

# Let it go! – Assessing pharmacist interventions during reconciliation of General and Speciality Medicine discharge prescriptions



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## Introduction

With increasing hospital activity and opportunities for advancing clinical pharmacist roles, Eastern Health Pharmacy implemented various redesign initiatives to free up clinical pharmacist time for new and higher priority activities.

EH 2016 data showed nurse-administered assessment of surgical discharge prescriptions using defined criteria (including assessing patients' as 'low vs. high' needs according to EH Pharmacy High Needs Criteria. This criteria encompasses elements such as high risk medications, patient co-morbidities, pathology abnormalities) enabled reallocation of ~14hours per week of EH clinical pharmacist time.

This study assessed differences in clinical pharmacist interventions when reconciling 'low vs. high' needs General and Specialty Medicine discharge prescriptions for the purpose of understanding potential risk(s) of implementing a similar nurse-administered assessment for such patients.

## Aim

To compare the rate and risk classification of pharmacist interventions in 'low vs. high' needs General and Speciality Medicine patients at discharge.

## Method

A prospective study was conducted over 1 week in June 2017. Adults admitted under General and Specialty Medicine Programs at 3 acute sites with a discharge prescription screened by a clinical pharmacist during pharmacy business hours were included.

A sample of convenience was selected aiming for 1:5 ratio of prescriptions of 'low vs. high' needs patients. This was due to pre-existing data indicating a high proportion of this population being 'high needs'.

Clinical pharmacists screened the discharge prescriptions as per standard procedures and completed an 'intervention data collection tool'. This included classifying patients as either 'low' or 'high' needs based on Eastern Health's Pharmacy High Needs criteria at discharge (Table 1.1) and recording the type and risk classification for each intervention (see Table 2 and 3). Intervention data was recorded on a Microsoft Excel® spreadsheet.

**Table 1.1: High Needs Criteria for Pharmacist Review at Discharge** [1, 3]

| High needs during admission <sup>1</sup>  |
|---|
| • Any patient assessed as high needs during admission   |
| Discharge medications   |
| • Injectable, variable doses, non-formulary or non-PBS medications  |
| Discharge destination   |
| • HITH, TCP, Post Acute Care, supported accommodation facility, RDNS for medication supervision or management |
| Others  |
| • Dose administration aids, known history of medication non-compliance  |

<sup>1</sup> A 'High needs patient during admission' is determined by the EH Pharmacy High Needs on Admission criteria. Refer to supplementary leaflets on display

**Table 1.2: Types of interventions** [Adapted from references: 2, 4]

|  |
|--|
| 1 = Validity of the prescription (legal/PBS requirements/incorrect quantities/repeats) |
| 2 = Allergy status not recorded/incorrect  |
| 3 = Wrong medication (including contraindications)                                     |
| 4 = Wrong strength/route/form  |
| 5 = Wrong frequency/directions/administration time                                     |
| 6 = Omission or unnecessary medication   |
| 7 = Dose adjustment (increase, decrease)   |
| 8 = Drug-drug interactions   |
| 9 = Other (e.g. medication query required)   |

**Table 1.3: Risk classification** [3,4]

|   |
|---|
| 1 (minor) = The medication error is likely to have minimal impact on the patient  |
| 2 (minor) = The medication error will likely lead to increased care requirements, for example, increased observations, interventions or pathology   |
| 3 (major) = The medication error will likely lead to long term health impairment which may lead to consequences, for example, increased length of hospital stay, the requirement for surgical or therapeutic intervention |
| 4 (major) = The medication error is likely to lead to a permanent injury, disability or functional loss   |
| 5 (major) = The medication error is likely to lead to death   |

## Results

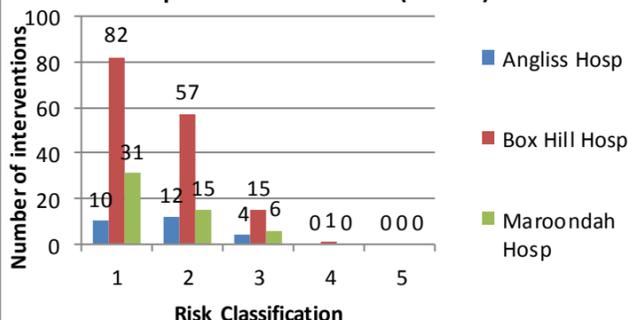
A total of 210 patients were included in the study (60% General Medicine & 40% Specialty Medicine) of which 87% (n=163) were assessed as 'high needs'.

