Effectiveness of Pharmacist-led Frail Elderly Medication Service in Acute Geriatric Ward

HA CONVENTION 2017

Candis Chang

Pharmacist

Department of Pharmacy

Ruttonjee and Tang Shiu Kin Hospitals

Background

Polypharmacy

Inappropriate Prescribing

Non-compliance

Highest Risk Frail Elderly

Improve discharge medication compliance

Optimize drug therapy

Objectives

- To optimize medication therapy in frail elderly patients
- To enhance compliance and communication through pharmacist-led discharge counselling and patient-friendly medication reminders with patients, caregivers or staff in old aged home

To provide better patient care to elderly through multidisciplinary team

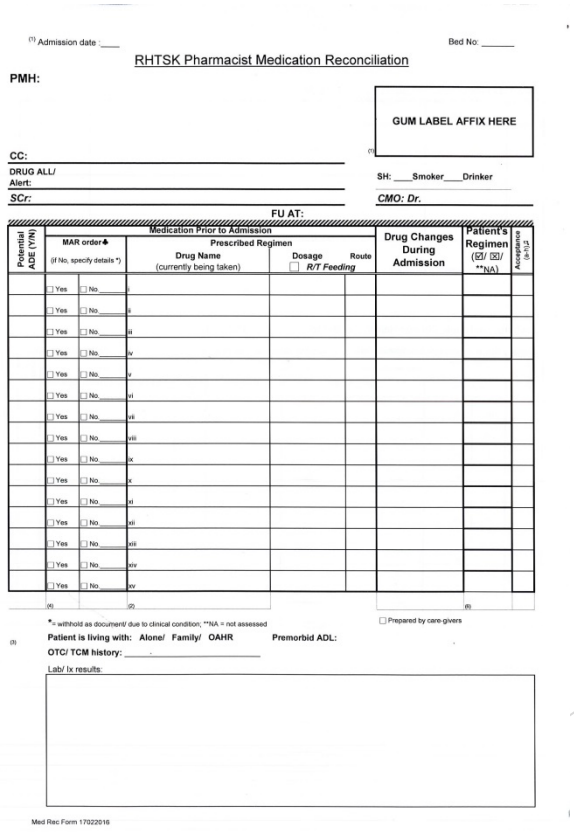
Setting

- In an Acute & Convalescent Female Geriatric Ward
- Total Beds: 42
- Period: Feb 2016- Jan 2017 (1 year)
- Part-time basis, From Mon to Fri , around 3-4 hours/day

Pharmacist Service (Part-time basis)

Medication Reconciliation

- Review any unintentional medication discrepancies on admission or upon discharge
- Check any duplications from different specialties/hospitals
- Check compliance
- Trace private meds



(1) Admission date: ____ Bed No: _____

RHTSK Pharmacist Medication Reconciliation

PMH:

GUM LABEL AFFIX HERE

CC:

DRUG ALL/
Alert:

SCr:

SH: ___Smoker___Drinker

CMO: Dr.

FU AT:

Potential ADE (Y/N)	MAR order♣ (if No, specify details *)	Medication Prior to Admission: Prescribed Regimen — Drug Name (currently being taken)	Dosage	Route	R/T Feeding	Drug Changes During Admission	Patient's Regimen (☑/ ☒/ **NA)	Acceptance (a-b)♫
	☐ Yes ☐ No	i						
	☐ Yes ☐ No	ii						
	☐ Yes ☐ No	iii						
	☐ Yes ☐ No	iv						
	☐ Yes ☐ No	v						
	☐ Yes ☐ No	vi						
	☐ Yes ☐ No	vii						
	☐ Yes ☐ No	viii						
	☐ Yes ☐ No	ix						
	☐ Yes ☐ No	x						
	☐ Yes ☐ No	xi						
	☐ Yes ☐ No	xii						
	☐ Yes ☐ No	xiii						
	☐ Yes ☐ No	xiv						
	☐ Yes ☐ No	xv						

(4) (5) (6)

