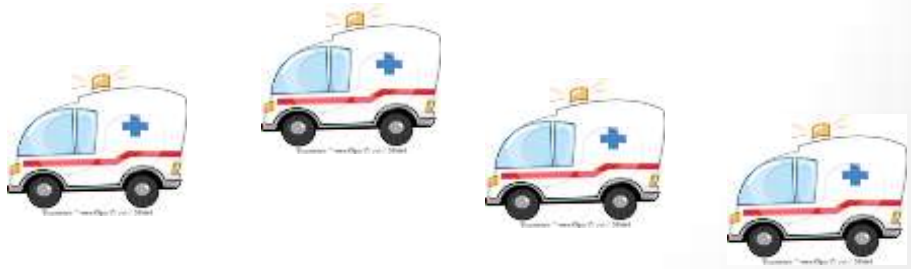
Empowering Older Adults On Drug Adherence A Collaborative Service Model

Cheng Po-po, Peggy
Nurse Consultant (Gerontology)
Yan Chai Hospital, KWC, HA

仁濟醫院
Yan Chai Hospital

Introduction

- Older adults have multiple pathologies leading to poly-pharmacy
- They have altered pharmacokinetics & pharmacodynamics
- More common to use TCMs/OTC drugs/healthy food as supplement
- More prone to adverse drug reactions from inappropriate medications and poor drug compliance
- Drug-related problems might lead to inappropriate use of emergency service and avoidable admissions



Related to polypharmacy problems

- Physicians :
  - Acute care:
    - Prescribe drug / treatment to settle the acute problems
  - Extended care:
    - Optimize the necessary use of drug for the patients;
    - Avoid inappropriate use of drug, such as under-treatment, over-treatment, drug-drug interaction & drug-disease interactions.

- In real practice (Extended Care Unit)
  - Busy to cope with daily workload, various special clinics, special investigation procedures, ward rounds, emergency call duty …
  - Each physician needs to take charge of > 37 patients
  - Unaffordable to provide daily drug regimen review

Pilot Project

Multidisciplinary Approach to Tackle Medication-related Problems

- Aims:
  - To formulate the **BEST treatment plan** through **teamwork**
  - To reduce polypharmacy
  - To provide medication reconciliation
  - To enhance patient **safety** by identifying potentially inappropriate medications (PIMs)
  - To provide drug-related problem support to physicians & nurses

Joint Pharmacy Service Round
(since March, 2014)

Multidisciplinary Approach to Tackle Medication-related Problems

- Physicians : (SMO / AC / MO)
- Clinical Pharmacists:
  - specialized in streamlining complicated drug regimens
  - best person to fill the service gap
- Nurses :
  - Better understanding on patients' need & complaint
  - provide the most valuable information on patients' drug response
- Patients:
  - Direct patient interaction

Joint Pharmacy Service Round

Service logistics: Weekly service round

- One male medical rehabilitation with 37 beds and one local infirmary ward with 38 beds (mixed gender)
- All newly transferred patients to the Medical Extended Care Unit (< 7 days)
- Selected patients, who have problems in poly-pharmacy, poor drug compliance, &/or poor drug tolerance, referred by healthcare professions
  - Make recommendations to physicians by attaching **standard intervention forms**
  - **Physicians are feel free to accept or decline the recommendations**

Service Workflow

Service Results

Basic Demographic Data:

Period	4th Mar 2014 to 30th Nov 2014
No. of Wards	2 (Ward 10W & 9E)
No. of Beds	57 (Male) & 18 (Female)

No. of Patients Screened	459
No. of Drug Items Reviewed	3,603
Average Age of Patients	77.5 ± 12.01 years old
Percentage of Male	77.8%

Service Results

Categories of Interventions and Physicians' Acceptance Rate:

