

# Medication Management of Chronic Disease in Primary Care Setting

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# Outlines

- \* Background of current medication management in Taiwan outpatient
- \* Challenges of medication management for chronic diseases in outpatient
- \* Conceptual framework of medication management



# Medication Expense

- \* National Health Insurance
- \* Medication Cost
  - \* 27.8% of total healthcare cost (Bureau of National Health Insurance, 2015)
  - \* 50% for chronic diseases in outpatients  
(2007-2009 Taiwan National Health Insurance Data)



# In Outpatient

- \* Most chronic diseases managed there
- \* 226.85 millions medication prescribed in general medicine outpatient (83.6% of visits with a drug prescribed)  
( National Hospital Ambulatory Medical Care Survey, 2011 )
- \* Multiple chronic diseases = Polypharmacy  
=Increased risk of medication problems



# PharmaCloud

- \* Starting from 2013
- \* Double cards
  - \* Patients
  - \* Doctors or Pharmacists
- \* National Health Insurance Administration, Ministry of Health and Welfare
- \* Prescriptions in past 3 months



# Methods

- \* Qualitative study with semi-structured interviews
- \* 15 professionals
  - \* Medical doctors
  - \* Nurses
  - \* Pharmacists



# Settings

- \* Hospital-based outpatient
  - \* Community hospital: 481 beds
  - \* 11 medical outpatient units
  - \* 43 RNs for outpatient services
  - \* 16,000 adult patient visits per month



# Semi-structured interviews

- \* What is your experience of the **medication process** among outpatients?
- \* What are your perceptions of physicians', nurses', and pharmacists' **roles** and **responsibilities** in regard to the medication process for outpatients? and
- \* What are your **suggestions** to ensure the safety of medication process for outpatients?





# Participant Characteristics

Characteristic	Frequency (%)	Mean (SD)
Gender		
Male	7 (46.7%)	
Female	8 (53.3%)	
Age (mean = 35.5 ± 4.5)		
Doctor ( <i>n</i> = 5)		39.0 (3.0)
Pharmacist ( <i>n</i> = 5)		31.0 (2.9)
Nurse ( <i>n</i> = 5)		36.4 (4.5)
Years of experience (mean = 8.8 ± 5.0)		
Doctor ( <i>n</i> = 5)		9.2 (4.3)
Pharmacist ( <i>n</i> = 5)		5.0 (2.2)
Nurse ( <i>n</i> = 5)		12.3 (5.4)



# Themes

- \* Double-edged sword of specialization
- \* Communication gaps
- \* Information technology challenges and opportunities
- \* Insufficient hospital administration support
- \* Involvement of patients/families/caregivers



# Double-edged sword of specialization

- \* I don't really like to prescribe other **specialty's medications** because I am less familiar with those medications. . . . For people who have many chronic diseases, blood sugar would be managed by the endocrinologist. I [cardiologist] manage blood pressure. We will then figure out who would manage the patient's cholesterol.

(Physician #2)



# Double-edged sword of specialization

- \* For patients who have a lot of prescription medications, people think the family doctor might be the most appropriate professional to manage patients' medications, but sometimes it is **difficult** for them to do that because some medications should be managed by specialists. They [family doctors] can't handle that. (Physician #5)



# Double-edged sword of specialization

- \* If patients use some medications outside of the doctors' subspecialty, which the doctor is not familiar with, I should be able to **reconcile** those medications first for any side effects and educate the patients for proper medication use.  
(Pharmacist #2)



# Double-edged sword of specialization

- \* Medication safety has been **managed by physicians and pharmacists**. We [nurses] may **not be able to be involved in that**. It requires a lot of training for us to know the medications in that specialty to identify any medication errors. . . . If I find it is not a common instruction or is different from the instruction I heard from the doctors, I double check with the doctor. . . . we [nurses] **can be the first medication safety keeper**, but I can only do that in ear, nose, and eye outpatients because their medications are relatively simpler. We don't have the training in medications for outpatients with surgical and medical problems. (Nurse #1)



# Communication gaps

- \* Pharmacists provide medication education for outpatients, but I don't know what they teach, what the outcomes are, how frequently this service been used. . . . **They [pharmacists] don't share this information with us.** (Physician #4)



