most common, followed by dosing errors and omission of medications.
- No one factor was predictive of the likelihood of having a discrepancy.
- Though this study was underpowered to determine a difference in independent risk factors, future studies should include a larger cohort analyzed to determine whether these are statistically significant.

References

1. Almasreh E, Moles R, Chen TF. The medication reconciliation process and classification of discrepancies: a systematic review. *Br J Clin Pharmacol.* 2016 Sep;82(3):645-58. doi: 10.1111/bcp.13017.
2. How-to Guide: Prevent Adverse Drug Events by Implementing Medication Reconciliation. *Cambridge, MA: Institute for Healthcare Improvement; 2011.* (Available at www.ihl.or)
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