Auto-intervention by Pharmacy and its impact on the Time Spent on processing Discharge Medications

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Introduction

Over 200 prescriptions are reviewed by pharmacy daily before discharge medications are dispensed to patients. Prescription review is to ensure safe, practical and appropriate dosing regimens and this can take up to an hour, depending of the complexity of the prescription. At times, clarifications or interventions through phone calls have to be made to discuss medication plans with the prescriber. These phone calls contribute towards a longer processing time for discharge medications. Consequently, disruptions to the prescribers' duties may also be faced as time is spent to clarify medication orders and execute the amendments in system. Unavoidably, this also applies to minor amendments such as changes in dosage forms and duration of therapy, etc. Such minor amendments are sources of disruption and inefficiencies, and our team wants to explore solution(s) that can reduce phone calls related to such minor amendments to reduce disruptions and hence inefficiency.

Aim

This project aims to reduce time spent by pharmacy staff to contact doctors on interventions while processing prescriptions.

Methodology

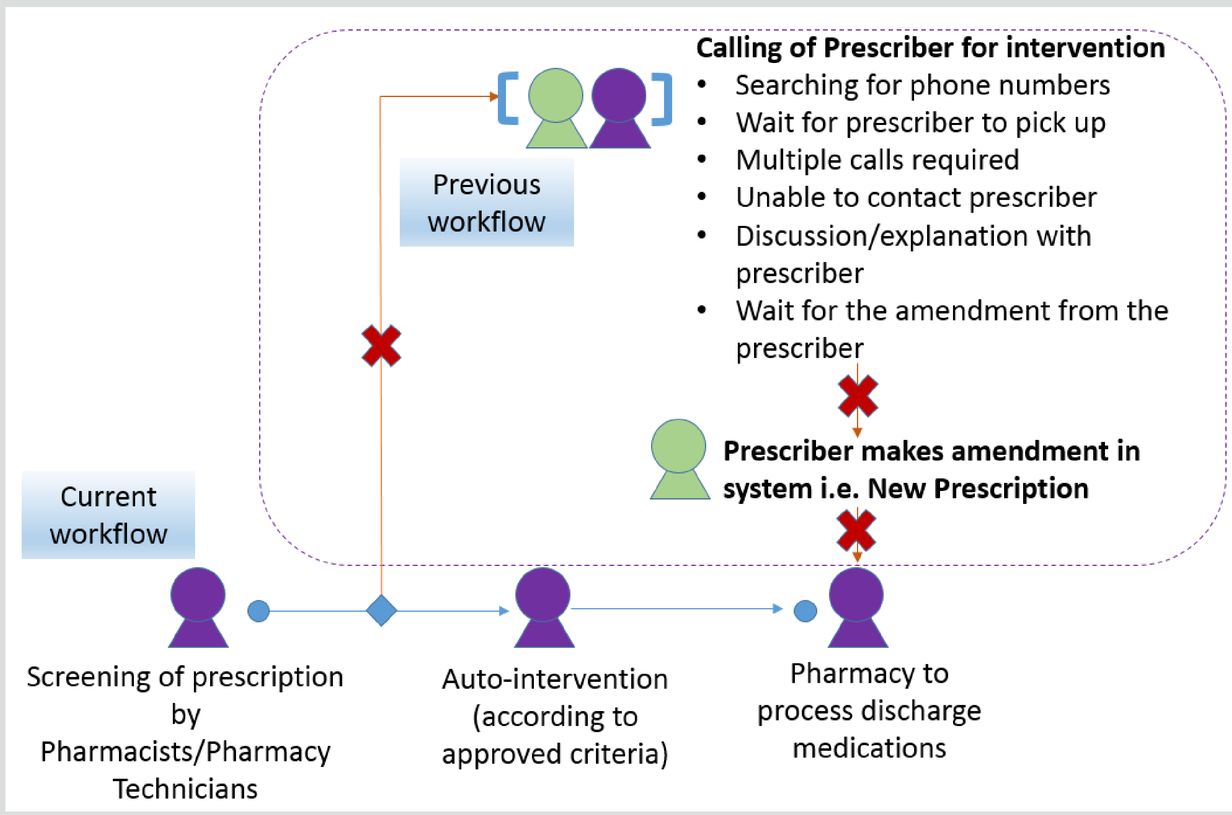
Pharmacy proposed the Auto-Intervention initiative whereby pharmacist or trained pharmacy technician can amend medication orders without consulting doctor/prescriber, only when it fulfills one of the criteria below. The list of criteria was developed upon reviewing the most common interventions performed by Pharmacy that are regarded as simple and straightforward.

