



**Medication Reconciliation:  
A Pharmacists' Role**

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## OUTLINE

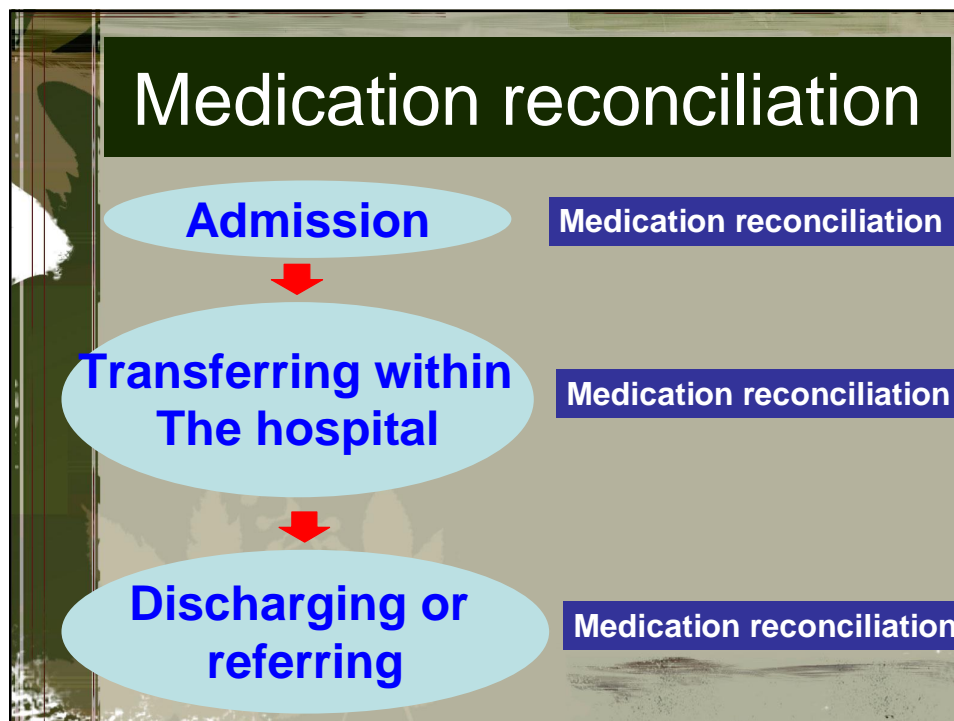
- Definition of medication reconciliation
- Importance of medication reconciliation
- How well pharmacist do in medication reconciliation
- Medication reconciliation in Thailand
- Medication reconciliation at Sonklana-garind hospital

## Definition

### ***Medication reconciliation***

process of *identifying the most accurate list of all medication* the patient is taking, including the name, dosage, frequency, and route of each medication, and *using this list to provide correct medications* for the patient *anywhere* within the health care system

Am J Health – Sys Pharm 2007;64:850-64



## The Joint Commission's National Patient Safety Goals (Hospital)

- **Goal 8:** Accurately and completely reconcile medications across the continuum of care

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

## Goal 8: Accurately and completely reconcile medications across the continuum of care

- ▶ **Requirement 8A:** There is a process for comparing the [patient's] current medications with those ordered for the [patient] while under the care of the organization

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

## **Goal 8: Accurately and completely reconcile medications across the continuum of care**

- ▶ **Requirement 8B:** A complete list of the [patient's] medications is communicated to
  - ▶ *the next provider of service* when a [patient] is referred or transferred
  - ▶ *the patient* on discharge from the organization

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

## **Rationale for Medication Reconciliation**

- **Patients are most at risk during transitions in care across settings, services, providers, or levels of care**

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

## Rationale for Medication Reconciliation

- Development, reconciliation & communication of *an accurate medication list throughout the continuum of care is essential* in the *reduction* of transition-related *adverse drug events*

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

## *Patient's risk* during transitions in care

- Several studies showed discrepancy & medication error during transition in care

## ***Patient's risk*** **during transitions in care**

- **Lack of med reconciliation accounts for<sup>1,2</sup>**
  - ▶ **46% of all medication errors (ME)**
  - ▶ **20% of adverse drug events (ADEs)**
- **~ 27 of all prescribing error result from incomplete medication histories<sup>3</sup>**

<sup>1</sup> Outcome Manag 2001;8:27-34.

