

Targeting future improvements by optimising clinical pharmacist intervention documentation

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Introduction

Pharmacists play a key role in medication safety, by identifying medication-related problems (MRPs) and making recommendations to optimise patient care outcomes. Pharmacist interventions are demonstrated to significantly impact patient care in obstetric inpatient units, surgical and adult medical wards.¹⁻⁴

Efficient documentation of clinical interventions enables interprofessional communication and risk management. Analysis of intervention data can identify areas for quality improvement.

Western Health procedures specify that pharmacist interventions are to be documented in the pharmacy admission note. A limited electronic medical record (EMR) functionality exists to record interventions, but is cumbersome to use, difficult to extract data, and lacks risk assessment.

Aim

The aim of this study was to quantify and categorise clinical interventions documented in pharmacy admission notes for patients in the obstetric, paediatric and neonatal wards at Western Health.

The secondary aim was to determine the frequency of use of the EMR intervention recording tool.

Method

Pharmacy admission notes documented for all Western Health inpatients from 10-23 October 2022 are extracted from EMR into an Excel spreadsheet.

Data extract filtered to include only the patients admitted to the obstetric, paediatric and neonatal wards. Patients admitted to other wards are excluded.

A retrospective audit is conducted by manually reviewing each admission note, data collected included:

- Patient medical record number and initials
- Treating team and admitted ward
- Date and day (Mon-Sun) the note was completed
- Whether any interventions were recorded
- Type of intervention (MRP category Figure 1)
- If the intervention involved an APINCH medication (antimicrobials, potassium and other electrolytes, insulin, chemotherapeutic agents, heparin and other anticoagulants)
- Intervention risk rating (adapted from SHPA Standard of Practice for Clinical Pharmacy Services – Chapter 13 Documenting Clinical Activities)⁵
- Whether the EMR intervention recording tool was used

Data analysis and reporting included:

- Total number of pharmacy admission notes completed
- Number and type of interventions
- Proportion of interventions involving APINCH drugs
- Usage of the EMR intervention reporting tool

Results

Pharmacy admission notes were documented for 230 patients during the study period. Interventions were recorded for 36.5% of patients (84/230) and were made for 44% (58/131) of obstetric patients, 29% (20/69) of children, and 20% (6/30) of neonates. One-hundred and four interventions were recorded in total, an average of 1.2 interventions per patient requiring intervention. The MRP categories are described in Figure 1.

Thirty-two of 104 interventions related to high-risk medicines and comprised heparins (41%), antimicrobials (31%), narcotics (19%) and insulin (9%). The majority (38%) of interventions were considered to be medium risk, using the SHPA risk rating matrix (See Figure 2 and Figure 3).⁵

The EMR intervention tool was used for only 19% (16/84) of patients with interventions.

