Clinical Implementation – Integrated Medicines Management with focus on the discharge process

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I have no conflict of interest

Teaching goals

- Present the LIMM model
- Demonstrate crucial aspects for the implementation established and hard-to-realise pieces of medicines management
- Discuss the pharmacist role for development, education and implementation
- Discuss responsibilities, aims and quality in the discharge Med Rec process based the patient perspective

Learning objectives

At the end of this session, participants will be able

- To overview successes and pitfalls of integrated medicines management
- To MUST-do in the discharge Med Rec process
- Use patient safety and -quality aspects to plan for the best discharge Med Rec process

Hospital Care, a supportive patient process

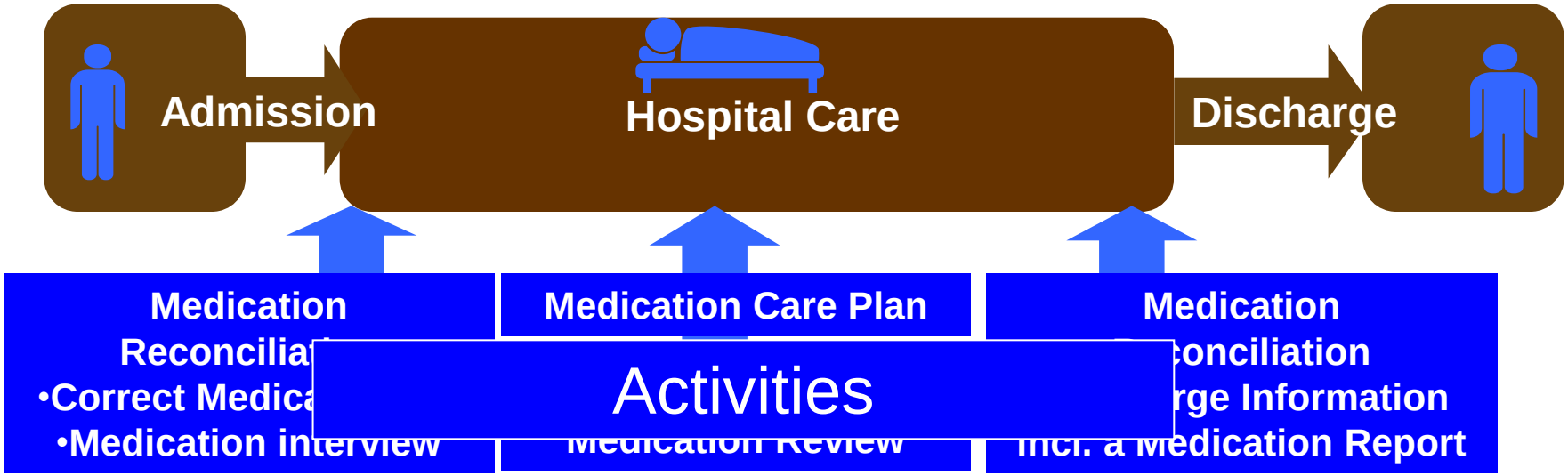
How to identify, solve and prevent DRP in the hospital process and further ….?

Hospital Care, a (non-) supportive process

Low quality in documentation and communication

The LIMM-model solves all problems at almost 100%

The LIMM -model
(Lund Integrated Medicines Management)

