

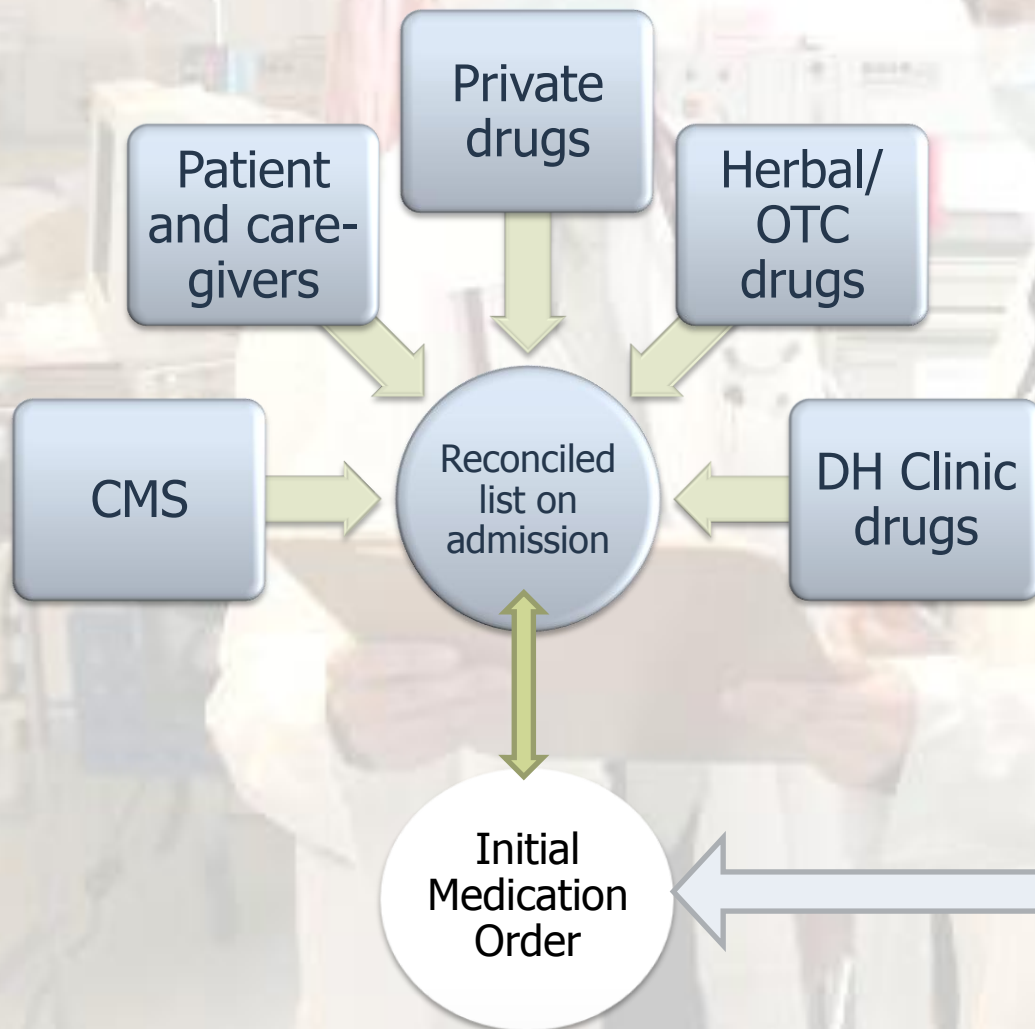
A conceptual image showing a hand placing puzzle pieces into a larger puzzle. The puzzle pieces are white with blue outlines, and the hand is also blue. The background is a dark blue gradient. The text is overlaid on the bottom half of the image.

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

By Elaine Lo, Pharmacist, KWH

# What is Med Rec?

## ON ADMISSION



### Interventions

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

# What is Med Rec?

## UPON DISCHARGE

Consolidate  
discharge  
meds



Hospital Authority  
Queen Mary Hospital

Allied Health Discharge Note

Admission Date: 10-02-2009 19:19 Admission Source: /  
Discharge Date: 13-02-2009 17:21 Discharge Type: COI

**Allied Health Discharge Note:**  
MEDICATION RECONCILIATION RECORD (PILOT RUN)

Change of medications  
1. Step up - Imdur from 30mg daily to 60mg daily  
2. Add - PO Augmentin 735mg tds since 11.2.09 11a  
3. Off - Slow K 600mg BD

Current Medication List  
1. PO Lasix 20mg daily  
2. CaCO<sub>3</sub> 1g daily  
3. Digoxin 62.5mcg daily  
4. Carlia 100mg daily  
5. TNG SL tab prn  
6. Plavix 75mg daily  
7. Pariet 20mg daily  
8. Imdur 60mg daily  
9. PO Augmentin 375mg tds  
10. Dologesic 1tab QID prn  
11. Spironolactone 12.5mg daily

Allied Health Discharge Note



# Introduction

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

## Objectives

- To identify patient factors associated with discrepancies / interventions



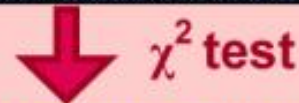
# Methodology

- 4 HA hospitals, 6 weeks, prospective

## List of risk groups deliberated among Medication Reconciliation pharmacists:

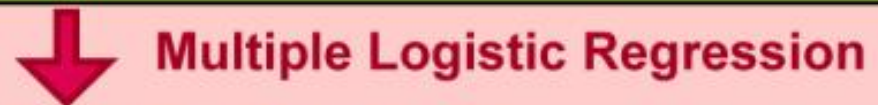
- |  |   |
|--|---|
| 1. Follow-up outside HA                                | 8. On high risk meds with frequent dosage changes*              |
| 2. Recent GP visit within 2 weeks                      | 9. Elderly >65 years old, living alone and illiterate           |
| 3. Poor renal function (<30ml/min)                     | 10. Admitted for procedure/ examination/ consultation/ day case |
| 4. On peritoneal or hemodialysis (PD/HD)               | 11. With allergies to >3 drugs/ drug groups                     |
| 5. On >5 chronic meds                                  | 12. Transferred from other hospitals                            |
| 6. With >5 co-morbidities                              | 13. On Ryle's tube feeding                                      |
| 7. Followed up in more than 1 HA specialties with meds |   |

(\*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)



## Risk groups with significant association to discrepancies/ interventions:

- |   |   |
|---|---|
| 1. Follow-up outside HA ( $p$ value <0.001)                   | 6. With >5 co-morbidities ( $p$ value <0.001)                               |
| 2. Recent GP visit within 2 weeks ( $p$ value <0.001)         | 7. Followed up in more than 1 HA specialties with meds ( $p$ value = 0.021) |
| 3. Poor renal function (<30ml/min) ( $p$ value <0.001)        | 8. On high risk meds with frequent dosage changes ( $p$ value <0.001)       |
| 4. On peritoneal or hemodialysis (PD/HD) ( $p$ value = 0.006) |   |
| 5. On >5 chronic meds ( $p$ value <0.001)                     |   |



## 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.