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Seamless care: defining clinical pharmacy interventions

Foulon Veerle
Claeys Coraline
Desplenter Franciska

on behalf of the KCE team 'Seamless Care'

Workshop organized at the 39th European Symposium on Clinical Pharmacy
& 13ème Congrès de la Société de Pharmacie clinique,
Lyon, France, 21-23 October 2010

Our background

Running of a project supported by the Belgian Healthcare Knowledge Centre (KCE):

« Seamless care focusing on medications »

Aim of the project:

- to propose a system to improve continuity of care with regard to medications, on admission as well as at discharge from the hospital,
- by analyzing international and Belgian data

Our background

International data

- Systematic literature review on impact and cost-effectiveness of initiatives
- Initiatives abroad: national or regional levels

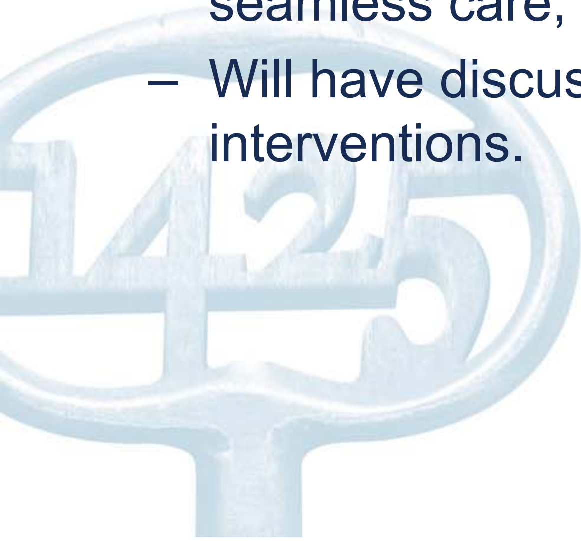
Belgian data

- Belgian initiatives: summary of data on drug related problems and initiatives to improve continuity of care
- Medication changes after discharge of hospital: IMA data
- Qualitative study: perception of HCPs on approaches to improve seamless care

Workshop goals

After this workshop participants:

- Should be able **to identify medication related problems** that can occur due to transition between settings of care;
- Will have an idea of the **existing evidence on interventions** to support seamless care focusing on medication;
- Will have **designed a clinical pharmacy intervention** to support seamless care;
- Will have discussed the **barriers and facilitators** of the designed interventions.



Overview of the workshop

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Introduction to the topic (10 min)

1st group work (20 min)

Interventions and evidence (30 min)

2nd group work (25 min)

Discussion of groups' outputs (25 min)

General discussion and practical tips (10 min)

1. Identification of medication related problems

2. Evidence on existing interventions
3. Clinical pharmacy intervention design
4. Barriers and facilitators

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Seamless care workshop

INTRODUCTION: SEAMLESS CARE?

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Seamless care : definition

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- Different definitions (Canada, Australia, US)
- Working definition:

"The desirable **continuity of care** delivered to a patient
in the health care system
across **the spectrum of caregivers and environments**."

"**Spectrum of caregivers**" refers to multidisciplinary care and how members of different health care professions interact to provide total patient care.

"**Environments**" refers to different health care settings (hospital and community care - home, rehabilitation care facilities and long term care facilities), and transition between them.

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Seamless care : definition

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The most important characteristics :

(1) having well-defined processes of care and responsibilities across the spectrum of caregivers,

(2) obtaining an accurate medication history,

(3) developing a treatment plan on admission as well as at discharge that is part of the overall care plan,

(4) dispensing an adequate amount of medication at discharge,

(5) ensuring the patient has been educated about the discharge treatment plan, and

(6) communicating to follow-up health care.