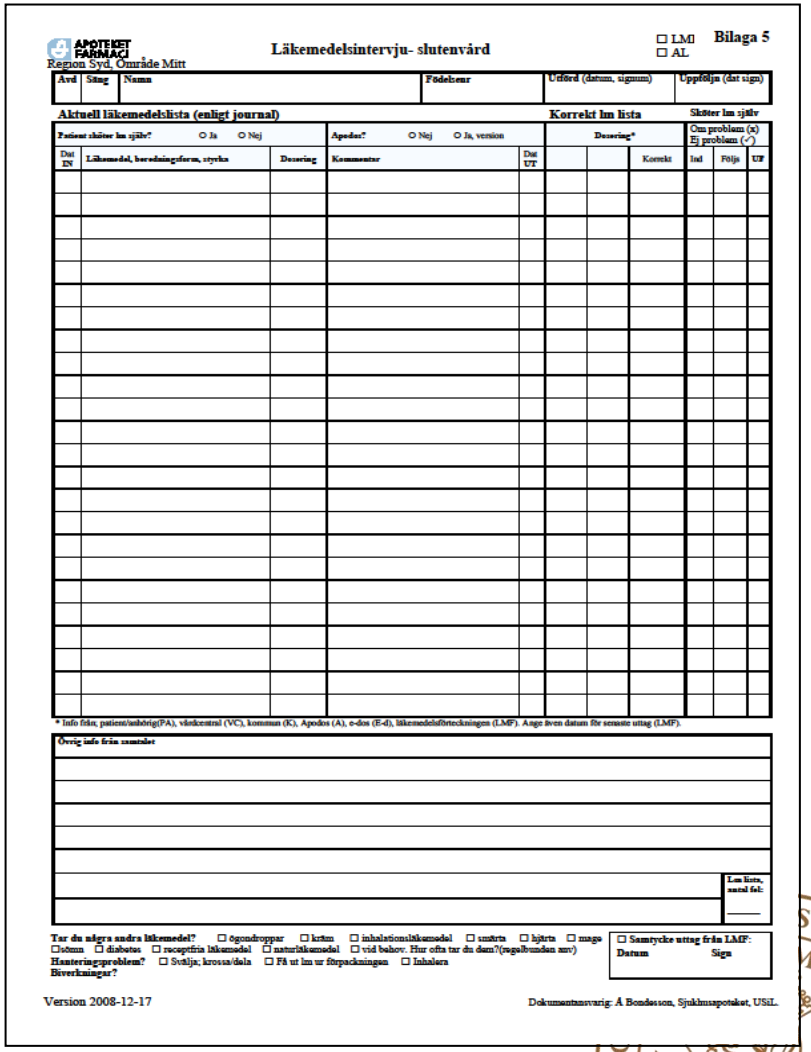


A systematic approach to individualise and optimise drug treatment

Example of Medication Reconciliation tools

LIMM Medication Interview (at admission)

- Part 1 is focused on a correct patient medication list
- Part 2 adds questions on the patient problems with practical handling, knowledge and adherence
- Part 3 adds questions for a deepened assessment of adherence and beliefs



APOTEKET FARMACI
Region Syd, Område Mitt

Läkemedelsintervju- slutenvård

☐ LMI ☐ AL **Bilaga 5**

Avd	Säng	Namn	Födelsenr	Utförd (datum, signum)	Uppföljn (dat sign)

Aktuell läkemedelslista (enligt journal) — **Korrekt lm lista** — **Sköter lm själv**

Patient sköter lm själv? ○ Ja ○ Nej — Apodos? ○ Nej ○ Ja, version — Dosering* — Om problem (x) Ej problem (✓)

Dat IN	Läkemedel, beredningsform, styrka	Dosering	Kommentar	Dat UT			Korrekt	Ind	Följs	UF

* Info från; patient/anhörig(PA), vårdcentral (VC), kommun (K), Apodos (A), e-dos (E-d), läkemedelsförteckningen (LMF). Ange även datum för senaste uttag (LMF).

Övrig info från samtalet

Lm lista, antal fel: ____

Tar du några andra läkemedel? ☐ ögondroppar ☐ krm ☐ inhalationsläkemedel ☐ snusta ☐ hjärta ☐ mage ☐ sömn ☐ diabetes ☐ receptfria läkemedel ☐ naturläkemedel ☐ vid behov. Hur ofta tar du dem?(regelbundan anv)

Hanteringsproblem? ☐ Svälja; krossa/dela ☐ Få ut lm ur förpackningen ☐ Inhalera

Biverkningar?

☐ Samtycke uttag från LMF: **Datum** **Sign**

Version 2008-12-17

Dokumentansvarig: Å Bondesson, Sjukhusapotoket, USiL

LIMM Medication Interview studies (process)

- Descriptive study at two Acute Medicine wards Lund University Hospital 2007 (Hellström 2012a)
  - Performed by a trained clinical pharmacist using LIMM-admission forms
  - Review of medication list in EHR, >1 dose given to the patient
  - 420 of 670 patients (63%) > 1 discrepancy in medication list, in total 1136, mean 1.7 per patient.
  - Pharmacist recommended 813 corrections
  - 760 (93%) recommendations were corrected/solved
- 59% of pharmacists recommendations were ranked at least as somewhat significant (Bondesson 2012b)