Total No. of Interventions Documented	319 (100%)
❑ Drug Selection	59 (18.50%)
❑ Drug Regimen	86 (26.96%)
❑ Unnecessary Drug (Polypharmacy)	164 (51.41%)
❑ Additional Drug Needed	7 (2.19%)
❑ Adverse Drug Reactions	1 (0.31%)
❑ Drug Monitoring	0
❑ Other Treatment Issues	2 (0.63%)
No. of Drug Categories Involved	42
Physicians' Acceptance Rate to Interventions	**87.78%**

Service Results

Consequences of Accepted Interventions:

Drug Discontinued	**186**
Drug Added	5
Changed to New Drug	44

No. of Regular Drug Administration Frequency Discontinued	516
No. of Regular Drug Administration Frequency Added	71
Net Decrease in No. of Frequency:	**445**

Average Length of Stay in Ward 9E &10W	**25.4 days**
Est. Total Decrease in No. of Frequency:	**11,303**

Physicians' & Nurses' comments

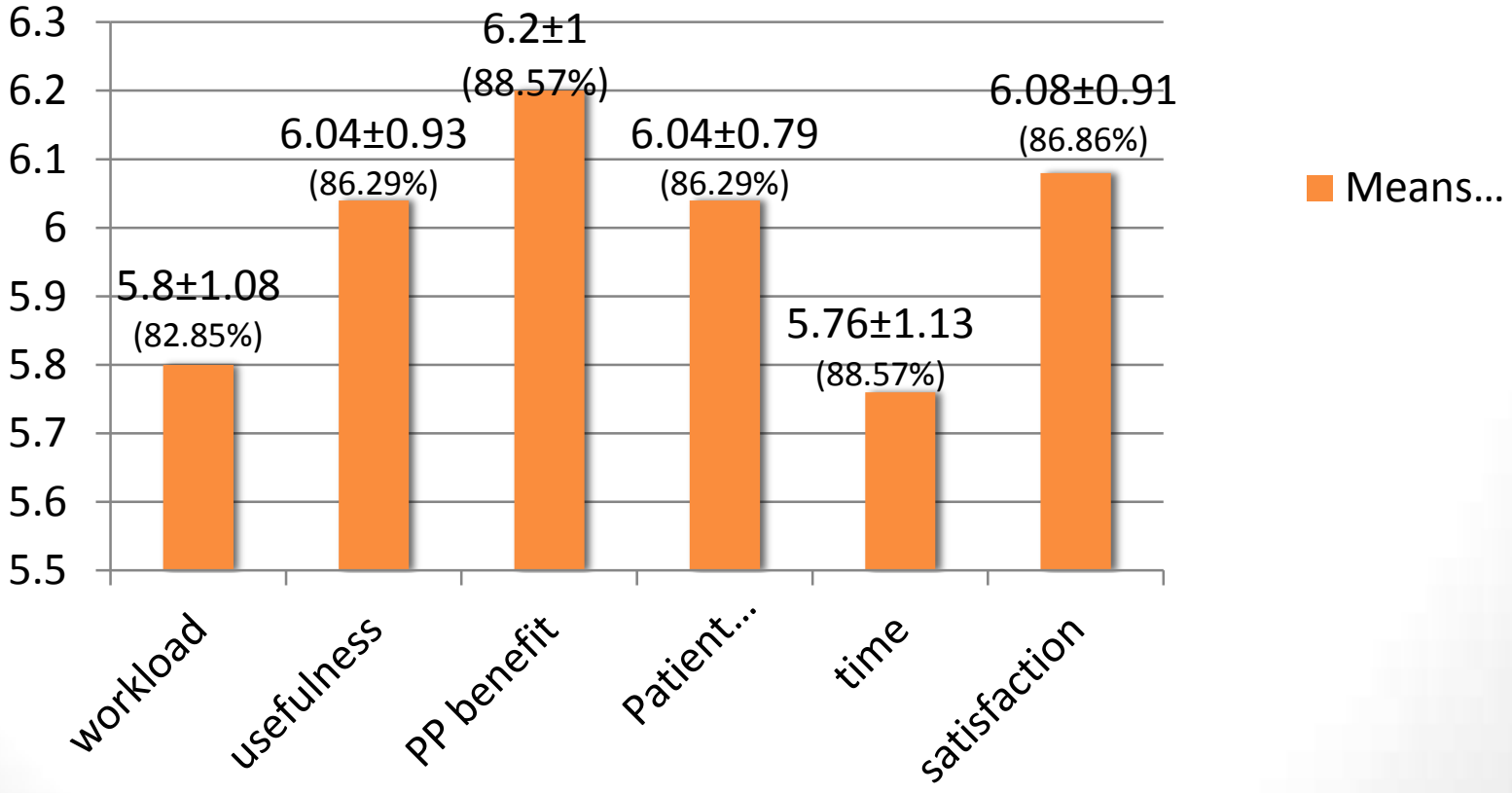
- **Cheerful & Positive** response from physicians & nurses
- 6 simples questions using 7-point Likert scales (1 = very disagree, 7 = very agree)
- Physicians' comment: 9 questionnaires were collected including 1 COS, 1 SMO, 3ACs, & 4 residents