*= withhold as document/ due to clinical condition; **NA = not assessed

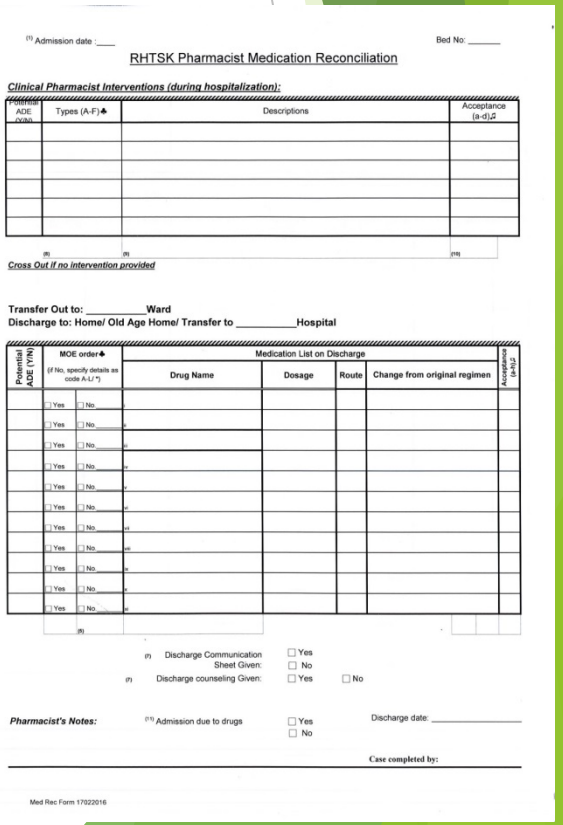
☐ Prepared by care-givers

(3) Patient is living with: Alone/ Family/ OAHR Premorbid ADL:

OTC/ TCM history: _____

Lab/ Ix results:

Med Rec Form 17022016



(1) Admission date: ____ Bed No: _____

RHTSK Pharmacist Medication Reconciliation

Clinical Pharmacist Interventions (during hospitalization):

Omitted ADE (O/M)	Types (A-F)♣	Descriptions	Acceptance (a-d)♫

(8) (9) (10)

Cross Out if no intervention provided

Transfer Out to: _____Ward
Discharge to: Home/ Old Age Home/ Transfer to _____Hospital

Potential ADE (Y/N)	MOE order♣ (if No, specify details as code A-L/ *)	Medication List on Discharge: Drug Name	Dosage	Route	Change from original regimen	Acceptance (a-b)♫
	☐ Yes ☐ No i					
	☐ Yes ☐ No ii					
	☐ Yes ☐ No iii					
	☐ Yes ☐ No iv					
	☐ Yes ☐ No v					
	☐ Yes ☐ No vi					
	☐ Yes ☐ No vii					
	☐ Yes ☐ No viii					
	☐ Yes ☐ No ix					
	☐ Yes ☐ No x					

(6)

(7) Discharge Communication Sheet Given: ☐ Yes ☐ No

(7) Discharge counseling Given: ☐ Yes ☐ No

Pharmacist's Notes:

(11) Admission due to drugs ☐ Yes ☐ No

Discharge date: _____

Case completed by:

Med Rec Form 17022016

RESULT

Total admissions during study period = 2319

Total cases with medication reconciliation on admission= 1698 (73%)