Example of Medication Reconciliation tools

LIMM Discharge Information

- Written for the patient and includes;
  - Short presentation of causes for admission, what has been done and planned
  - Medication Report of all medication changes and the reasons for it (what and why)
  - Medication List with information on drug, dosing, effects and special remarks;
- Given to the patient at discharge
- Sent to the GP and the community care nurses on the day of discharge

- Developed by experts and patients

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Discharge information

Discharge physician: Jan Oscarsson
Responsible physician: Lydia Holmdahl
Family doctor: Sven Svensson, VC Mosseby
Admitted: 2009-03-08 – 03-14

About your disease
You have been admitted to hospital due to fever and shortness of breath and treated at ward nr 8. X-ray of the lungs showed pneumonia. Fluid in the lungs is a sign of worsening heart failure. You have been treated with antibiotics and diuretics during the hospital stay.

Plans and follow up
You will be admitted to the nursing home at for expanded care-planning. Your Family doctor will contact you within 4-5 weeks for control of your heart and lungs.

Medication Report

- Furosemide has been increased from 1 to 2 tablets due to increased heart failure
- Spironolakton has been added due to low potassium levels and heart failure.
- Doxycyline (antibiotics) added for another week
- Importal substitutes Lactulose due to nausea
- Tramadole has been deleted due to nausea and no further need
- Digoxin dose has been decreased from 0.25 mg to 0.13 mg, blood level was to high.

Medication	Effect	Morning	Lunch	Evening	Night	Comment
Tabl Furosemide 40mg	diuretics	1	1			
Tabl Spironolakton 25mg	diuretics, potassium sparing	1				
Tabl digoxin 0.13mg	for the heart	1				
Tabl Stilnoct 5mg	for sleeping				1	As needed
Tabl Doxycycline 100mg	antibiotics	1				To Mars 16
Dose powder Importal	against constipation	1				
Tabl Paracetamol 500mg	against pain	1	1	1		

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Tabl Stilnoct 5mg	**for sleeping**				**1**	**As needed**

LIMM Discharge Information studies

- Comparative study before (179 patients) and after introduction (248 patients) at 7 wards, Lund University Hospital 2006
- Errors were non-documented discrepancies between medication list in discharge information and actual Medication list in community care
- Correct medication list improved from 34 to 68% ($p<0.001$) and
- Mean number of errors per patient decreased from 2.2 to 0.97 ($p<0.001$) (Midlöv 2008a)
- Health care contacts within 3 months after discharge decreased from 8.9 to 4.4% ($p=0.049$) (Midlöv 2008b)
- Quality control and feedback by a pharmacist before patient discharge further decreased error rates by;
    - 45% ($p=0.012$) (Bergkvist 2009b)
    - 35% ($p=0.037$) (Midlöv 2012)

Conscious and systematic information/ communication at discharge is crucial

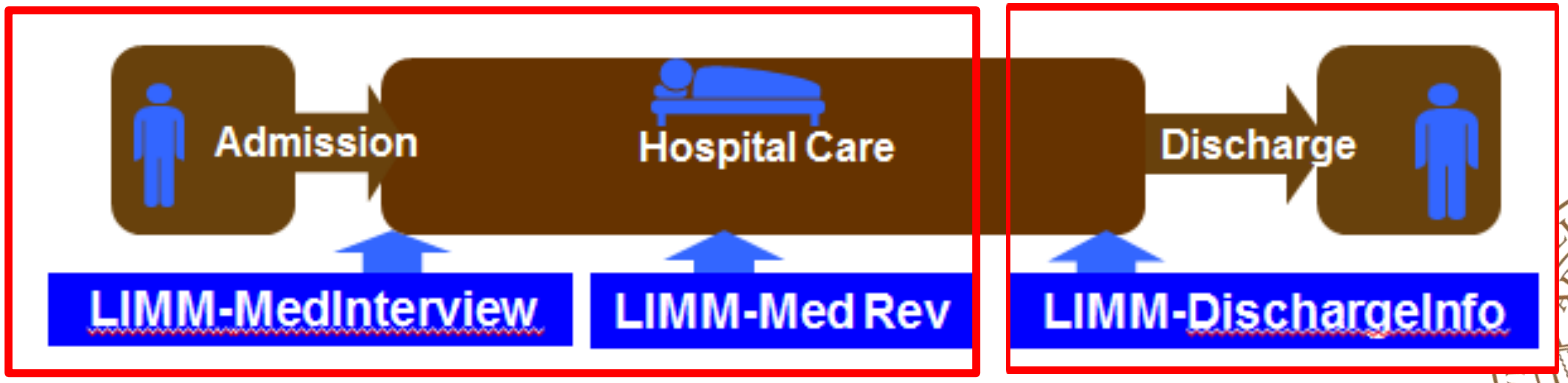
- Many people, organisations and levels involved
- High risk of:
  - errors in communication and medication list
  - Discrepancies becoming permanent errors that finally can have patient consequences
- Focus on:
  - Patients
  - Next level of care

