

Medication Reconciliation

By Ritchie Kwok
Clinical Pharmacist, [QMH](#)

What is “reconcile” ?

- From dictionary
 - To find agreement between (two ideas, situations, etc. that seem to be in opposition)
調和，調解
 - To bring back friendly relations between; make friendly again
使和解；使恢復友好關係

Basic Steps of MR

1. Record from computer record
2. Assess drug compliance and reconcile meds from different sources
3. Communicate with doctors about discrepancy and information gathered
4. Reconfirm h/o ADRs and drug allergy
5. Make record of reconciled profile

Basic Steps of MR

6. Discuss with doctors whenever necessary when changes on medication profile were made
7. Check DC prescription
8. Provide DC counseling
9. Maintain electronic record and make it available to patient and next point of care



病者資料致急症室病房

老人院名稱(如適用): 恩情護老中心 (上環荷李活道 181-191 號 全層)
 地址電話及傳真: 35291351 FAX: 35291352 (華冠大廈)

病者資料

親屬資料

姓名 _____ 近親姓名 _____
 性別/出生年份 F / 1938 關係 兒子
 身份証號碼 _____ 聯絡電話 9

1. 病歷及治療記錄: Acute Subarachnoid haemorrhage with CT done in 2003
Respiratory Failure via spinal discharge

2. 藥物或食物過敏: 無 有 (請填寫名稱) unknown

3. 平時活動能力:
 行動自如 需要協助 需要助行器 輪椅代步 長期坐椅 長期臥床

4. 特別營養: 糖尿病 低脂餐 鼻胃管哺飼 胃瘻造口哺飼 其他 _____

5. 現用藥物: (填寫藥物名稱之日期: _____) (請看附頁)

藥名、劑量、次數	處方機構	最後用藥日期/時間
<u>Terbutaline Sulphate 4 x 100 mcg</u> <u>esp at night, 4pm shift.</u>	<u>cyf chest</u>	<u>2-14-08 8am</u>
<u>Combivent Inhaler 2 puffs 4x/d</u>	<u>"</u>	<u>"</u>





醫院管理局
HOSPITAL
AUTHORITY

請注意
此處有
重要
事項

Patient kardex (B)

Date / Time	Management order	BP/P/B4H	Sign	Date / Time	Nursing notes	Sign
22/4	1 NPO			9:30	On emergency admission	
14:00	1 vF 2 DIS 0.6H / pint				Aspirin, dual looking	
	1 BID x CBC + D/C				BP: 137/82 - P. 99	
	1 T A S				Sabin 97% in room air	
	1 LFFT, CK			14 th	BP 123/82	
	1 CaPO ₄				RT exp nil.	
	1 x RQ. Amylase				car (✓) film (-)	
	1 Stool OB x 2				Blood (✓)	
	1 CXR (erect, PA) ✓				Dimp (✓)	
	1 throat ITO			17 th	RT exp 3rd with green	
	1 R/T Aspirate Q4H			20 th	BP 111/87 - 188	
				21 st	resting	
					Dr. NG NG OMMS 2002	
					Pharmacy Notes	
22/4 pm	Continued E. OAH 4tablets					
	patient's taking					
	Bricanyl 10mg BD					
	Combivent 4i, QID					
	Pl's on RT. Recommend					
	to do to poor Bricanyl					
	2.5mg QID. if worse					
	oral med.					
	Pl's refer to pharmacist when					
	DC to Interim OAH Staff. The					
	Miss Ritchie Kwok Clinical Pharmacist Tel: 2255 1396					

Group the case notes from 1 to 5.
Group Discharge sum., History,
Progress, etc. in Group 1.

Do not write on the Binding Margin
Prepared by HHO OMM

Form No.: HA2474/OM (Rev. 9.02)
Last revision date: Sept 2002

In response to Joint Commission Recommendations

1. Medication list to highly visible location
 - Highlighted on [progress sheet](#)
2. Reconcile at [interface of care](#)
3. Updated list to next provider of care and patient
 - DC note
4. Involve the [authorized person\(s\)](#) in MR

? Why pharmacist

- Drug knowledge, formulary status?
- Massive information on new drugs and new dosage forms
- Expertise in identifying drug-related problems and clinical judgement
- Double Checking
- Communication between pharmacists and other health care professionals