79 patients (38%) did not have any medication discrepancies identified by clinical pharmacists during discharge reconciliation. This was evenly represented in both low (42%) and high (40%) needs patients. In the remaining 131 patients, pharmacists recorded 250 interventions. Only 7% of all interventions occurred in 'low needs' patients. The most common intervention recorded was 'omission or unnecessary medication' (39%).

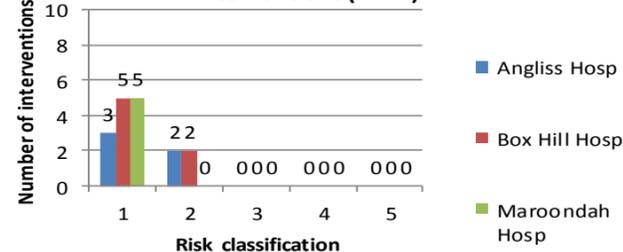
The risk rating of clinical pharmacist intervention is summarised in Table 2 and Figures 1 & 2.

| Interventions                                      | Number and risk rating of Clinical Pharmacist interventions |              |
|--|---|--------------|
|  | Gen Med   | Spec Med     |
| Number of interventions (% of total interventions) | 160 (64%)   | 90 (36%)     |
| Interventions classified as 'minor' risk           | 91% (n = 160)   | 88% (n = 90) |
| Interventions classified as 'major' risk           | 9% (n=160)  | 12% (n = 90) |

**Fig 1: Risk classification for 'High Needs' patient interventions (n = 233)**



**Fig 2: Risk classification for 'Low Needs' patient interventions (n=17)**



All interventions classified as major involved patients assessed as 'high needs'. Examples included (risk rating in parentheses):

- Amidodarone loading dose regime without weaning instructions (4)
- Incorrect warfarin dosing with respect to sub-therapeutic INR (3)
- Incorrect Mixtard 30/70 insulin dose - prescribed dose 28 units daily --> correct dose 16 units daily (3)
- Omitted: enoxaparin 80mg subcut daily for AF (3)
- Incorrect apixaban dose – prescribed 5mg bd → correct dose 2.5mg bd based on age and renal function (3)
- Omitted: clopidogrel newly initiated post STEMI (3)
- Omitted: metoprolol 25mg BD (3)
- Incorrect cholecalciferol dose (renal patient) - prescribed 50microg QID --> correct dose 1 capsule daily (3)
- Incorrect hydroxychloroquine dose – prescribed 1 daily, → correct dose 1 bd (3)

Intervention types in the 'low needs' group were predominately "9 – other" (35%. Common theme was quantity of supply) and "2 – allergy status not recorded/incorrect" (24%).

## Discussion

In our study, all 'major' interventions occurred in 'high needs' patients. All interventions in 'low needs' patients were 'minor' and constituted a very small percentage of all interventions (7%).

This suggests that the risk of clinical pharmacists not reconciling 'low needs' General and Speciality Medicine prescriptions is low.

A limitation of this study was the subjective nature of interventions recorded. Some pharmacists reported uncertainty in their risk classification. In these situations an independent clinical pharmacist reviewed and discussed the intervention with the original pharmacist and reclassified as agreed. A senior pharmacist also checked all interventions rated as 'major' and reclassified after discussion with clinical pharmacist where required.

## Conclusion

Whilst pharmacist interventions occurred in both 'high' and 'low' needs patients, the proportion and risk classification for 'low needs' patients was low.

This study supported our Department's proposed change in Model of Care, where only 'High Needs' patients have pharmacist medication reconciliation on discharge.

In a climate where pharmacist resources are limited, this approach is aimed to free up clinical pharmacist time for higher priority activities and time to "Let it go!" for lower priority activities.

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## References

1. Eastern Health Pharmacy High Needs Criteria on admission
2. Guchelaar H, Colen H, Kalmeijer M et al. Medication Errors: Hospital Pharmacist Perspective. Adis Data information, 2005. Drugs 2005; 65 (13): 1735-1746.

3. National Coordination Council for Medication Error Reporting and Prevention (NCCMERP) [online]. Available from URL: [www.nccmerp.org](http://www.nccmerp.org)

4. Westbrook JJ, Woods A, Rob MI, et al. Association of interruptions with increased risk and severity of medication administration errors. Arch Intern Med 2010;170:683-90