To MUST-do in the discharge Med Rec process.

- Written information (Discharge Information) on
  - actual medication list at the day of discharge
  - changes during hospital stay (what and why)
  - given to the patient at discharge
  - Communicated verbally with the patient and agreed upon
- Discharge Information sent the same day
  - to next level of care and to GP
  - To community pharmacist?
- Written SOP on performance, training, responsibilities
- Control of quantity and quality of the process

Outcomes from the LIMM-model 1 (2)

- LIMM-MI and LIMM-MR decreased drug related hospital revisits from 12.0 to 5.6% (p=0.047) (Hellström 2011)
- No effect on total hospital revisits (Hellström 2012b)
- LIMM-DI decreased health care contacts from 8.9 to 4.4% (p=0.049) (Midlöv 2008b)



Outcomes from the LIMM-model 2 (2)

- For each hour spent by a pharmacist physicians and nurses saved; (Eriksson 2012)
  - 1½-2 h at hospital
  - ½-1 h in primary care
- The total model generate savings of €390 and gained utility of 0.005 for each patient. The model is cost saving at a 98% chance (Ghatnekar 2013).
- Physicians/nurses very satisfied (process, pharmacist) (Bergkvist 2011, Bondesson 2012)

Medication Reconciliation is perceived as important!

- IHI, full package for improvement
- NICE, evidence based background and technical patient solutions for Medicines Reconciliation on admission to hospital
- National and international regulations and action plans
  - WHO, Action on patient safety-High 5s (WHO)
  - US Joint Commission, National patient safety goals
  - Denmark, Norway, Sweden…….

Sweden as an example

- First scientific study on the problem in 2003 (Midlöv 2005)
- Mandatory demands at Lund University Hospital 2005
- National patient safety action plan 2008
- Skåne County Council Patient Safety Incentives, pay for performance 2011
- National constitution 2012
- National Patient Safety Incentives 2013. Governmental money and implementation stepwise
  - Year 1. Show routines in place
  - Year 2. Show routines known among staff
  - Year 3. Show quantitative level
  - Year 4. Show qualitative level

