

# Collaborative pharmacist prescribing. Impact on patient flow and safety in surgical patients



Brett Anderson, Johnny Nguyen, Kerryn Griffett, Michelle Nalder, Rachel Low, Jane Stephens, Annabelle Hargreaves, Alex Edwards

## Introduction

Timely patient discharges play a significant role in the flow of patients throughout the hospital.<sup>1</sup> Preparing discharge prescriptions is commonly thought to delay this process.<sup>2</sup>

Typically, surgical patients are cleared for discharge during the morning consultant ward round and discharge prescriptions are written once all patients are seen. Pharmacists cannot begin their reconciliation processes until the prescription is generated and if errors are identified, an amended prescription may be required, causing further delays.

At the Royal Melbourne Hospital, a functionality within the electronic medical record (EMR) allows pharmacists to 'pend' discharge medication orders for doctor review. Once accepted, the pended orders are printed and signed by a doctor. This collaborative prescribing approach may assist with overcoming delays experienced in generating discharge prescriptions by reducing prescribing errors.

## Aim

To evaluate the impact of pharmacist-pended discharge prescriptions on patient safety, pharmacists workload and patient flow in the Emergency General Surgery (EGS) unit.

## Methods

### Study design:

Pragmatic non-randomised control study.

An additional pharmacist was embedded into the EGS unit to attend daily consultant ward rounds and pend discharge orders within the EMR (pharmacist arm). When multiple patients were simultaneously discharging, doctors were not advised to wait for the pharmacist to pend orders and would write the prescription without assistance to minimise delays (doctor arm).

### Data collection:

An independent pharmacist reconciled the printed prescriptions for all EGS patients. Study data were collected and managed using REDCap electronic data capture tools hosted by the Royal Melbourne Hospital Health Intelligence Unit. Patient flow metrics were obtained from the EMR.

### Setting:

A major metropolitan quaternary referral hospital.

### Inclusion criteria:

Patients who discharged home or to a care facility from the EGS unit between March and May 2022.

### Exclusion criteria:

Patient's who's discharge prescription were not reconciled by a pharmacist.

## Results

Table 1: Demographic details

	Pharmacist pended prescriptions	Doctor generated prescriptions
Number of prescriptions	244	89
Age, years, median (Q <sub>1</sub> , Q <sub>3</sub> )	46 (33-69)	43 (29-65)
Female, gender, n (%)	145 (59)	53 (60)
Number of items prescribed on discharge, median (Q <sub>1</sub> , Q <sub>3</sub> )	4 (3-6)	3 (2-4)
Disposition, n (%)		
Home	238 (98)	88 (99)
Residential Care Facility	6 (2)	1 (1)
Length of stay, hours, median (Q <sub>1</sub> , Q <sub>3</sub> )	60 (33-93)	49 (31-79)

## Results

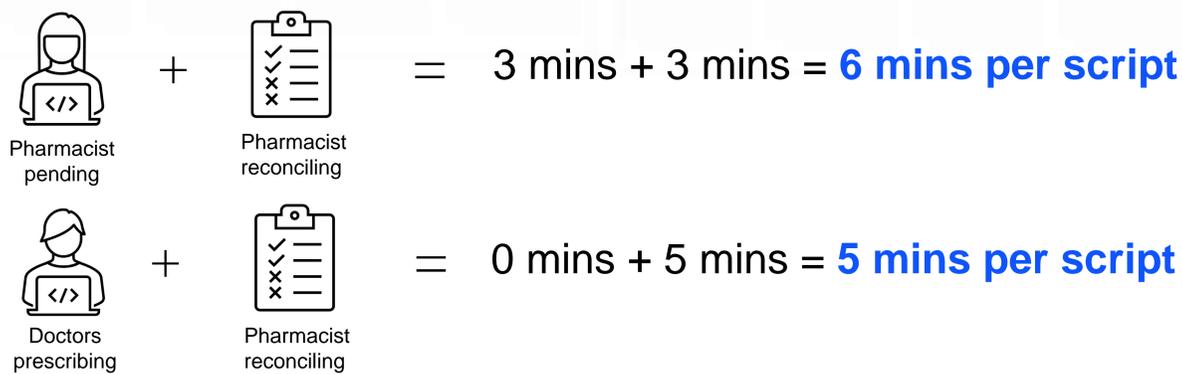
### Patient safety – Prescriptions with ≥ 1 error

Figure 1: Percentage of pharmacist-pended and doctor-generated discharge prescriptions with at least one error



### Impact on pharmacist workload

Figure 2: Median time required for a pharmacist to generate and reconcile prescriptions



### Patient flow – Median time past 10 am patients discharged

Figure 3: Median time after 10 am patients were discharged after receiving a pharmacist-pended or doctor-generated prescription



## Discussion

- The reduction in time required to reconcile a pharmacist-pended prescription likely extends from a reduction in errors and need for amended prescriptions.
- 'Errors' detected during pharmacist reconciliation may also reflect changes made to medications between writing the discharge prescription and the point of discharge rather than being true errors.
- Practically, additional pharmacist support was necessary as a single pharmacist could not attend the ward round, pend discharge orders, reconcile the printed prescription and educate the patient whilst remaining on the round to prepare the next prescription. Where only one pharmacist is available, the patient flow outcomes may not be replicated and/or more patients may receive doctor-generated prescriptions limiting the patient safety benefits of pharmacist-pended prescriptions.
- This collaborative workforce model has the potential to improve the patients experience once electronic prescription tokens are implemented. Greater visibility of prescribing errors will occur when patients receive these tokens directly, where currently, patients are largely unaware of the number of amendments made to doctor-generated prescriptions.
- Independent pharmacist prescribing has the potential to further streamline the discharge process and may yield more favourable patient flow outcomes.

Collaborative pharmacist prescribing helped patients discharge 26 minutes earlier and four times fewer prescriptions had errors.

## Contact



@BrettJAnderson



Brett.Anderson4@mh.org.au

## References

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2. Katz DT, Fernandez-Sanchez JV, Loeffler LA, Chang SM, Puertolas-Lopez MV, et al. Timely Delivery of Discharge Medications to Patients' Bedside: A Patient-centered Quality Improvement Project. *Pediatr Qual Saf.* 2020 May 8;5(3):e297. doi: 10.1097/pq9.0000000000000297.