<sup>2</sup> J infus Nurs 2005;28(suppl2):31-6.

<sup>3</sup> Br J Clin Govern 2002;7:187-93.

## ***Patient's risk*** **during transitions in care**

- **~ 60% of patients admitted to hospital will have at least one error in their admitting medication history**

Arch Intern Med 2005;165:424-9.

## How well pharmacists do in medication reconciliation?

### How well pharmacists do in medication reconciliation?

- **Bond et al. evaluated over 1000 hospitals**
  - ▶ **51%** fewer ME reported in hospital when pharmacist was involved with obtaining medication history

Pharmacotherapy 2006;26:735-47

## Pharmacist – versus physician – obtained medication history

- Reeder et al. did a prospective review study to *compare pharmacist - obtained medication histories with those obtained by the physician*

Am J Health – Sys Pharm 2008;65:857-60

## Pharmacist versus physician obtained medication history

- **“discrepancy”** any difference noted b/w the pharmacist - obtained med hx and that obtained by a physician
- **“intervention”** an communicating to physician a noted discrepancy

Am J Health – Sys Pharm 2008;65:857-60

## Pharmacist versus physician obtained medication history

### Phase I

- p'cist obtained med hx
- compared with hx obtained by MD
- **no p' cist intervention**

### Phase II

- p'cist obtained med hx
- compared with hx obtained by MD
- **p' cist intervention**

## Pharmacist – versus physician – obtained medication history

- **55** patients included in the study
- Mean time spent by p'cist = **28.7± 13.6 min**
- **353** discrepancies (**21%**) were identified
  - ▶ **161** discrepancy found in 35 pt in phase II
  - ▶ **88%** of these discrepancies were corrected

Am J Health – Sys Pharm 2008;65:857-60

## Thailand Patient Safety Goal 2007- 2008

### **SIMPLE**

- S: Safe Surgery**
- I: Infection Control**
- M: Medication**
- P: Patient care process**
- L: Line, tube & catheter**
- E: Emergency response**

The Institute of Hospital Quality Improvement &

## Thailand Patient Safety Goal 2007-2008

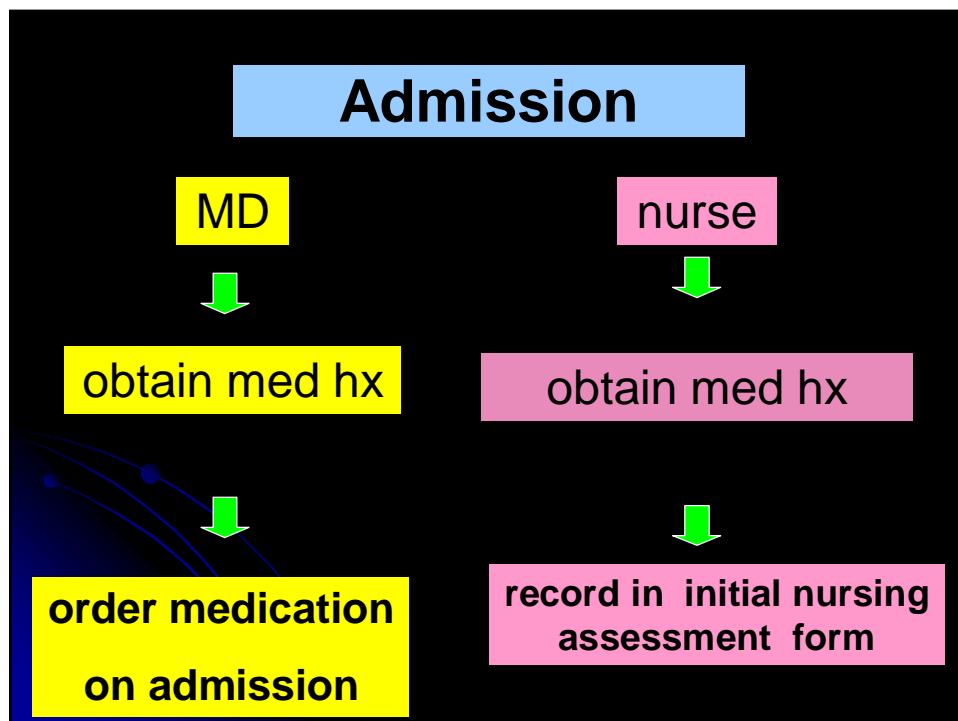
### **SIMPLE**

- **Safe from *adverse drug event (ADE)***
- **Safe from *medication error (ME)***
- ***Medication reconciliation/Assuring medication accuracy at transition in care***