# Communication gaps

- \* For outpatients, we [pharmacists] receive **limited clinical information**, such as patients' diagnoses, lab data, etc., compared with the in-hospital setting. It takes me a lot of time to retrieve the information in various computer information systems. It is very time consuming and not realistically possible to do so in a busy setting such as the outpatient department. (Pharmacist #2)





# Communication gaps

- \* Sometimes, it is difficult to decrease the number of medications or the complexity of medication regimen because I was not the one to initiate the treatment. . . . If I don't know the prescribing doctor, I remind my patient to tell that doctor what I recommended, or I ask the patient to pass the note I wrote to that doctor during the doctor's next visit . . . **but the information sometimes gets lost** . . . the patients often don't get what I said to them so they don't know what information to pass on. (Physician #2)



# Information technology challenges and opportunities

- \* **Our hospital IT is okay** [in terms of seeing the patient's prescription medications within the hospital branches], but using PharmaCloud to check the medications prescribed **outside of our hospital branches is troublesome.** (Physician #3)



# Information technology challenges and opportunities

- \* **PharmaCloud is not convenient to use.** Almost half of the time, the screen is frozen when I click on it. . . . I don't have that much time to fix it in the outpatient department . . . there is **a lot of information**, but it is **not user friendly** yet.  
(Physician #2)



# Information technology challenges and opportunities

- \* The IT can't automatically identify and remind us that patients have two appointments in the same day, so we won't be able to find the patient's medication problems in this situation. For example, the patient might go to a gastroenterologist for pain and also go to neurologist with a complaint of pain during the same day. We won't identify that patients have been prescribed two pain medications unless patients mention this to the two doctors seen in one day. (Pharmacist #5)



# Insufficient hospital administration support

- \* ... hospital purchased medications from different companies for better prices. We need to keep remembering the names of the different medications and check very frequently. Sometimes, the doctors might be confused about the new medications they prescribed, not to mention nurses' being **confused** as well. I think it indicates that hospital administrators don't consider the influence of **changing medication frequently** on medication safety because they only consider the cost. (Nurse #1)



# Insufficient hospital administration support

- \* It is safer [for medication], if we can stay in one **specialty** outpatient department. However, we need to rotate in various specialty outpatients. . . . we don't have **sufficient training** [in medication safety] for outpatients. (Nurse #1)



# Involvement of patients/families/caregivers

- \* In the past, patients were not so involved in the medication management. It **was more like one direction** [the doctor decides], but now, the medication treatment plan is discussed with the patient, and we **both agree** on it. . . . The **difficulty** is that some patients insist on taking or not taking some medications. They don't understand what I'm saying. . . . It is good if their family accompanies them, so the family can help me to explain further. (Physician #2)



# Involvement of patients/families/caregivers

- \* Sometimes when I stop some unnecessary medications, **patients** come back after a couple of days and ask me to prescribe those medications again. They have been on those medications for so long, so they don't feel comfortable with not taking them. If I don't prescribe them, **they** would go to another doctor to get their medications that have been stopped by me. (Physician #5)





# Involvement of patients/families/caregivers

- \* We hope that patients only see one doctor so we can better reconcile and manage their medication. However, they prefer to see three to four doctors to manage their different chronic conditions, so we continuously manage medications across **various subspecialists**, which increases the **complexity of medication management**. (Physician #5).



# Continuum of medication management

The slide features a solid blue background. At the bottom, there are several overlapping, wavy, light blue shapes that create a sense of movement and depth, resembling stylized waves or a modern graphic design element.

# Administrative support

- ◆ Develop a consistent medication supply plan
- ◆ Provide necessary training and a staffing plan
- ◆ Update outpatient medication management plan

## Pharmacists

- ◆ Conduct medication reconciliation
- ◆ Provide medication use consultation

## Doctors

- ◆ Collect comprehensive medication history
- ◆ Conduct necessary physical examination and laboratory/imaging tests
- ◆ Prescribe appropriate medication

## IT support

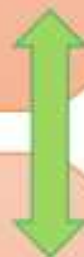
- ◆ Facilitate communication
- ◆ Integrate information resources
- ◆ Identify important information efficiently

## Nurses

- ◆ Identify high-risk patients
- ◆ Provide initial medication-use education

## Patients/Families/ Healthcare aides

- ◆ Understand the use of patient's medication
- ◆ Participate and adhere to patients' medication management plan



THANK YOU!

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