

Outcomes of a multifaceted intervention to facilitate medicine handover at hospital discharge

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Background

Hospital pharmacists and doctors must collaborate to reconcile patients' medicine and prepare up-to-date medicine information at discharge. This pilot study evaluated the outcomes of a multifaceted intervention that included the training of doctors to record medicine changes, patient risk stratification and collaborative doctor and pharmacist discharge medicine reconciliation with the aim to improve medicine information handover at discharge from hospital.

Methods

Evaluation involved an audit of intervention patient discharge medicine information handover with a control cohort and a time-and-motion observation at Gold Coast Hospital and Health Service. Eligible general medicine patients ≥ 65 years were recruited on Wednesdays and Thursdays, 19 June to 28 August 2024. Control patients were discharged on Mondays, Tuesdays and Fridays. Time-and-motion observations were conducted over two weeks (July - August 2024) to compare pharmacists' conducting discharge medicine handover reconciliation (intervention cohort) to when conducted by doctors (control cohort).

Results

Most of the 52 intervention and 50 control patients were male (34/52, 65.5%; 32/50, 64.0%); average age was 78.6 (SD=0.01) and 77.7 (SD 9.30) years. Tables 1 and 2 provides a summary of discharge medicine information handover, comparing intervention and control patients.

Time-and-motion observation of 18 discharges (9 intervention, 9 control) showed pharmacist discharge medicine information handover time was reduced by 32 minutes between intervention and control cohorts (Table 3).

Table 1: Hospital discharge summary details

| Variable | Intervention No. | Intervention % | Control No. | Control % | p-value |
|---|------------------|----------------|-------------|-----------|---------|
| Medication reconciliation completed at discharge | | | | | 0.0001 |
| No | 0 | - | 3 | 6.0% | |
| Yes | 50 | 96.2% | 34 | 68.0% | |
| Partially | 2 | 3.8% | 13 | 26.0% | |
| Electronic discharge summary (EDS) completed | | | | | 0.659 |
| Yes | 40 | 76.9% | 43 | 86.0% | |
| Commenced | 2 | 3.8% | 1 | 2.0% | |
| Not commenced | 7 | 13.5% | 5 | 10.0% | |
| *Not required | 3 | 5.7% | 1 | 2.0% | |
| EDS includes all medicines | | | | | 0.059 |
| No | 1 | 1.9% | 7 | 14.0% | |
| Yes | 39 | 75.0% | 36 | 72.0% | |
| Not completed | 12 | 23.1% | 7 | 14.0% | |
| EDS sent to | | | | | 1.000 |
| GP | 34 | 65.4% | 37 | 74.0% | |
| Specialist | 5 | 9.6% | 5 | 10.0% | |
| Both | 1 | 1.9% | 1 | 2.0% | |
| Not completed | 12 | 23.1% | 7 | 14.0% | |
| Pharmacist involved in discharge | | | | | 0.025 |
| No | 0 | - | 5 | 10.0% | |
| Yes | 52 | 100.0% | 45 | 90.0% | |

*T-test; *Discharged to interim care, transition care program

Table 2: Time-period electronic discharge summary sent to primary care doctors

| Variable | Intervention | | Control | | p-value |
|--|--------------|-----------|-----------|------------|---------|
| | Mean days | 95% CI | Mean days | 95% CI | |
| Electronic discharge summary to primary care doctor | 4.3 | 1.24-7.17 | 9.2 | 4.58-13.88 | 0.072 |

*Two-sample Wilcoxon rank-sum (Mann-Whitney) test

Table 3: Time taken for discharge processes

| Activity | Intervention | | Control | | p-value |
|---|--------------|-------|------------|--------|---------|
| | *Mean time | SD | *Mean time | SD | |
| Time to prepare discharge and clinical review | 7.44 | 2.84 | 17.10 | 9.42 | 0.0095 |
| Time between discharge reconciliation and printing prescriptions | 73.55 | 83.46 | 28.71 | 39.45 | 0.1911 |
| Time discharge confirmed to reconciliation completed | 28.51 | 26.98 | 113.60 | 117.18 | 0.0532 |
| Time discharge confirmed to patient leaving hospital | 147.64 | 84.70 | 179.29 | 125.03 | 0.6253 |

*Mean time in minutes (decimals); *T-test

Conclusion

Our study showed that the multifaceted intervention reduced the time required to complete discharge medicine handover information, facilitated patient discharge, and reduced the time period of sending electronic discharge summaries to GPs.