Physicians' Comments:

Statement	Mean Score (out of 7 marks)
The interventions help reduce the problem of polypharmacy	6.56±0.726 (93.7%)
My patients were benefited by the interventions	6.44±0.726 (92%)
Overall, I am satisfied with the support from the Joint Pharmacy Service Round	**6.56±0.726 (93.7%)**

Nurses' Response

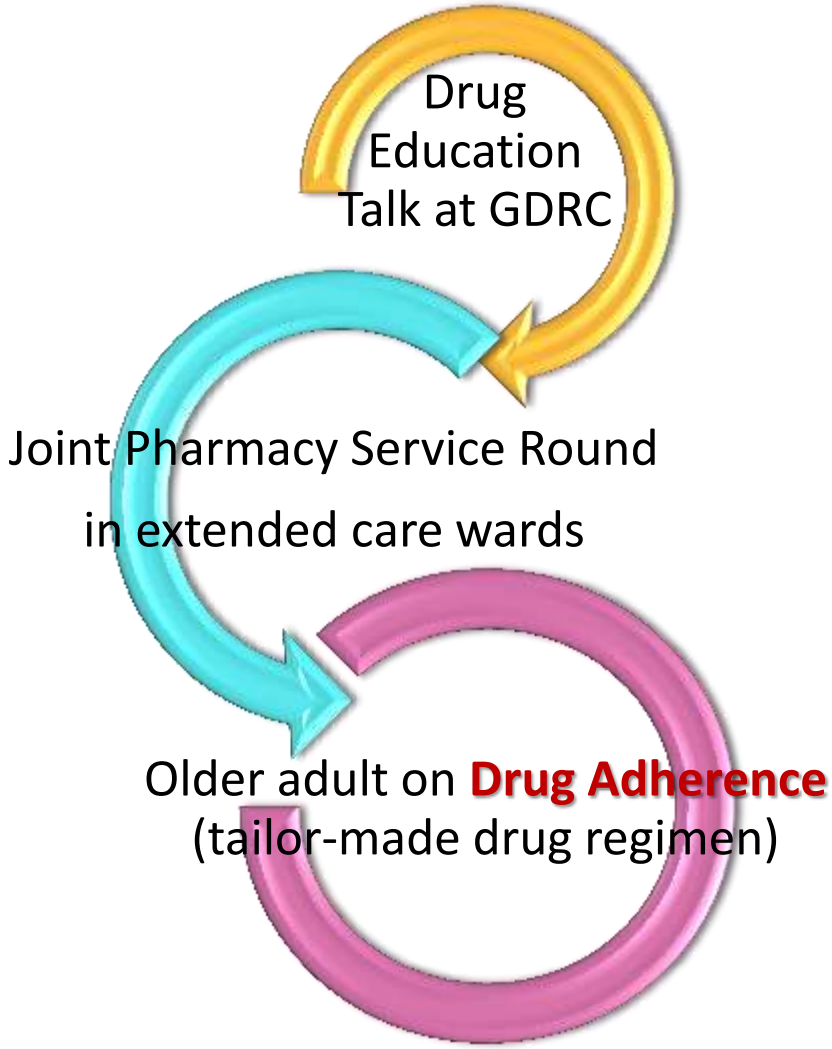
- 25 questionnaires were collected (100% response rate)
- 4 NO/APN, 11 RN, 10 EN