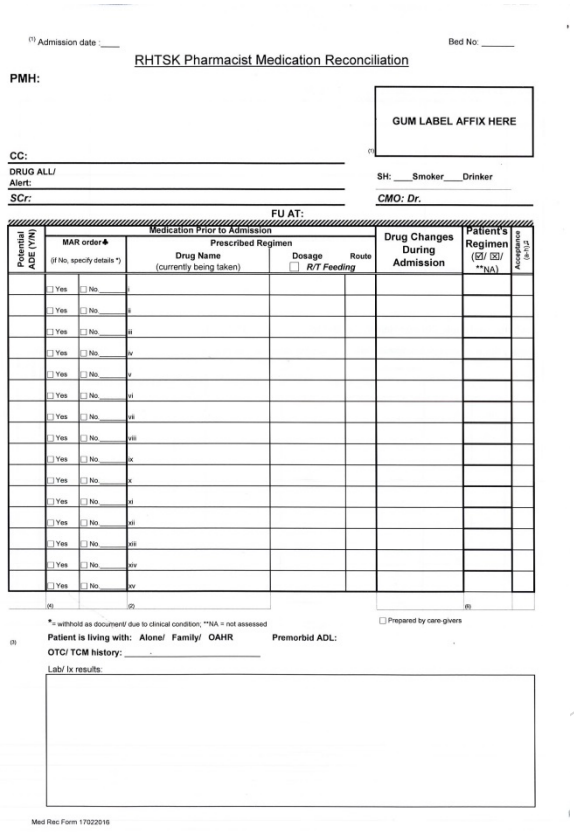
Number of medication errors on admission and upon discharge = 229

Total cases with medication reconciliation upon discharge= 920 (40%)

Pharmacist Service (Part-time basis)

Medication Reconciliation

- Review any unintentional medication discrepancies on admission or upon discharge
- Check any duplications from different specialties/hospitals
- Check compliance
- Trace private meds



(1) Admission date: ____ Bed No: _____

RHTSK Pharmacist Medication Reconciliation

PMH:

GUM LABEL AFFIX HERE

CC:

DRUG ALL/
Alert:

SCr:

SH: ___Smoker___Drinker

CMO: Dr.

FU AT:

Potential ADE (Y/N)	MAR order♣ (if No, specify details *)	Medication Prior to Admission: Prescribed Regimen — Drug Name (currently being taken)	Dosage	Route	R/T Feeding	Drug Changes During Admission	Patient's Regimen (☑/ ☒/ **NA)	Acceptance (a-b)♫
	☐ Yes ☐ No	i						
	☐ Yes ☐ No	ii						
	☐ Yes ☐ No	iii						
	☐ Yes ☐ No	iv						
	☐ Yes ☐ No	v						
	☐ Yes ☐ No	vi						
	☐ Yes ☐ No	vii						
	☐ Yes ☐ No	viii						
	☐ Yes ☐ No	ix						
	☐ Yes ☐ No	x						
	☐ Yes ☐ No	xi						
	☐ Yes ☐ No	xii						
	☐ Yes ☐ No	xiii						
	☐ Yes ☐ No	xiv						
	☐ Yes ☐ No	xv						

(4) (5) (6)

*= withhold as document/ due to clinical condition; **NA = not assessed

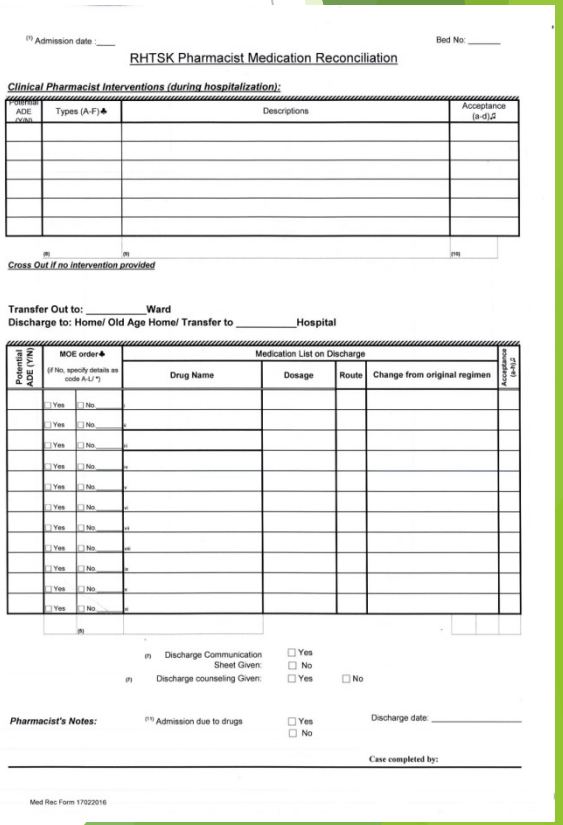
☐ Prepared by care-givers

(3) Patient is living with: Alone/ Family/ OAHR Premorbid ADL:

OTC/ TCM history: _____

Lab/ Ix results:

Med Rec Form 17022016



(1) Admission date: ____ Bed No: _____

RHTSK Pharmacist Medication Reconciliation

Clinical Pharmacist Interventions (during hospitalization):

Omitted ADE (O/M)	Types (A-F)♣	Descriptions	Acceptance (a-d)♫

(8) (9) (10)

Cross Out if no intervention provided

Transfer Out to: _____Ward
Discharge to: Home/ Old Age Home/ Transfer to _____Hospital

Potential ADE (Y/N)	MOE order♣ (if No, specify details as code A-L/ *)	Medication List on Discharge: Drug Name	Dosage	Route	Change from original regimen	Acceptance (a-b)♫
	☐ Yes ☐ No i					
	☐ Yes ☐ No ii					
	☐ Yes ☐ No iii					
	☐ Yes ☐ No iv					
	☐ Yes ☐ No v					
	☐ Yes ☐ No vi					
	☐ Yes ☐ No vii					
	☐ Yes ☐ No viii					
	☐ Yes ☐ No ix					
	☐ Yes ☐ No x					

(6)

(7) Discharge Communication Sheet Given: ☐ Yes ☐ No

(7) Discharge counseling Given: ☐ Yes ☐ No

Pharmacist's Notes:

(11) Admission due to drugs ☐ Yes ☐ No

Discharge date: _____

Case completed by:

Med Rec Form 17022016

RESULT

Total admissions during study period = 2319

Total cases with medication reconciliation on admission= 1698 (73%)

Number of medication errors on admission and upon discharge = 229

36% (n=604) of patients are living alone or with family

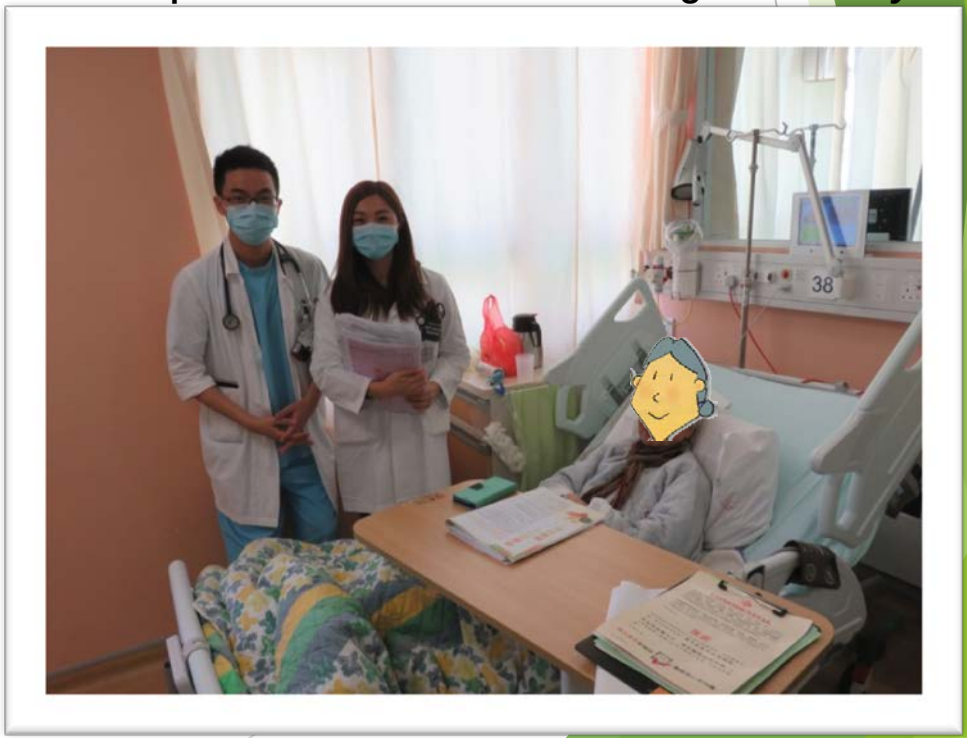
Total cases with medication reconciliation upon discharge= 920 (40%)