Medication / Vaccine	Number of MRPs
Enoxaparin	13
Paracetamol	11
MMR vaccine	7

Table 1: Top 3 medicines/vaccines involved in an MRP

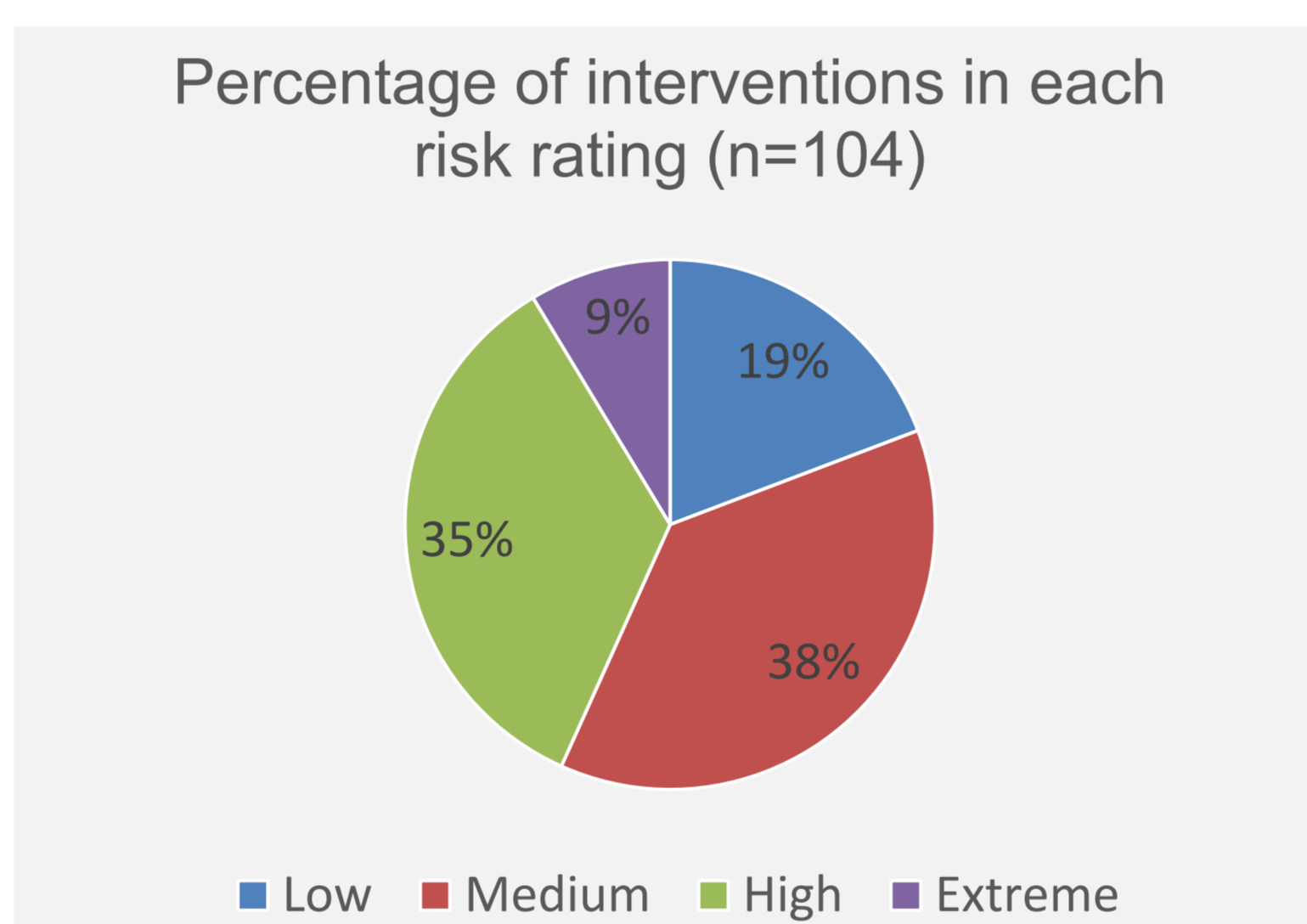


Figure 3: Percentage of interventions in each risk rating

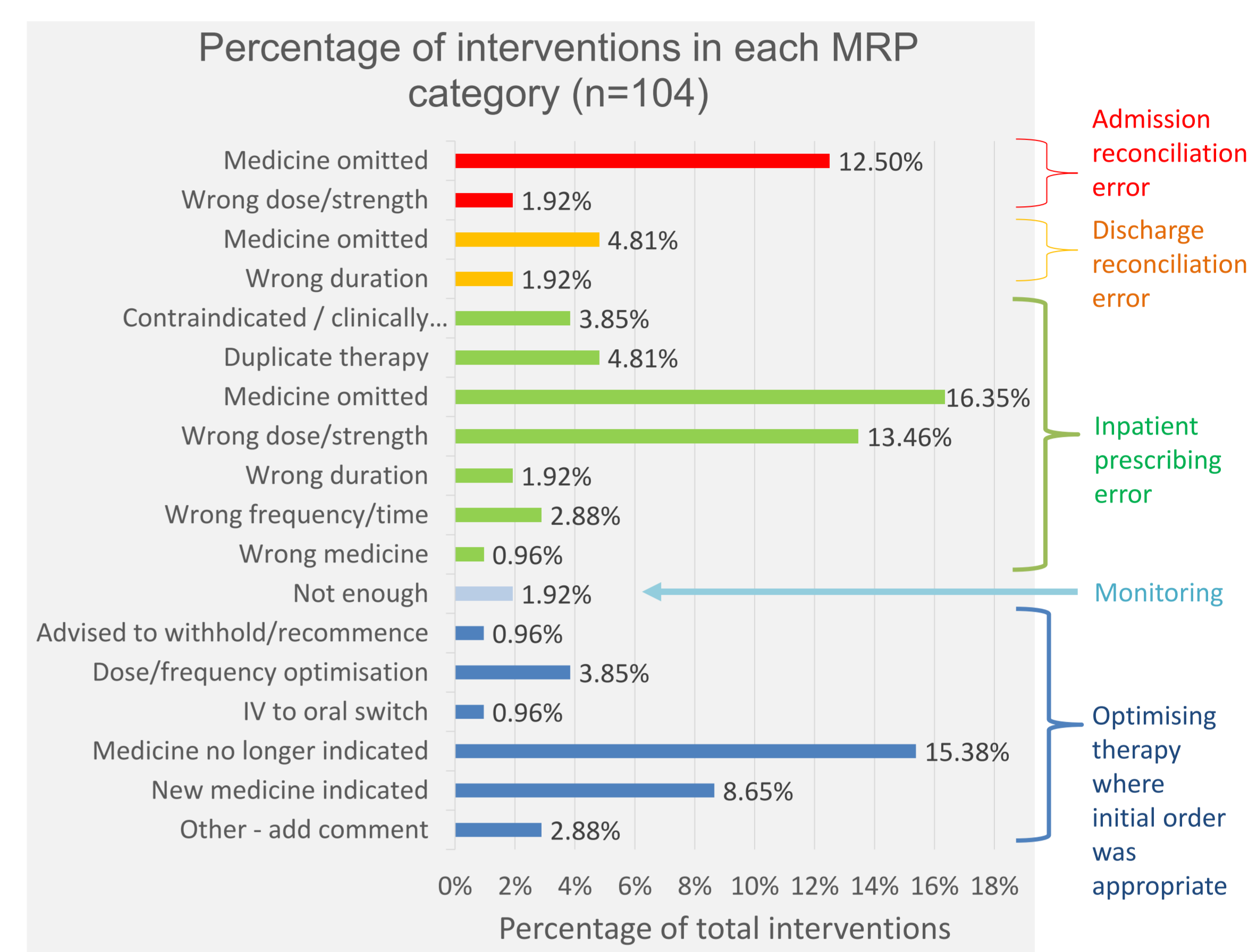


Figure 1: Percentage of interventions in each MRP category

Table 13.1 Risk classification of pharmacy interventions using a consequence/probability matrix*					
Consequence or impact					
Level	Descriptor	Description: assume intervention not made, probable scenario (not worse case)			
1	Insignificant	No harm or injuries, low financial loss			
2	Minor	Minor injuries, minor treatment required, no increased length of stay or re-admission, minor financial loss			
3	Moderate	Major temporary injury, increased length of stay or re-admission, cancellation or delay in planned treatment/procedure. Potential for financial loss			
4	Major	Major permanent injury, increased length of stay or re-admission, morbidity at discharge, potential for significant financial loss			
5	Catastrophic	Death, large financial loss and/or threat to goodwill/good name			
Likelihood of occurrence					
Level	Descriptor	Description: likelihood of impact occurring without intervention and scenario occurring in the future			
A	Almost certain	Is expected to occur in most circumstances			
B	Likely	Will probably occur in most circumstances			
C	Possible	Might occur at some time			
D	Unlikely	Could occur at some time			
E	Rare	May occur only in exceptional circumstances			
Risk (consequence x likelihood)					
Likelihood	Insignificant	Minor	Moderate	Major	Catastrophic
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (possible)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

E = extreme risk; H = high risk; M = moderate risk; L = low risk.

Figure 2: Risk rating matrix from SHPA Standard of Practice for Clinical Pharmacy Services

Discussion

As this study focused on obstetric, paediatric and neonatal patients, MRPs were identified across a smaller range of medications than what might be expected in the general adult population. Future studies are required to understand the MRPs and trends that may occur more broadly across the health service. Limitations of this study include: the absence of a controlled method of intervention documentation; interventions made by pharmacists after the time the admission note was documented may not be recorded; and interventions made through verbal communication with other healthcare providers may not be recorded.

Retrospective review of pharmacist interventions has enabled the Pharmacy Department to identify medications that frequently require pharmacist intervention. This information can be used to inform educational strategies for medical, nursing and midwifery staff, to reduce the risk of errors occurring in future.

Conclusion

This study highlights the contributions of obstetric, paediatric and neonatal pharmacists in improving medication safety. Optimisation of the EMR intervention tool is necessary to improve pharmacist uptake, facilitate data extraction and analysis, and identify trends in MRPs to target quality improvement activities. Engagement with the EMR team to optimise the EMR tool will enhance intervention reporting and quality improvement processes across the entire health service.

References

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