Seamless care workshop

A TYPICAL CASE

A typical case…

- Maria, 80 years
- Married
- Lives at home
- Husband prepares the medicines: week pill box
- Admission to geriatric ward because of pain development and memory loss
- Medication history based on information of
  - Patient
  - GP
  - Community pharmacy

A typical case…

- After hospital discharge her husband prepares medicines based on medication list of hospital

- 18 days after discharge: visit to pharmacy with prescriptions of geriatrician in training (received at hospital discharge)

A typical case…

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	Medication history at admission	Discharge letter	Patient list 15 days after discharge	Community pharmacy 18 days after discharge
Omeprazole	20 mg morning	20 mg morning	20 mg morning	-
Lorazepam	2,5 mg night	1,25 mg night	2,5 mg night	-
Tetrazepam	-	25 mg night	Not taken	Delivered
Tranxene	10 mg morning + evening	-	-	-
Trazodone	50 mg night	-	-	-
Paroxetine	30 mg morning	20 mg morning	30 mg morning	20 mg delivered
Venlafaxine	150 mg morning	75 mg morning	Using old boxes of 150 mg	75 mg delivered
MS Contin 10 (morphine)	1 morning + 1 evening	1 morning + 1 evening	1 morning + 1 evening	-
MS Contin 30 (morphine)	1 morning + 1 evening	1 morning + 1 evening	1 morning + 1 evening	-
MS Direct (morphine)	-	-	When required	-
Meloxciam	15 mg noon	-	-	-
Tramadol (Retard)	200 mg morning	-	-	-
Paracetamol	-	1 g: 1 morning + 1 noon + 1 evening + 1 night	Not taken	1 g delivered
Dulcolax picosulphate	1 morning + 1 noon + 1 evening	1 morning + 1 noon + 1 evening	1 morning + 1 noon	-
Risedronate	35 mg every Sunday	35 mg every Sunday	35 mg every Sunday	-
Calcium forte	-	500 mg afternoon + evening	Not taken	-
D-Cure (Vitamin D)	-	1 every week, after 4 weeks 1 every month	Not taken	Delivered

Medication discrepancies

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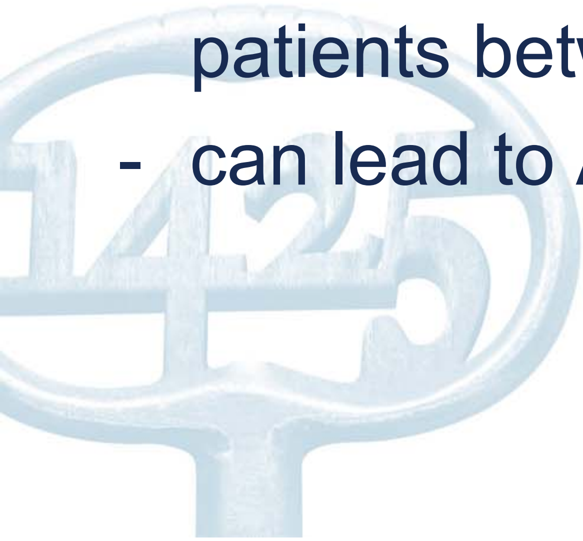
Unintentional medication discrepancies are:

- unexplained differences among documented regimens across different sites of care
- medication errors related to the transfer of patients between different settings of care
- can lead to ADEs



A typical case…

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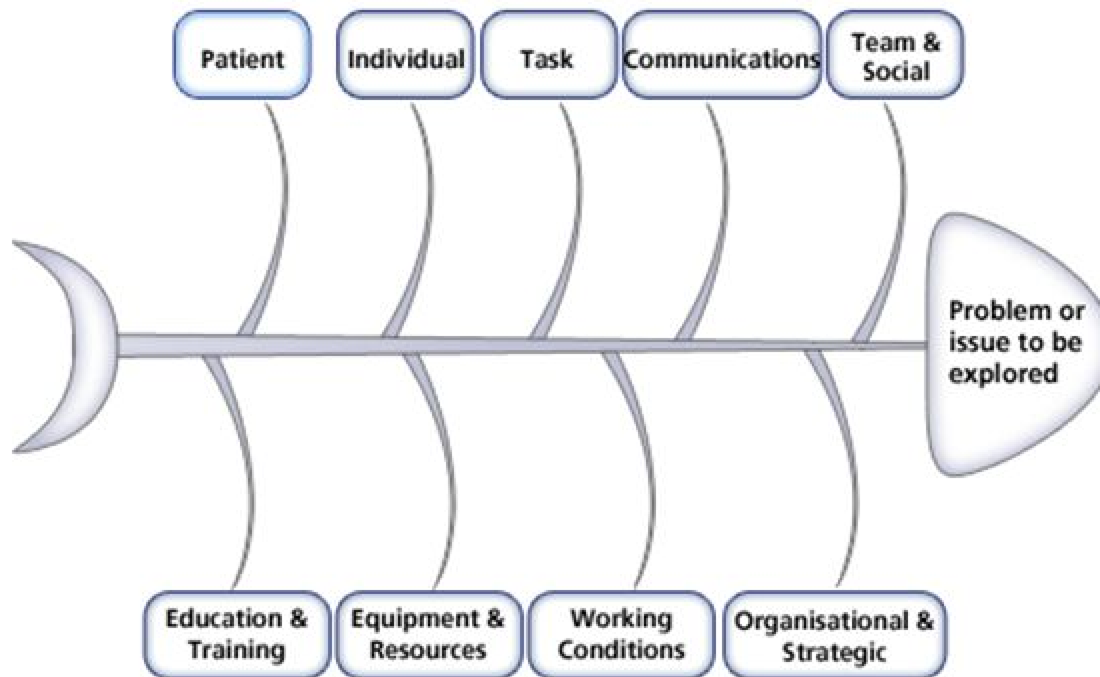
Inventory of the contributory factors …