Logistics problem

- 24/7 running admission ward, pharmacist could only catch Rx during office hours
 - Counter-check Rx
 - Prepare list of med even if NPO patient to avoid missing when resume oral med
 - Matching ward round time to reconcile medications at discharge
- Incorporate clinical pharmacy service
- Work in the team with doctors and nurses
- Help to solve operational problems

Prelim data (12.3.08 – 31.5.08)

- No of ADR/MI prevented = 166 (30% of 561 charts reviewed)
- Unintended discrepancy = 23 (4%)
- Reduction on unplanned readmission

	May 2007	May 2008	Difference
# Unplanned admission (within 28 days)	73	58	15 (~21%)
Average length of stay (days)	2.29	2.68	0.39 (~17%)
Cost implication (per ward per month)*	\$501,510	\$466,320	\$35190 (~7%)

Prelim data (12.3.08 – 31.5.08)

- Save Doctors' time by double checking drug chart and provide info before Rx
- Save nurses' time by providing DC counseling to patients, education on special dosage form and changes on drug regimen
- Improving the quality of care

Case Sharing (1)

- The patient had her Metformin stopped by VMO without any documentation found in CMS. Case MO the prescribed Metformin as following the CMS record
- Pharmacist called OAH staff to reconcile medication record and found out the incident
- The incident was made because of the incompleteness of medication record and active retrieval of medication is necessary

Case 2

- Admitted on 15.3.08

The screenshot shows a medical software interface. On the left is a sidebar with a tree view of medical notes and results. The main area displays a list of medications with dates and dosages. A 'Latest Medication Record' table is highlighted with a blue border, showing details for various medications and dates.

Date	Code	Medication	Dosage
15/03/2008	21/03/2008	LACTULOSE liquid	oral : 20 mg om for 1 weeks
15/03/2008	21/03/2008	ADALAT RETARD (NIFEDIPINE) sustained release tablet	oral : 10 ml bd for 1 weeks
15/03/2008	21/03/2008	STEMETIL (PROCHLORPERAZINE MALEATE) tablet	oral : 20 mg bd for 1 weeks
15/03/2008	21/03/2008	PROPRANOLOL HCL tablet	oral : 10 mg tds prn (100%) for 1 weeks
15/03/2008	21/03/2008	SENNA tablet	oral : 10 mg daily for 1 weeks

Date	Code	Medication	Dosage
19/01/2008	QMH	MED	Out-patient
19/01/2008	11/04/2008	VITAMIN B12 (CYANOCOBALAMIN) injection 1000mcg/ml 1ml	parenteral : 1000 microgram(s) daily (every 3 month(s)) for 3 months
10/12/2007	GH	AGU	Discharge
10/12/2007	30/03/2008	TRIACT (ALUMINIUM / MAGNESIUM HYDROXIDE AND SIMETHICONE) tablet	oral : 1 tablet(s) tds prn (50%) for 16 weeks
10/12/2007	30/03/2008	ARTANE (BENZHEXOL HCL) tablet	oral : 2 mg daily for 16 weeks
10/12/2007	30/03/2008	FLUOXETINE HCL capsule	oral : 20 mg daily for 16 weeks
10/12/2007	30/03/2008	BETALOC (METOPROLOL TARTRATE) tablet	oral : 50 mg bd for 16 weeks
10/12/2007	30/03/2008	SINEMET 25/100 tablet	oral : 1 tablet(s) tds for 16 weeks

return

Local intranet

Case 2

- 86/F, lives alone,
- PMH: Depression with h/o psychotic depression FU private, h/o bradycardia caused by beta-blocker
- Naturally, MAR was Rx as electronic record. After drug counseling, the patient reported to have just started these drugs a month ago and stopped all private drugs. She was previously taking.....

Drugs from private doctors

- Adalat R 20mg QD
- Lorazepam 2mg Nocte
- Bromazepam 4.5mg Nocte
- Fluoxetine 20mg Nocte
- Metformin 250mg OM
- Dosulepin 75mg Nocte
- Piriton 12mg Nocte
- Propanolol 80mg OM

} Drugs from the same class

→ DM??

→ High dose beta-blocker
Bradycardia??