Win – Win Process

- **Improve patients' safety & quality of life** by minimizing polypharmacy & avoiding potentially inappropriate medications
- Improve patient **drug compliance**
- **Alleviate physicians' tension** on medication reconciliation & drug regimen review
- **Reduce nursing time** on administration of redundant drugs & monitoring avoidable ADEs
- **Reduce pharmacy service time** on buying & dispensing unnecessary drugs
- **Reduce drug cost**

A Collaborative Service Model on Pharmacotherapy Patient Empowerment



July, 2012

March, 2014

Service Enhancement March, 2015

Non-adherence to medication

Causes:

- Multi-factorial and complex
- Poly-pharmacy
- Inadequate knowledge about the treatment
- Negative consequence of drug effect
- Poor cognitive function to cope with complicated drug regimen
- Poor dexterity to handle the medication

Pharmacotherapy Patient Empowerment (PPE)

Aim towards:

- Drug adherence - **Patients** follow through decisions about medicine taking
- Drug concordance - **Patients** support both in decision making partnership about medicines & their medications taking

Target patients

- Aged ≥ 65 years
- Poly-pharmacy: ≥ 5 items of medication
- Live alone or daytime alone
- AMT ≥ 6/10, co-operative to accept ICDS service
- Initial screening by Integrated Care & Discharge Support for the elderly (ICDS) from HAPPRE list
  - Perform "Morisky Medication Adherence Scale (MMAS)" to identify cases with risk of drug non-adherence

Morisky Medication Adherence Scale (MMAS-4)

	Questions	Yes	No
1	Do you ever forget to take your medicine?	1	0
2	Do you ever have problems remembering to take your medicine?	1	0
3	When you feel better, do you sometimes stop taking your medicine?	1	0
4	Sometimes if you feel worse when you take your medicine, do you stop taking it?	1	0

Adherence	MMAS- Score
High	0
Medium	1-2
Low	3-4

Morisky DE, MiMatteo MR. Improving the measurement of self-reported medication on adherence: Final response. Journal of Clinical Epidemiology 2011; 64:2622-263

Pharmacotherapy Patient Empowerment

Service workflow

1. Patient empowerment interview (Joint ward round on Tue pm)
   - provide personal interview & medication reconciliation
   - tailor-made a drug regimen that patients are involved in the decision-making of their care & treatment
2. Case management by ICDS nurse (HV once /week)
   - Vital sign monitoring, functional ability to cope with drug compliance, drug safety, health education and interventions to enhance patient's autonomy & involvement in their care & treatment
   - Caring ability of patient and /or caregivers
3. Fast track clinic ± pharmacist/nurse interview
   - Intensive medication education to patients and caregivers
   - Arrange early appointment for drug titration
4. Interdisciplinary case conference (with pharmacist)
   - Discuss progress
   - Identify problems
   - Review of care plan