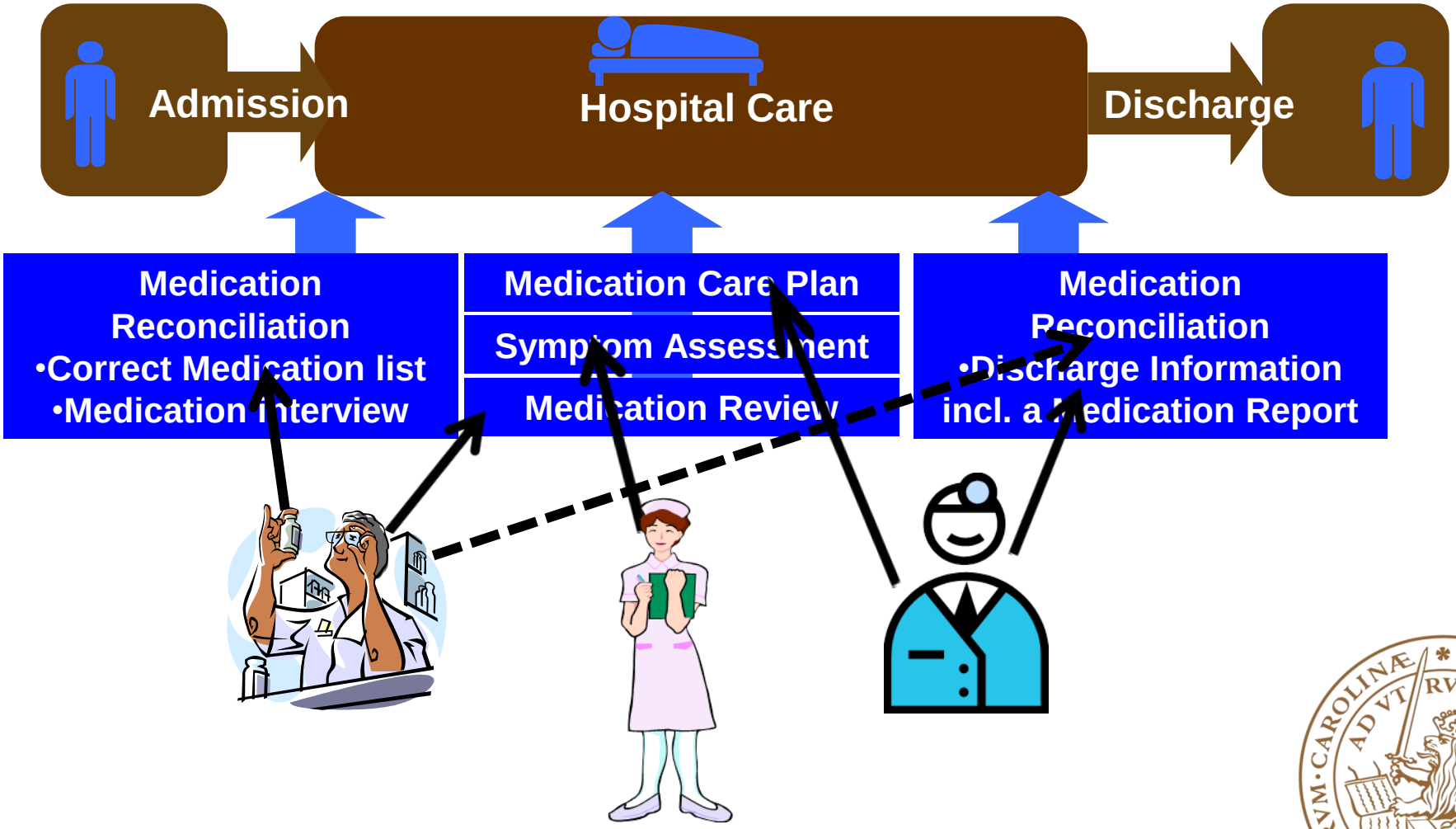
Practical and Quality Aspects on Med Rec

Pharmacist role for:

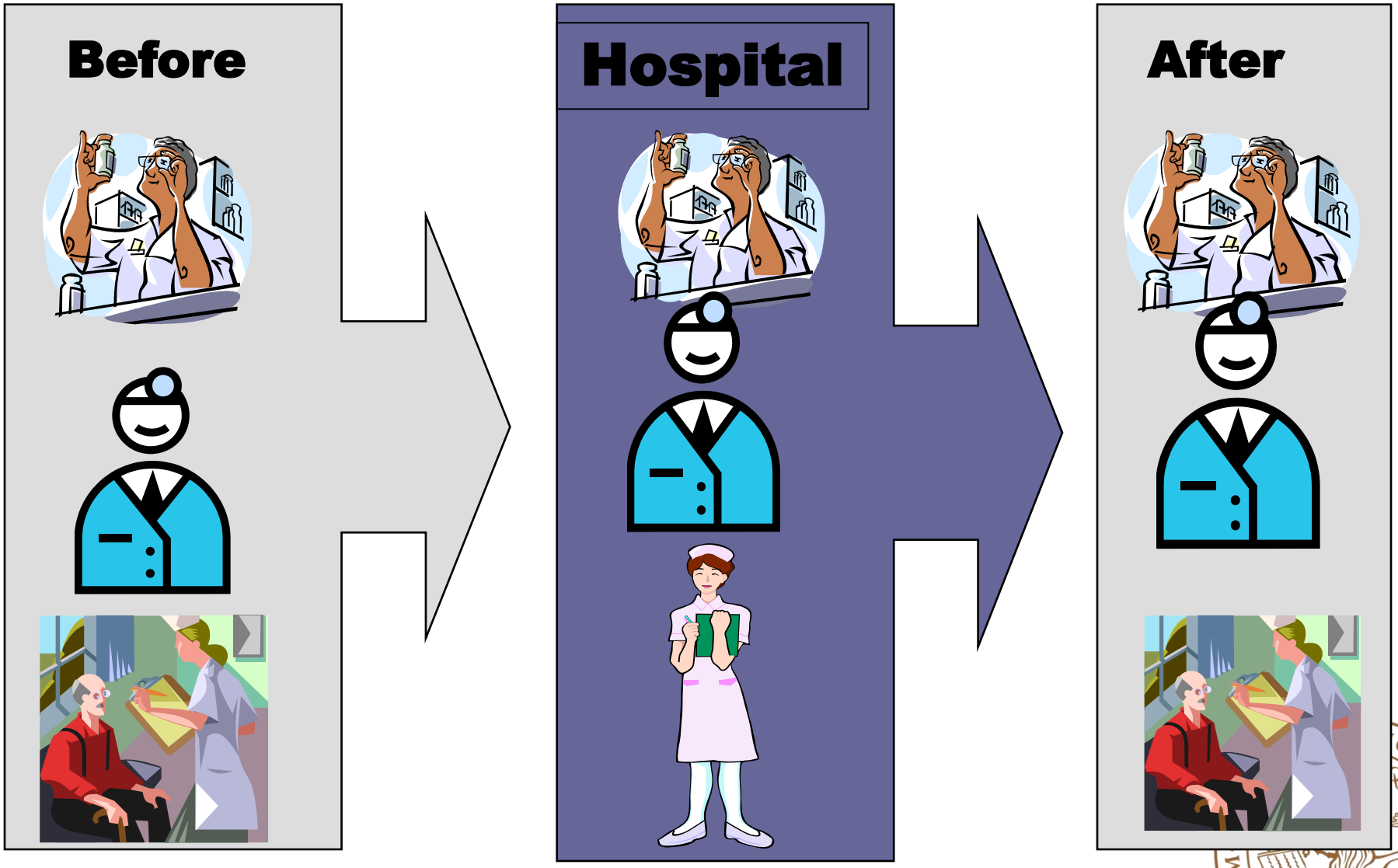
- Description of problems?
- Development and implementation of routines?
- Education of other professionals and students?
- Show improvements?
- Performing services?
  - Admission AND Discharge Med Rec?
  - Hospital
  - Primary care
  - Communication between hospital and community care

The LIMM-model A team approach

- The pharmacist is the engine
- The activities and responsibilities are divided.



Medication list reporting?!



What is a correct medication list?

	1. Prescription	2. Patient intake	
		Own use	Help
Patient's own home		√	√
Nursing home	√		

Sources for producing a “correct” medication list for a patient

- Ask the patient (carer/spouse/family)
- Ask the patient to show the containers and explain the use
- List from GP
- List from hospital
- List from community care
- List from community pharmacy
- National databases sources/resources?
- Other sources?

Focus on the patient needs in the Medicines Management process.

Patient questions

- Do I have an actual, up-dated, and ”best possible” medication list?
- Who is responsible for this?
- Why should I take the medication as prescribed?
- Who can help me?
- What is my responsibility?

Patient motivation?

- Combining Med Rev, Med Rec and Motivational Interviewing

Suggestion for the EAHP delegates
Prepare an action plan

- Identify a local, interested and important physician.
- Identify local problems in hospital medication list from a small study, use students and focus on patient problems and needs
- Calculate a relevant clinical- and economical benefit for the patients and the hospital from the local study and international studies
- Present the problems and suggest improvements based on a team approach and included as a quality improvement and patient safety concern in the hospital
- Train pharmacist to perform the service (Demo this afternoon)

Summary point

- The pharmacist can and must be the engine for medication safety
  - Med Rec problems is a very good (the best?) starting point
- Help each other or ”Steal with pride” from good practices and prepare a local systematic concept for medication patient safety.
- Prepare an action plan
- Be visible, professional and trustworthy
- Integrate practice, education and research
- Use a team approach and focus on the patient needs

Thanks

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