The Institute of Hospital Quality Improvement & Accreditation

## Medication reconciliation at Songklanagarind hospital

- A 1000 bed teaching hospital
- Locate in southern Thailand
- *Clinical Pharmacists:* medicine ward, neurosurgery ward, ID consultation service, nutrition team, dialysis unit



The 8th Asian Conference on Clinical Pharmacy: “Toward Harmonization of Education and Practice of Asian Clinical Pharmacy”

คู่มือ Lab/X-ray , ลงนัด/Set ผ่าตัด

คู่มือ Lab,X-ray,Blood gas	<b>Initial Nursing Assessment Form</b>	ดูประวัติการตรวจผู้ป่วยนอก
คู่มือ EKG,EEG,NKC และตรวจอื่นๆ	Nursing Reassessment Form	ดูประวัติ Operative Note
คู่มือ GI	Nursing Intervention Record	ดูประวัติ Admission/Progress/On-Off Service
คู่มือ Psychotest/PSI	Continuing Nursing Care Plan and Discharge	ดูประวัติ Doctor's Order Sheet
คู่มือ Sleep Lab	Nursing care plan	ดูประวัติ Discharge Summary ของแพทย์
ยืม/คืน ฟิล์ม Online	Pressure Sores	ดูประวัติ Discharge Summary ของพยาบาล
ดูจำนวนวันที่นอน Admit	Graphic Sheet	นัดตรวจ และ นัด/set ผ่าตัด
ดูคำรักษาผู้ป่วยใน	ทะเบียนผู้ป่วยใน	ถอยกลับ
ดูข้อมูลสิทธิผู้ป่วย	Medication ProFile	
	บันทึกช่วยจำการส่งต่อเวรผู้ป่วย (Kardex)	

## Initial Nursing Assessment Form

- **Medication history**
  - Warfarin 0.5x1 hs
  - Lorazepam 0.5 mg 1x1 @ hs
  - Colchicine 0.6 mg 1x1 @ pc
  - ASA 60 mg 1x1 @ pc
  - Simvastatin 20 mg 1x1 @ pc
  - Metoprolol 100 mg 1x1 @ pc

The 8th Asian Conference on Clinical Pharmacy: “Toward Harmonization of Education and Practice of Asian Clinical Pharmacy”