"… any factor that affects the performance of individuals or contributed to the incident"

Contributory factors - NPSA framework

The key part of the analysis is to identify the contributory factors lying behind each problem. The NPSA's CFF has categories and components relating to exploring incidents. Click each category to find out more.



Patient factors are grouped into five types:

- Clinical condition
- **Social factors**
- Physical factors
- Mental and psychological factors
- Interpersonal relationships

Example: The patient did not understand the risks of treatment due to his poor understanding of the English language and no interpreters were available.

Discussion in small groups

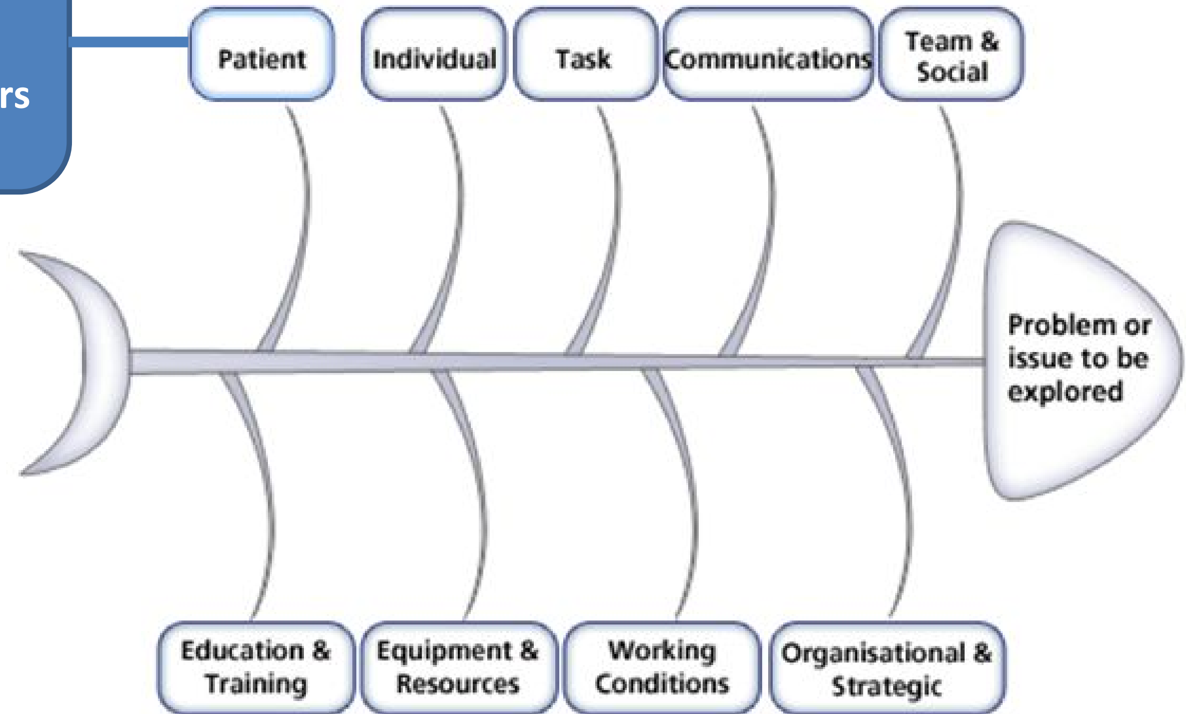
- Which contributory factors might have been present in our typical case with medication discrepancies?