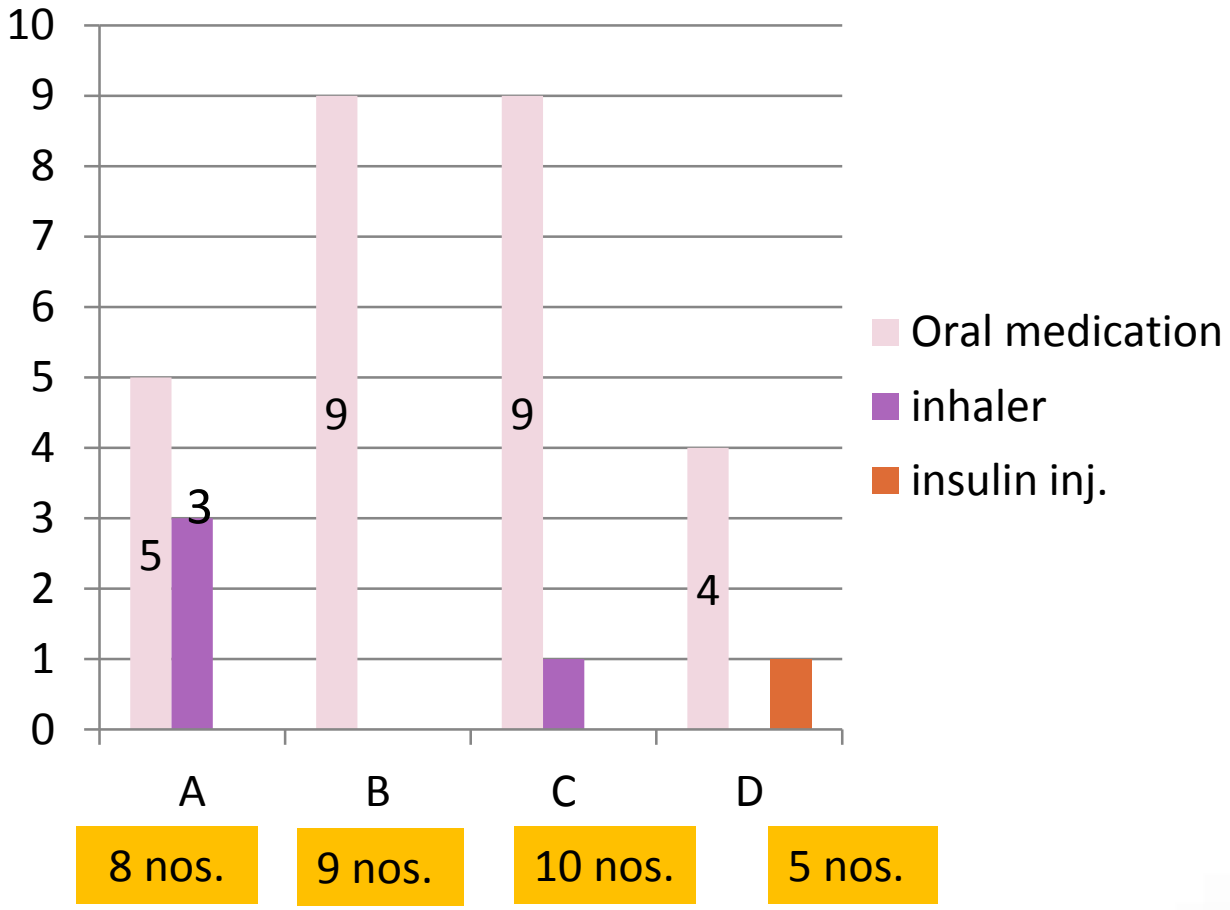
Demographic information

Period : 3 March – 14 April (6 weeks)	
Patient interviewed	18 cases
Recruitment	9 (50%)
Characteristics of discharged patient (4 as at 20.04.15)	
M:F	1:3
Age (range 80 – 88)	85 (mean)
Live alone : daytime alone	1:3
Polypharmacy (5 – 10)	8 (mean)
Functional status (Mean score)	
MFAC	6 / 7
Barthel Index	91/100
MMAS	3 / 4