Criteria for Auto-Intervention

1. Change of dosage form e.g. tablet to syrup (except anti-epileptic drugs, controlled drugs, and drugs with special formulation e.g. controlled or extended release)
2. Over-the-counter (OTC)/Pharmacy only (P) Item that was started in the ward but not prescribed upon discharge. Pharmacy can supply a label for the medication that is partially used and dispense accordingly with relevant counselling points
3. OTC items that patient/caregiver request upon discharge
4. P items that patient/caregiver request additional supplies upon discharge, Pharmacy to supply maximum of additional 1 week. Exclusion: potential for abuse drugs e.g. Procodin
5. Discharge prescriptions with prednisolone and antibiotics where the prescriber has indicated the total intended duration under Special Instruction or Clindoc but under- or over-prescribed on prescription.

The proposal was approved by Department of Pediatrics, Infectious Diseases Service and Medication Safety Committee. Thereafter, it was disseminated to the Pharmacy department and incorporated into pharmacy policy and procedure in June 2016.

Process Flow Map



Results

The total number of Auto-Interventions and inappropriate Auto-Interventions are shown in Figure 1. Some non-compliances were noticed from random audits in first 6 months of implementation. Therefore, audit was done for all auto-interventions to ensure compliance to the allocated criteria. 5 cases of non-compliance were identified which includes auto-intervening on prescription only items, intervening on duration longer than stated in the criteria. Prescribers were informed and prescriptions were amended. Staff involved were counselled and the criteria were reinforced to the team. Subsequently, full compliance was achieved!