Intervention

- The patient was able to report the drug taking habit quite clearly though she has taken sinemet incorrectly which is the only mistake she's made in taking all the medications. Drug counseling given to ensure that the patient know how the drugs should be taken.
- She also complained to have worsening mood lately

Intervention

- After discussing with case MO
 - Clinical Psychiatrist was consulted for streamlining her anti-depressants
 - Off one of the beta-blockers (Metoprolol) and keep just Propranolol in low dose 10mg QD
 - Blood Glucose monitoring and Metformin was withhold temporary

Summary	Schedule
Alert	
Diagnosis	
Procedure	
Summaries	
Discharge Summary	
Nursing Discharge Summary	
Clinical Note	
Discharge + OP	
Discharge Note	
OP Note	
AE Note	
OT / Procedure Record	
ERS	
Assessment / Findings	
Investigation	
GRR	
Laboratory Result	
Recent Result	
GH 25/03/08 BK	
GH 25/03/08 CBC	
GH 17/03/08 UrCult	
GH 17/03/08 UrRoutine	
GH 17/03/08 Fungal Cul	
GH 16/03/08 CBC	
GH 16/03/08 HA1C	
GH 16/03/08 AMY, CP, FC	
QMH 15/03/08 Viral Cultu	
QMH 14/03/08 RESP	
QMH 13/03/08 CA, CCA,	
QMH 13/03/08 CBC	
QMH 08/03/08 B2	
GH 02/01/08 FIF EPC	

✓				oral : 7.5 mg nocte prn (50%) for 92 days
26/03/2008	25/06/2008			SINEMET 25/100 tablet
✓				oral : 1 tablet(s) tds for 92 days
15/03/2008	QMH	MED	Discharge	QMH3620
U	15/03/2008	21/03/2008		AUGMENTIN tablet 375mg
			® S	oral : 375 mg tds for 1 weeks
U	15/03/2008	21/03/2008		ARTANE (BENZHEXOL HCL) tablet
			®	oral : 2 mg daily for 1 weeks
U	15/03/2008	21/03/2008		DULCOLAX (BISACODYL) rectal suppository
				rectal : 10 mg daily prn (100%) for 1 weeks
U	15/03/2008	21/03/2008		BROMAZEPAM tablet
				oral : 3 mg nocte prn (100%) for 1 weeks, dispense 7 dose
U	15/03/2008	21/03/2008		PIRITON (CHLORPHENIRAMINE MALEATE) tablet
			®	oral : 4 mg tds for 1 weeks
U	15/03/2008	21/03/2008		PEPCIDINE (FAMOTIDINE) tablet
			®	oral : 20 mg bd for 1 weeks
U	15/03/2008	21/03/2008		PROZAC (FLUOXETINE HCL) capsule
				oral : 20 mg om for 1 weeks
U	15/03/2008	21/03/2008		LACTULOSE liquid
			®	oral : 10 ml bd for 1 weeks
U	15/03/2008	21/03/2008		ADALAT RETARD (NIFEDIPINE) sustained release tablet
			®	oral : 20 mg bd for 1 weeks
U	15/03/2008	21/03/2008		STEMETIL (PROCHLORPERAZINE MALEATE) tablet
			® S	oral : 10 mg tds prn (100%) for 1 weeks
U	15/03/2008	21/03/2008		PROPRANOLOL HCL tablet
				oral : 10 mg daily for 1 weeks
U	15/03/2008	21/03/2008		SENNA tablet
			®	oral : 7.5 mg nocte for 1 weeks
U	15/03/2008	21/03/2008		SINEMET 25/100 tablet
			®	oral : 1 tablet(s) tds for 1 weeks
19/01/2008	QMH	MED	Out-patient	QMH5020
19/01/2008	11/04/2008			VITAMIN B12 (CYANOCOBALAMIN) injection 1000mcg/ml
			✓	parenteral : 1000 microgram(s) daily (every 3 month(s)) for 3 months
10/12/2007	GH	AGU	Discharge	GH1120
10/12/2007	30/03/2008			TRIACT (ALUMINIUM / MAGNESIUM HYDROXIDE AND SIMETHICONE) tablet
				oral : 1 tablet(s) tds prn (50%) for 16 weeks

Keep just one benzodiazepam at lower dose

Keep SSRI and off TCA

Low dose beta-blocker

Outcomes

- Safety outcomes:
 - Prevention of depression episode which is caused by inappropriate drug Tx for depression which could potentially cause admission to psychiatric unit or even other symptoms of depression, e.g. suicide
 - Prevention of worsening control of DM and unnecessary side effects of Metformin
 - Make sure each indication was properly treated, e.g – Depression, DM and HTN