- Use the fishbone diagram to inventory these contributory factors.

- How should we overcome these contributory factors?

Report on group discussions

- Clinical condition
- Social factors
- Physical factors
- Mental/psychological factors
- Interpersonal relationship



Report on group discussions

Memory loss

- Clinical condition
- Social factors
- Physical factors
- Mental/psychological factors
- Interpersonal relationship

Depression

Decision to increase dose herself

Late visit to pharmacy
Use of old medicine boxes
Incomplete prescription?

Advice by geriatrician and hospital pharmacy on use of medicines

Medication discrepancies

Geriatrician in training

GP on holiday

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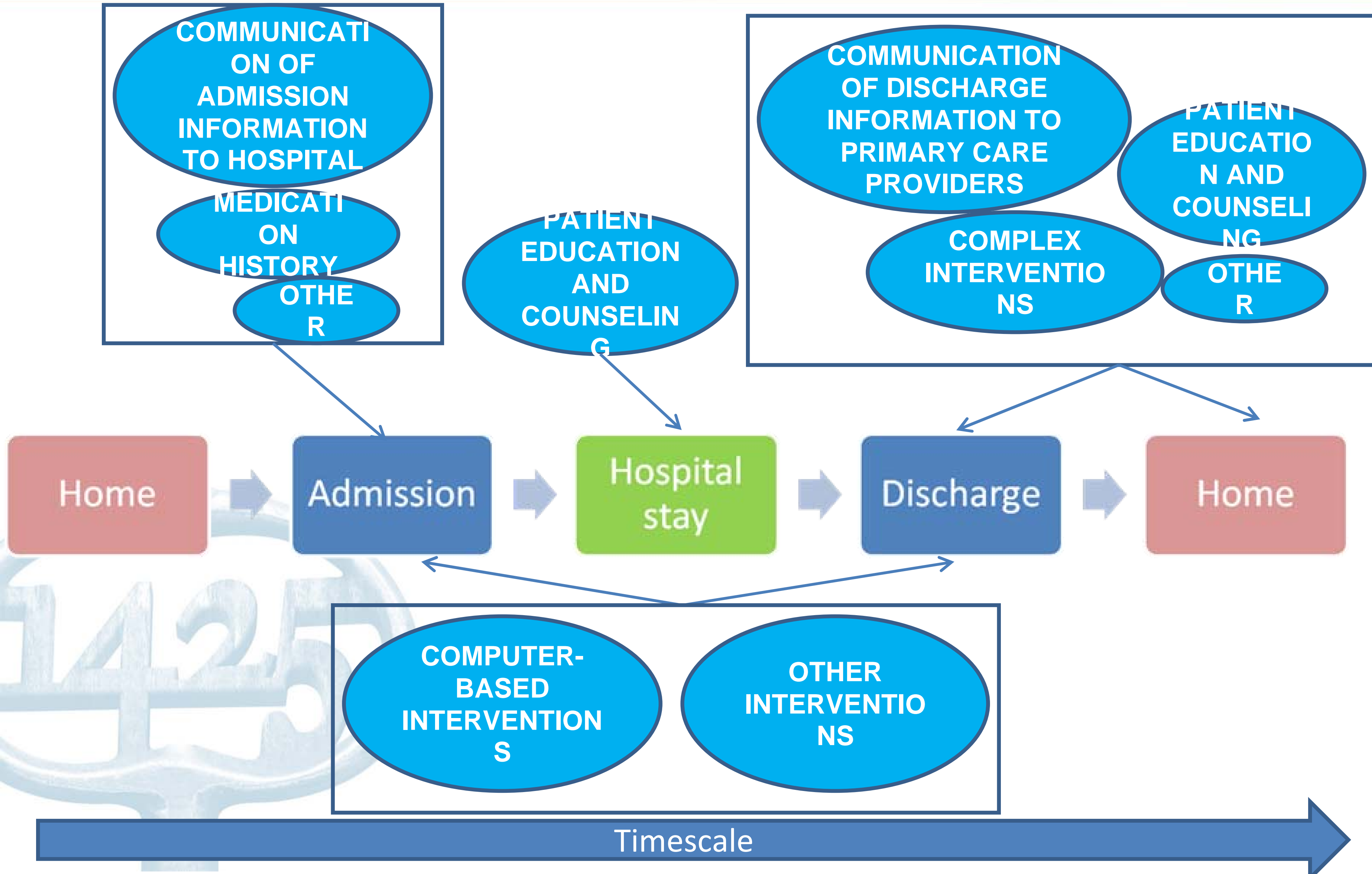
Evidence from literature (litterature research from 1995→July 2009)