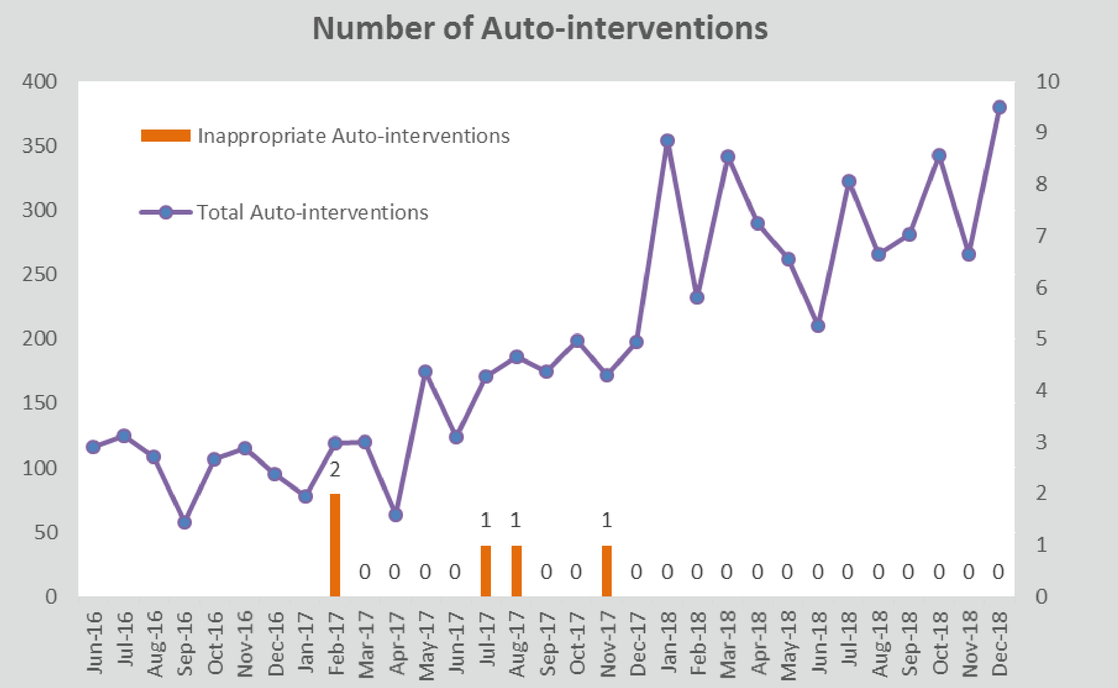


Figure 1: Total vs Inappropriate Auto-Interventions; 100% compliance since Dec 17

Time saved was then calculated based on time difference in processing prescriptions with or without auto-intervention (Figure 2).

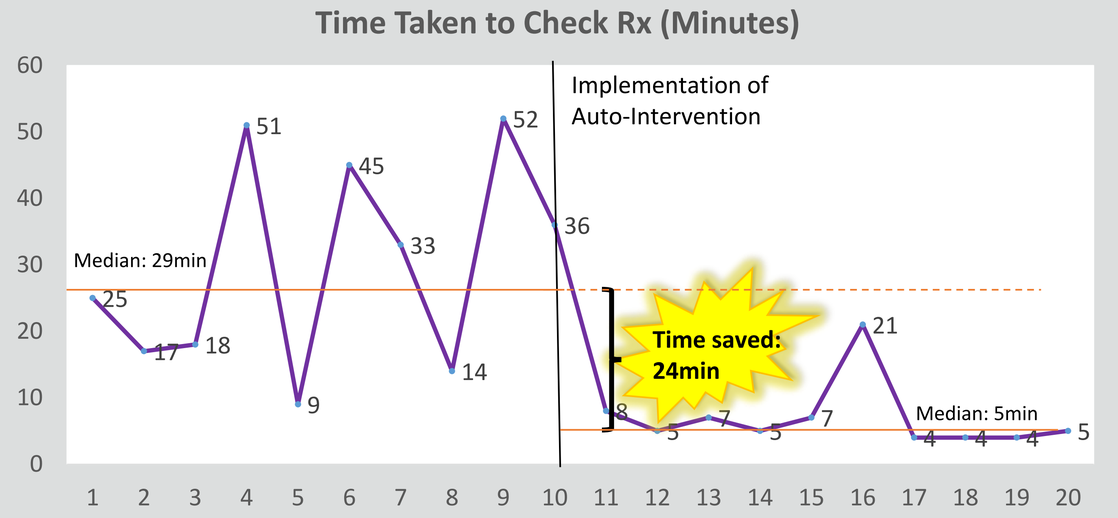


Figure 2: Significant time saved after implementing Auto-intervention. P<0.05.

Man-hour cost savings were then calculated based on the total number of interventions made in 2018.

Total Time saved by Auto-Intervention per year (2018)		
Time saved per prescription (min)	**Number of Auto-interventions**	**Time saved (hours)**
23	**3548**	**1360**

Man-hour Cost Savings per year (2018)	
Man-hour cost saving for pharmacist ($)**	74800
Calculated based on the total time saved per year of 1360 hours, man-hour rate of $55	

Conclusion

Implementation of Auto-Intervention reduces the time spent when doing prescription review by removing the need to call prescribers and the need for prescribers to amend the prescription. The amount of time saved leads to man hours cost saving, allowing both pharmacy staff and prescribers to spend more time on clinical work such as medication reconciliation, specialize counselling and etc.