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BACKGROUND

The transition of patients across organisations or between professionals is a vulnerable time with regard to medication safety (Tam, 2005; Redmond 2013). Unintended changes to patients' medication lists are common at these junctures and approximately 20% of all adverse drug events (ADE) are attributed to poor communication at transitions of care (Cornish, 2005; Pippins, 2008). Completing a medication reconciliation or 'MedRec' for patients at these junctures may be an important means for improving medication safety and reducing readmission rates to hospital. A number of studies have identified that clinical pharmacists (CP) contribute positively to MedRec on admission to hospital (Galvin, 2013; Shull, 2018).

AIMS / OBJECTIVES

The study aims to assess the impact of clinical pharmacy- led MedRec on patient safety, within the adult patient population upon admission to an acute Irish hospital. It will do this by (i) quantifying the medication discrepancies identified by the CP on admission to hospital (ii) measuring unintentional, intentional and unresolved discrepancies (iii) assessing the clinical significance of unintentional discrepancies (UD) if the pharmacist had not intervened, as measured by an expert review panel using a validated tool.

METHODS

This observational, prospective study took place over a four-week period in March 2018 in an urban, acute, university-affiliated teaching hospital. Data were collected on 205 patients during the working hours of the CP and as a part of the normal delivery of service. When MedRec was completed for a patient, the number of *apparently* unintentional discrepancies were recorded. At 24 and 48 hours, the number of UD, intentional discrepancies, unresolved discrepancies were recorded and the details of the discrepancies were noted. The expert review panel rated the discrepancies using the numerical rating score (NRS) according to the potential for harm to the patient if the CP had not intervened.

RESULTS

Of the 205 patients (38.5% female; mean age 68.9 years (SD 16.9)), UD affected 61%. A total of 1584 medications were reviewed and UD were associated with 21.4% of these; 4.4% were resolved by CP endorsement and 17% were resolved by contacting the medical team to alter the prescription (**Figure 1**). A statistically significant positive association was identified between the number of pre-admission medications (PAM) and UD ($r= 0.26$, $p<0.0001$). Almost 90% of UD assessed by the review panel were judged as having the potential to cause "moderate" harm to the patient; with 2.5% considered to potentially cause "serious" harm had the pharmacist not intervened.

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APPARENTLY UNINTENTIONAL DISCREPANCIES (N= 374)

- Unintentional discrepancy (72%)
- Unintentional discrepancies (resolved by CP endorsement) (18%)
- Intentional discrepancy (6%)
- Unresolved discrepancy (4%)

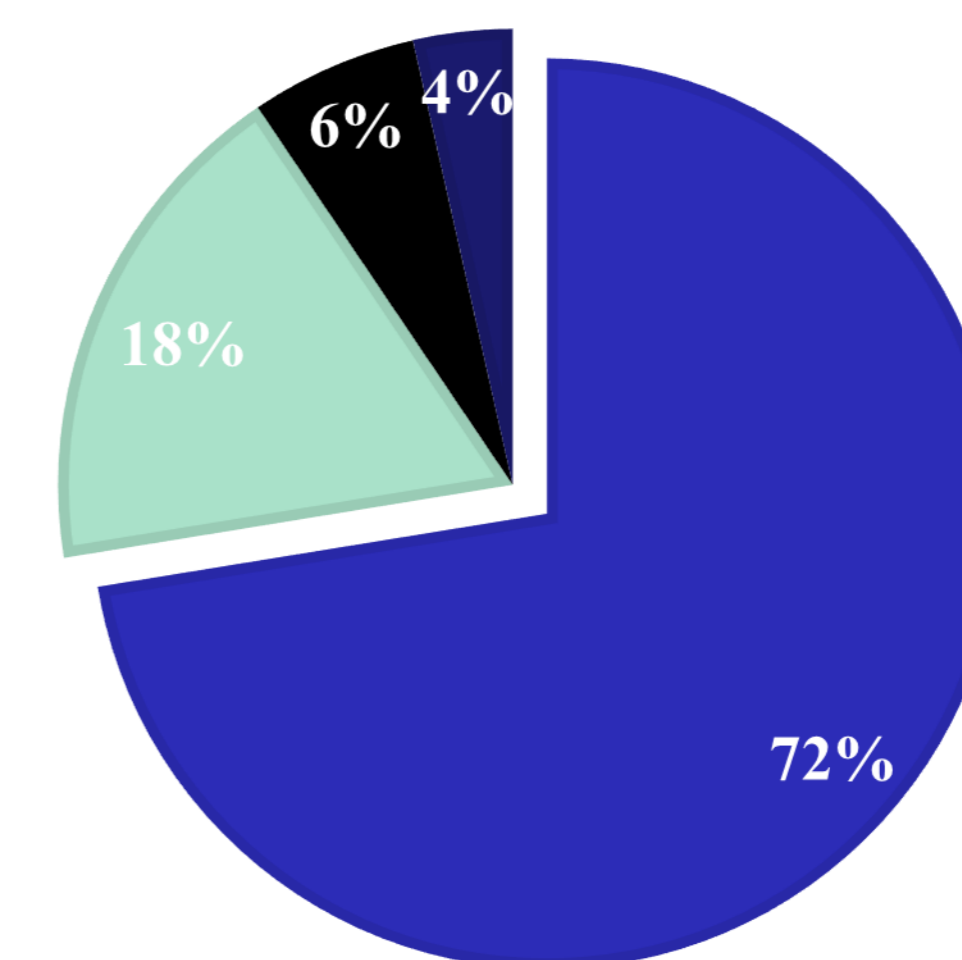


Figure 1: The percentage breakdown of *apparently* UD

CONCLUSIONS AND RECOMMENDATIONS

Pharmacy-led MedRec has a positive effect on patient safety at transitions of care and the evidence supports MedRec interventions that utilise pharmacy staff.

In light of the large prevalence of UD on admission to hospital, and the clinical severity that may be associated with the discrepancies, it would be beneficial to position more pharmacists in the A&E department. Development of other members of the medication management team e.g. pharmacy technicians, who could complete a MedRec, would relieve pressure if resources did not allow enough pharmacists to cover this role.

This study identified factors prone to discrepancies on admission including increasing number of medications prescribed and older patients. If there are limited clinical pharmacy resources, it would be reasonable for pharmacists completing MedRec to target patients that present in the >50 years-old age category and with a large number of PAM.

To complete the MedRec cycle, it would be beneficial to involve a CP in the discharge process. This would involve completing a second MedRec on discharge for the patient. It would ensure that there is an accurate transfer of medication lists from secondary to primary care.

Future research is needed to examine the effect that discrepancies have on patient outcome.

ACKNOWLEDGEMENTS

We would like to thank the pharmacy department in University Hospital, Limerick and the members of the peer review panel for their invaluable time and expertise shown throughout this study.

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