Effective Utilization of Resources through Identification of High Risk Patient Groups in Pharmacist-run Medication Reconciliation Service

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What is Med Rec?

ON ADMISSION

- Patient and care-givers
- Private drugs
- Herbal/ OTC drugs
- CMS
- DH Clinic drugs

Reconciled list on admission

Initial Medication Order
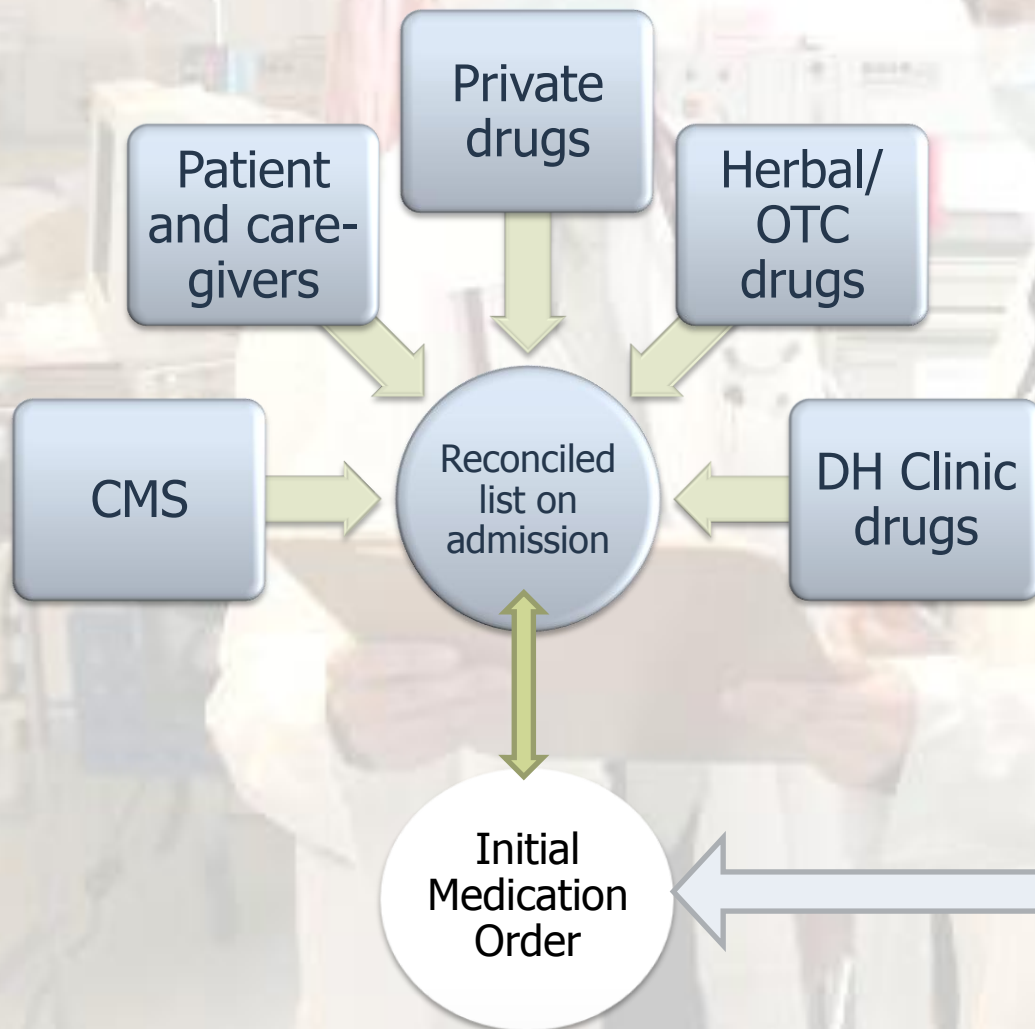
Interventions

- Discrepancies
- Appropriateness
- ADR
- Monitor therapy
- Drug interactions
- Formulation
- Administration

What is Med Rec?

UPON DISCHARGE

Consolidate discharge meds

Introduction

- Pharmacist-run Med Rec service
  → ↓ ↓ medication errors
- Scarce resources → patient prioritization

Objectives

- To identify patient factors associated with discrepancies / interventions

Methodology

List of risk groups deliberated among Medication Reconciliation pharmacists:

1. Follow-up outside HA
2. Recent GP visit within 2 weeks
3. Poor renal function (<30ml/min)
4. On peritoneal or hemodialysis (PD/HD)
5. On >5 chronic meds
6. With >5 co-morbidities
7. Followed up in more than 1 HA specialties with meds

8. On high risk meds with frequent dosage changes*
9. Elderly >65 years old, living alone and illiterate
10. Admitted for procedure/ examination/ consultation/ day case
11. With allergies to >3 drugs/ drug groups
12. Transferred from other hospitals
13. On Ryle's tube feeding

(*defined as those meds that require frequent dosage changes and are of narrow therapeutic range, thus putting patient at risk of adverse events; only warfarin, insulin and immunosuppressants were included in the current analysis)

χ^2 **test**
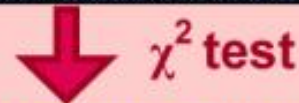
Risk groups with significant association to discrepancies/ interventions:

1. Follow-up outside HA (p value <0.001)
2. Recent GP visit within 2 weeks (p value <0.001)
3. Poor renal function (<30ml/min) (p value <0.001)
4. On peritoneal or hemodialysis (PD/HD) (p value = 0.006)
5. On >5 chronic meds (p value <0.001)

6. With >5 co-morbidities (p value <0.001)
7. Followed up in more than 1 HA specialties with meds (p value = 0.021)
8. On high risk meds with frequent dosage changes (p value <0.001)

Multiple Logistic Regression
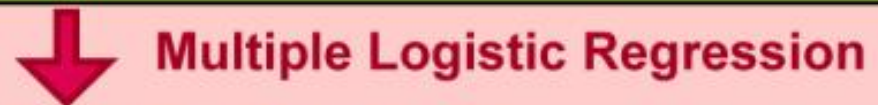
Factors statistically significant in constructing the logistic regression model:

1. Follow-up outside HA (OR = 3.39, p value <0.001, 95% CI: 2.57-4.48)
2. Recent GP visit < 2 weeks (OR = 1.69, p value <0.001, 95% CI: 1.28-2.22)
3. On >5 chronic meds (OR = 1.86, p value <0.001, 95% CI: 1.57-2.20)
4. On high risk meds with frequent dosage changes (OR = 1.35, p value = 0.013, 95% CI: 1.07-1.71)

Results & Outcomes

- 4 Risk groups identified:
  - 1) Follow-up outside HA **(OR = 3.39)**
  - 2) Recent GP visit <2 weeks (OR = 1.69)
  - 3) On >5 chronic meds (OR = 1.86)
  - 4) On high risk meds with frequent dosage changes (OR = 1.35)

- This study facilitates service planning by identifying high risk patients who would benefit most from the MR service.