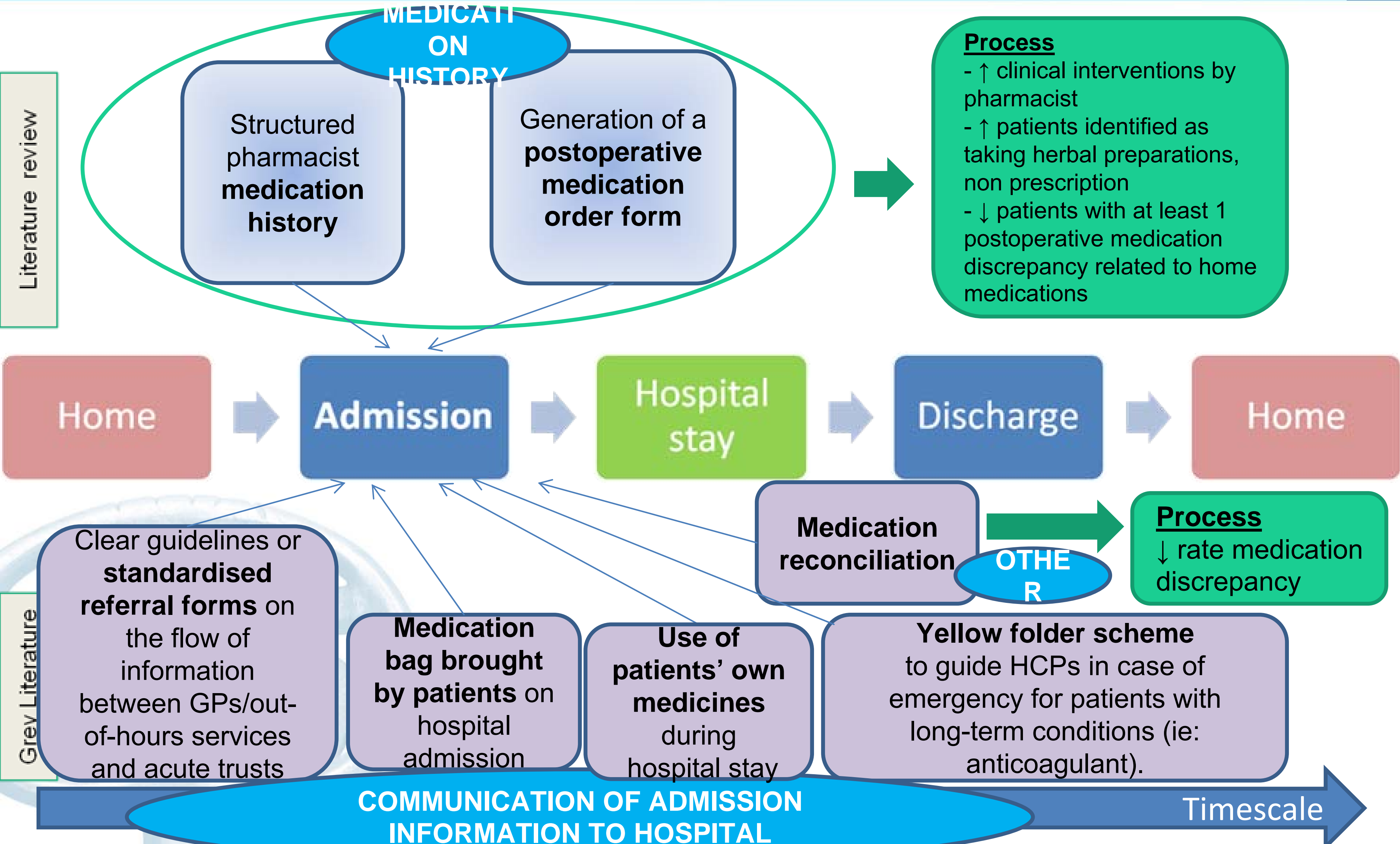
Evidence from the analysis of regional or national initiatives in a selection of countries (grey litterature)