No A&E attendance or unplanned readmission after discharge

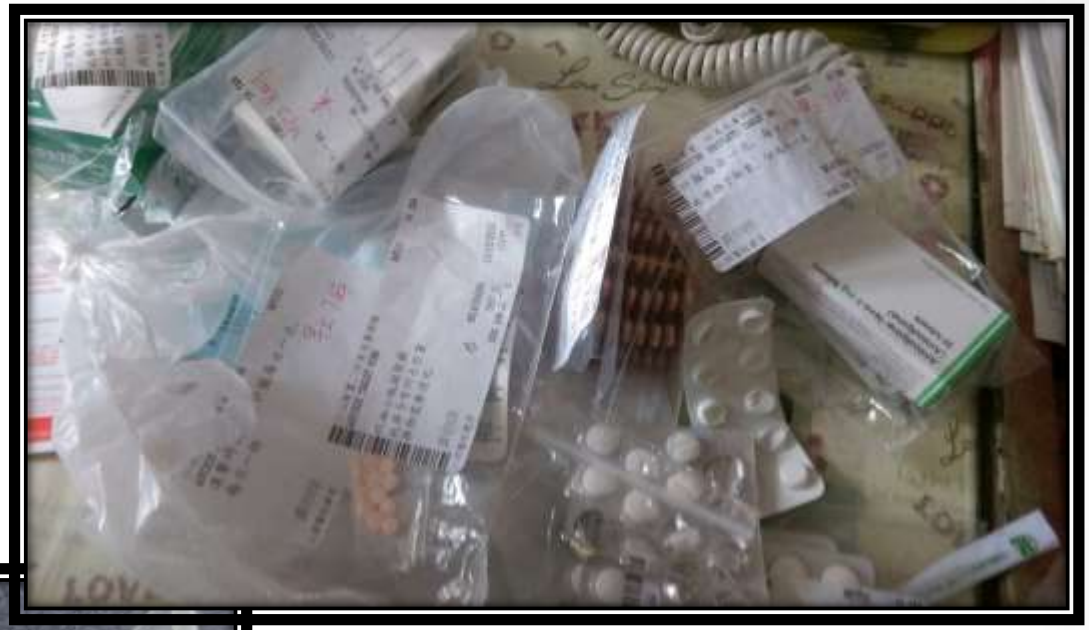
Pilot program of PPE

- Major disease categories: COPD, Cardiovascular disease and Diabetes



Drug Storage

Self-management on drug storage



Self-management on own drugs

Brief Cases Sharing

Case 1	COPD with Cor pulmonale, old TB, D/C with 8 nos. of drugs
Functional status	AMT: 8, live with wife, poor compliance on LTOT at daytime.
Progress:	Health education on deep breathing exercise, the use of LTOT, advise to purchase an oximeter as patient not sensitive to desaturation, & accept to put on LTOT except outdoor activity 1 – 2hrs,
Case 2	Chronic ischemic heart disease w cervical spondylosis, D/C with 10 nos. of drug items
Functional status	AMT: 6, live with working son, daytime alone, always home bound, can manage simple cooking & shopping
Progress:	• Complaint of upper limb numbness, not able to open the plastic bag of her medications • Support patient to seal the bag with plastic clip and put inside a air-tight box

Example: Self-management on own drugs

- Fasten the Plastic the medication bags with clips
- Air-tight container

Conclusion

- Tackling medication-related problems in older patients by a multidisciplinary approach is well accepted & trusted by physicians & nurses.
- Provide better patient care through **Professional Teamwork**
- Significant decrease in numbers of unnecessary drugs & administration frequencies
- Enhance **medication safety** & quality of life of our patients.
- Empower older adults take more responsibilities on the decision-making of their treatments as well as medication adherence in partnership with our care team

Reference

- Cuevas CDL. Towards a Clarification of Terminology in Medicine Taking Behavior: Compliance, Adherence and Concordance are related through different terms with different uses. Current Clinical Pharmacology 2011; 6:74-77

- Chan TY, Wang AY, Woo J, Critchley JA. Adverse drug reactions in the elderly – the local scene. J Hong Kong Med Assoc 1991; 43:200-204

- Ma HM, Lum CM, Dai LK, Kwok CYT, Woo J. Potentially inappropriate medication in elderly patients in outpatient clinics. Asian J Gerontology Geriatric 2008; 3:27-33

- Morisky De, DiMatteo MR. Improving the measurement of self-reported medication on adherance:Final response. Journal of Clinical Epidemiology 2011;64:262-263.

- Woodruff, K. (2010). Preventing poly-pharmacy in older adults. Retrieved from http://www.amerciannursetoday.com/article.aspx?id=7132&fid=685222

OLDER ADULTS

MULTIDISCIPLINARY CARE TEAM

THANK YOU