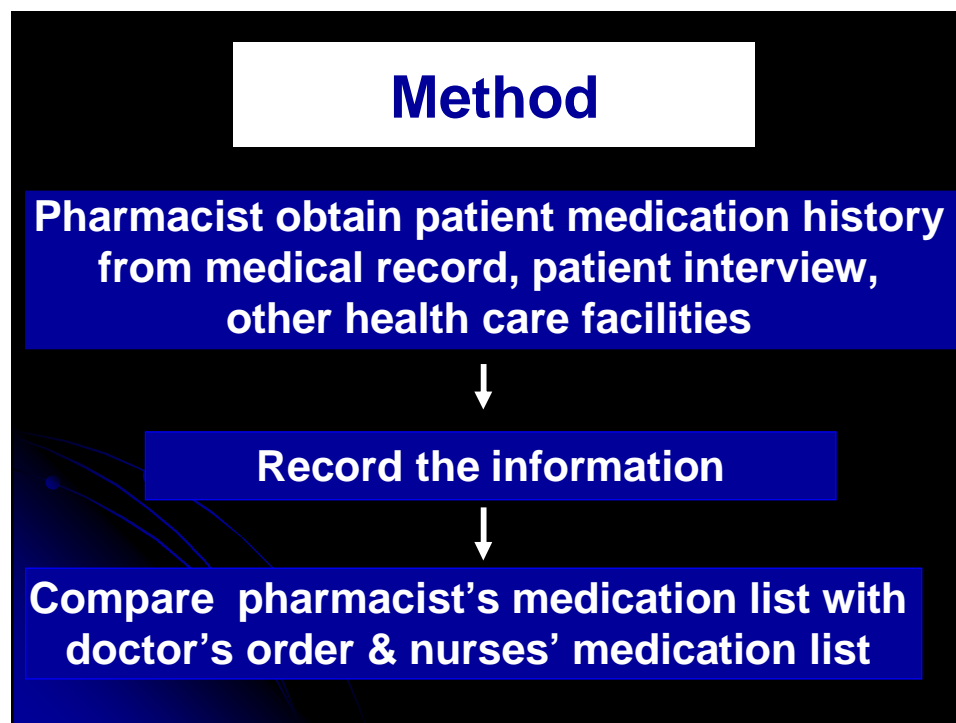
Date	Order For One Day	Date	Order For Continuation
05 Nov.51	<p>&lt;&lt;&lt;— เสร็จแจ้งแพทย์รับ —&gt;&gt;&gt;</p> <p><b>Medication history</b></p> <ul style="list-style-type: none"> <li>- Warfarin 5 mg 0.5 x 1 hs</li> <li>- LoraZEP</li> <li>0.5 mg 1 x 1 @ hs</li> <li>- Colchicine 0.6 mg 1 x 1 @ pc</li> <li>- ASA(Aspirin) 60 mg 2 x 1 @ pc</li> <li>- imvastatin 20 mg 1 x 1 @ pc</li> <li>- Metoprolol 100 mg 1 x 1 @ pc</li> </ul> <p>&lt;&lt;&lt;— Order ไม่มีค่าใช้จ่าย —&gt;&gt;&gt;</p>	07 Nov.51	<p>&lt;&lt;&lt;— Order อาหาร —&gt;&gt;&gt;</p> <p>Blenderized Diet (1:1) 300 ml x 4 F</p> <p>10:19 น.</p> <p>&lt;&lt;&lt;— Order ไม่มีค่าใช้จ่าย —&gt;&gt;&gt;</p>
08 Nov.51	<p>07:47 น.</p> <ul style="list-style-type: none"> <li>-record V/S q 4 hr and I/O q void as cc</li> <li>keep BP &gt; 90/60 mmHg.</li> <li>PR &lt; 120 bpm</li> <li>RR &lt; 35/min SpO2 &gt; 94%</li> </ul>	08 Nov.51	<p>12:05 น.</p> <p>-retain NG tube</p>
		07 Nov.51	<p>08:36 น.</p> <p>clo test negative</p>
		06 Nov.51	<p>09:13 น.</p> <p>Problem</p> <ol style="list-style-type: none"> <li>1. Old anterior wall MI S/P PTCA with L stent 2547</li> <li>2. Chronic AF on warfarin</li> <li>3. Cerebral infarction (Rt. MCA) status hemiplegia with bed ridden</li> </ol>

Copy Order For One Day เก็บ Clipboard      Copy Order For Continuation เก็บ Clipboard

F5 รับ Order	F11 พิมพ์ Order ตามแบบที่ก๊อปปี้แสดง	F9 เรียงตามวันที่/เวลาสั่ง Order	F2 ประวัติ Order ๓	F3 Protocol ยากมี
F8 ดูประวัติ/ผล Lab	ดูข้อมูลตามวัน/เวลาสั่ง (ตามช่วงที่ระบุ)	F7 ประวัติ Order ทั้งหมด	F4 Medication Profile	F10 แลยกลับ

## Medication reconciliation

- We conducted a prospective descriptive study to identify discrepancy of med history obtained by pharmacists and those obtained by nurses and doctors at medicine ward during November – December 2007
- 60 patients were enrolled into the study



**RESULT**

**How did pharmacist get medication history?**

Method to obtain med hx	% of patients
1 Outpatients medical record	15 (28.8)
2 Patients brought the medication	10 (19.2)
3 Other health care facilities	5 (9.6)
1 + 2	10 (19.2)

**Discrepancy between med hx obtained by pharmacist and nurses observed in 34 patients (56.7%)**

<b>Discrepancy</b>	<b>Percent of patients</b>
Pharmacist recorded more item of medication than nurses	47.1
Nurse recorded " <i>no medication history</i> "	38.2
The direction recorded by nurses and pharmacist were different	14.7

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- **Discrepancy between med hx obtained by pharmacist and those obtained by doctors in 44 patients (84.6%)**
- ▶ **Pharmacist recorded more item of med than those listed in doctor record in 63% of above patients**

## **Conclusion**

- **Pharmacists can play a major role in medication reconciliation**