KCE REPORT

Interventions – classification overview



At admission



References: Nester 2002, Kwan 2007

During hospital stay – patient education

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Literature review

PATIENT EDUCATION AND COUNSELING DURING HOSPITAL STAY

Hospital self medication program in which patients are educated about their medicines and given increasing responsibility for taking them in hospital

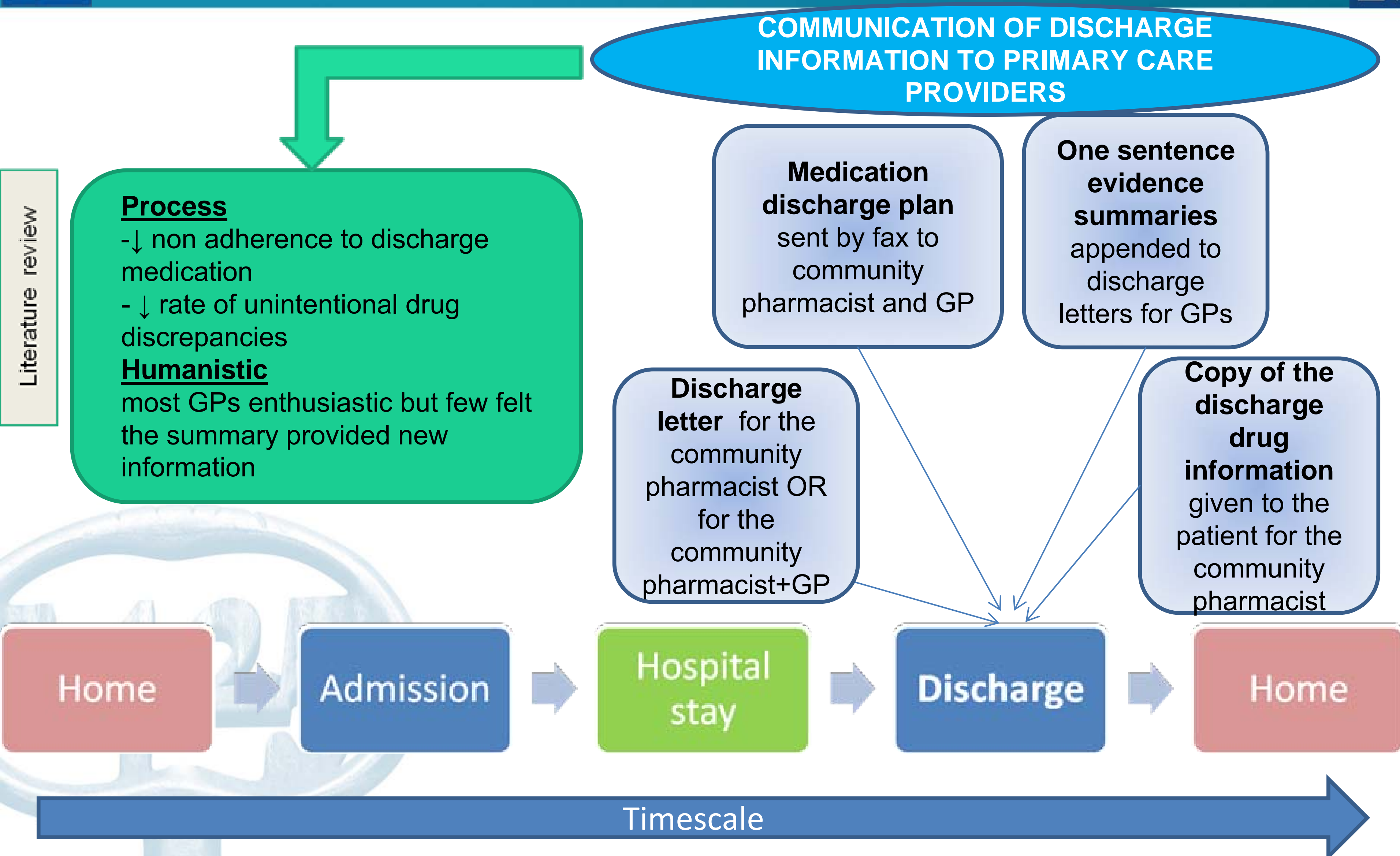
Process
- ↑ medication knowledge
- ↑ adherence