- Among the 604 cases, 76% (n=457) of patients' compliance was checked
- 8% of patients was non-compliant

Pharmacist Service (Part-time basis)

Medication Review

- Drug Regimen
- Renal dosage adjustment, e.g. antibiotics, LMWH, NOACs
- Potentially inappropriate prescribing
- Deprescribing, e.g. anti-hypertensive drugs, oral hypoglycemic agents, patients in end of life
- Drug crushability recommendation in patients with swallowing difficulty or on Ryle's tube



Type of Interventions

- Drug Regimen
- Dosage Adjustment
- Potentially Inappropriate Prescription (PIP)
- Deprescribing
- Possible Prescribing Omission (PPO)
- Monitoring
- Drug Crushability Issue

Defined as the use of medicines whose potential harms may outweigh the benefits or the drug is not necessary, based on the clinical situation

Defined as tapering, reducing, or stopping medications, with the goal of managing polypharmacy and improving outcomes

Defined as the omission of potentially beneficial medication

RESULT

Total number of interventions : 236
85% of interventions was accepted

Classification of Intervention	201.5*
A. Drug Regimen	60.5
B. Dosage Adjustment	35
C. Potentially Inappropriate Prescription	38
D. Deprescribing	27
E. Possible Prescribing Omission	1
F. Monitoring	2
G. Drug Crushability Issue	38

* Partially accepted intervention was considered as 0.5

Intervention Form

Ruttonjee & Tang Shiu Kin Hospitals Pharmacist Intervention Form	Please affix patient gum label

Detail of Pharmacist Intervention:

With reference to (if applicable) : ☐ STOPP ☐ START ☐ Guidelines on elderly

Drug(s)	Recommendation(s)

By Pharmacist: **Date:**

Physician's Action:

- ☐ The recommendation is accepted.
- ☐ The recommendation is partially accepted with modification by physician.
  Comments (if any): _____
- ☐ The recommendation is not accepted by physician's clinical judgment.
- ☐ Others. Please state:
  Comments (if any): _____

Doctor's Signature: **Date:**

Pharmacy Use Only:

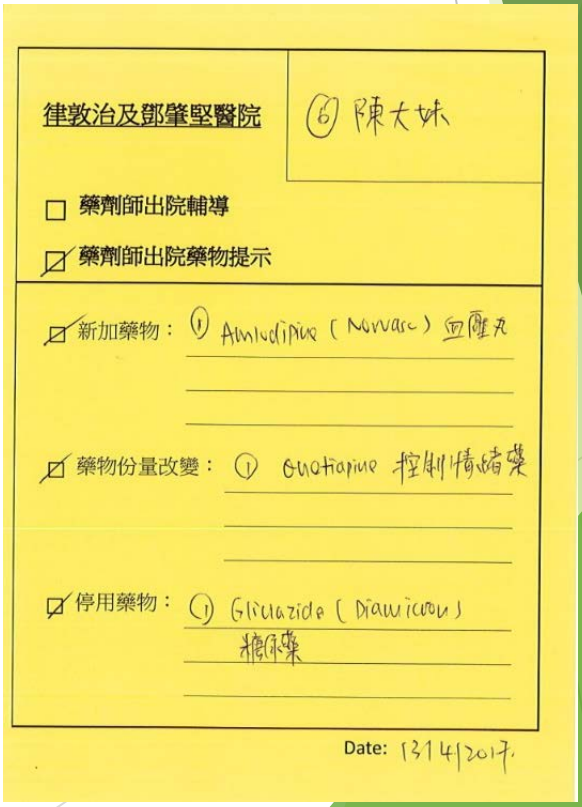
Categories:

- ☐ A. Drug Regimen
- ☐ B. Dosage Adjustment
- ☐ C. Potentially Inappropriate Prescription (PIP)
- ☐ D. Deprescribing
- ☐ E. Possible Prescribing Omission (PPO)
- ☐ F. Monitoring
- ☐ G. Other Issues
  - ☐ Swallowing Issue ☐ MR

Pharmacist Service (Part-time basis)

Medication Counselling

- To patient or caregivers
- To caregivers in Old Aged Home
- With a designed discharge medication summary for any drug regimen amendment



律敦治及鄧肇堅醫院 (6) 陳大妹

☐ 藥劑師出院輔導

☑ 藥劑師出院藥物提示

☑ 新加藥物： ① Amlodipine (Norvasc) 血壓丸

☑ 藥物份量改變： ① Quetiapine 控制情緒藥

☑ 停用藥物： ① Gliclazide (Diamicron) 糖尿藥

Date: 13/4/2017

RESULT

Total admissions during study period = 2319

Total cases with medication reconciliation on admission= 1698 (73%)

Number of medication errors on admission and upon discharge = 229

36% (n=604) of patients are living alone or with family

Total cases with medication reconciliation upon discharge= 920 (40%)

- Among the 604 cases, 76% (n=457) of patients' compliance was checked
- 8% of patients was non-compliant

30% (n=280) with discharge counselling

25% (n=230) with patient-friendly reminder

Potentially Inappropriate Prescription	***De-prescribing***
According to STOPP, ● TCA (e.g. amitritylline) ● SSRI ● Distigmine (Uretid) on Foley	Anti-hypertensive drugs in patient with low BP
	Oral hypoglycemic drugs, e.g. gliclazide (Diamicron), in patient with frequent hypoglycemia, or relatively low HbA1c
Antibiotic for inappropriate duration	Anti-parkisononism drugs, e.g. Sinemet, Madopar, in frail and bedbound patients with reduced intake
Electrolyte Supplement according to Na, K, HCO3, etc	
ACEI due to increased Cr and K	Dementia drug, e.g Exelon, Memantine in frail elderly or end of life patients
Metformin due to increased Cr	
PPI not indicated	
Addition of Thyroxine in subclinical hyperthyrodism	Future disease preventive drugs, e.g. Fosamax and Calcium for osteoporosis, multivitamin, statins for stroke prophylaxis in patient with limited life expectancy
Diuretic in patient with electrolyte imbalance	
Benzhexol (Artane) to treat extra-pyramidal side effects of antipsychotic drugs, esp in confused patients	Anti-psychotic drugs, e.g. deanxit, with unclear indication and frail elderly
Warfarin use for 1st uncomplicated DVT for longer than 6 months	

How do physicians and nurses think about the service?

- All physicians and nurses indicated that the input from a pharmacist in the ward is beneficial and decreases the amount of time they have to spend with the patients on medication-related problems.
- They agreed for us to continue providing this kind of service and recommend it to other wards.

Conclusion

- It is the first study to report findings of geriatric ward clinical pharmacy service in our hospital
- demonstrated the value of a pharmacist in the multidisciplinary team caring for frail elderly in optimizing medication use and reducing medication errors.
- → Assist us in future planning for

  Quality Improvement Services

Acknowledgement

- Mr. Yick Pak Kin, RTSKH Senior Pharmacist
- Dr Carolyn Kng, RTSKH Cons (IMS)/Head of Dept (Ger)
- Dr H.L. Kong, RTSKH SMO (Ger)
- Dr C.K. Wong, RTSKH AC (Ger)
- Dr K.L. Lin, RTSKH AC (Ger)
- Dr N.C. Shum, RTSKH VMO (Ger)
- Miss Sabrina Ho, RTSKH NC (Ger)
- Miss Peggy Lui, RTSKH WM (Ger)
- Miss Florence Ng, RTSKH WM(Ger)
- All Doctors & Nurses & Supporting Staff in Ward C8


Thank You
Q & A