Grey Literature

Self-management plan developed for and agreed by patient or carer

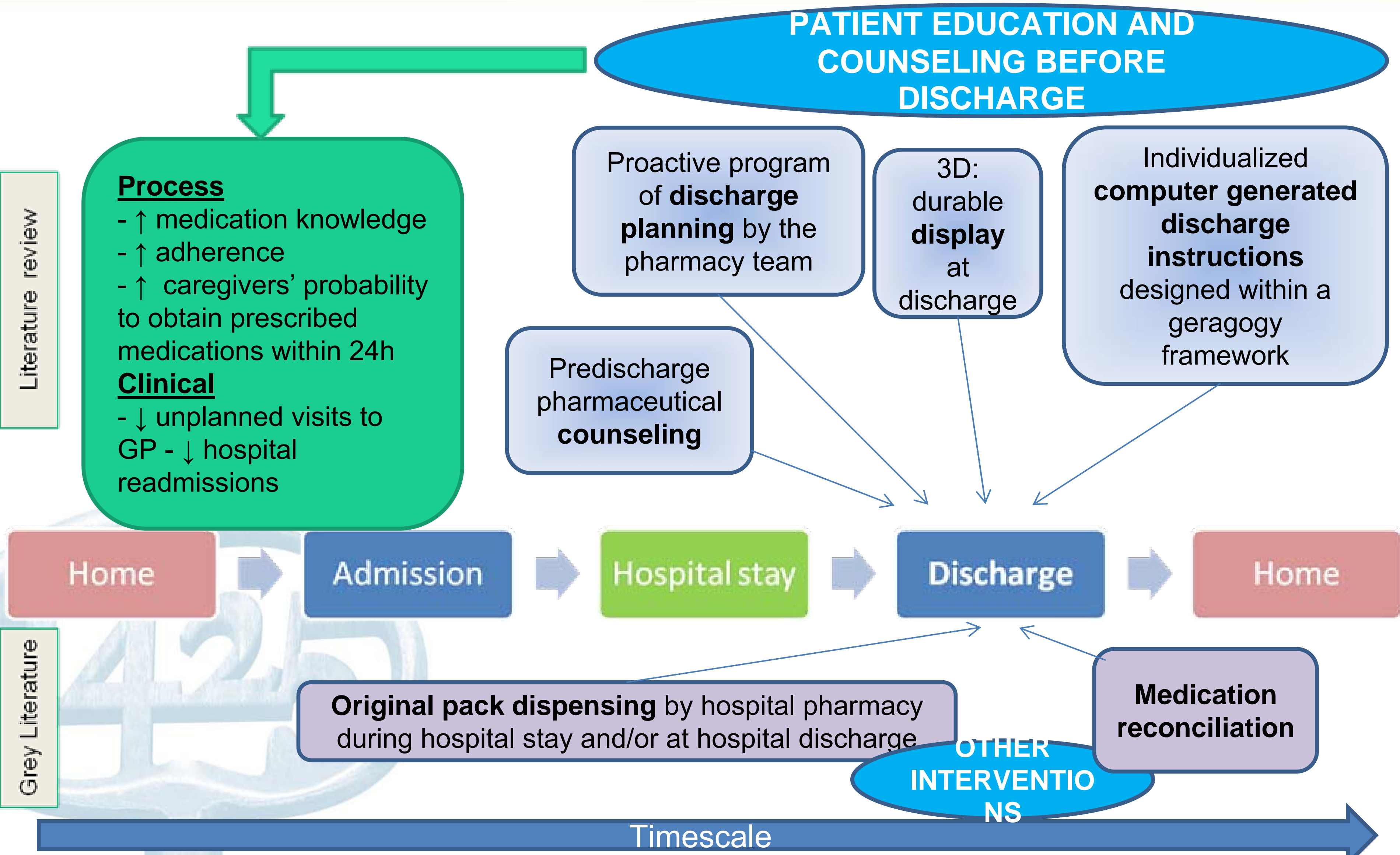
References: Lowe 1995, Pereles 1996

At discharge - communication



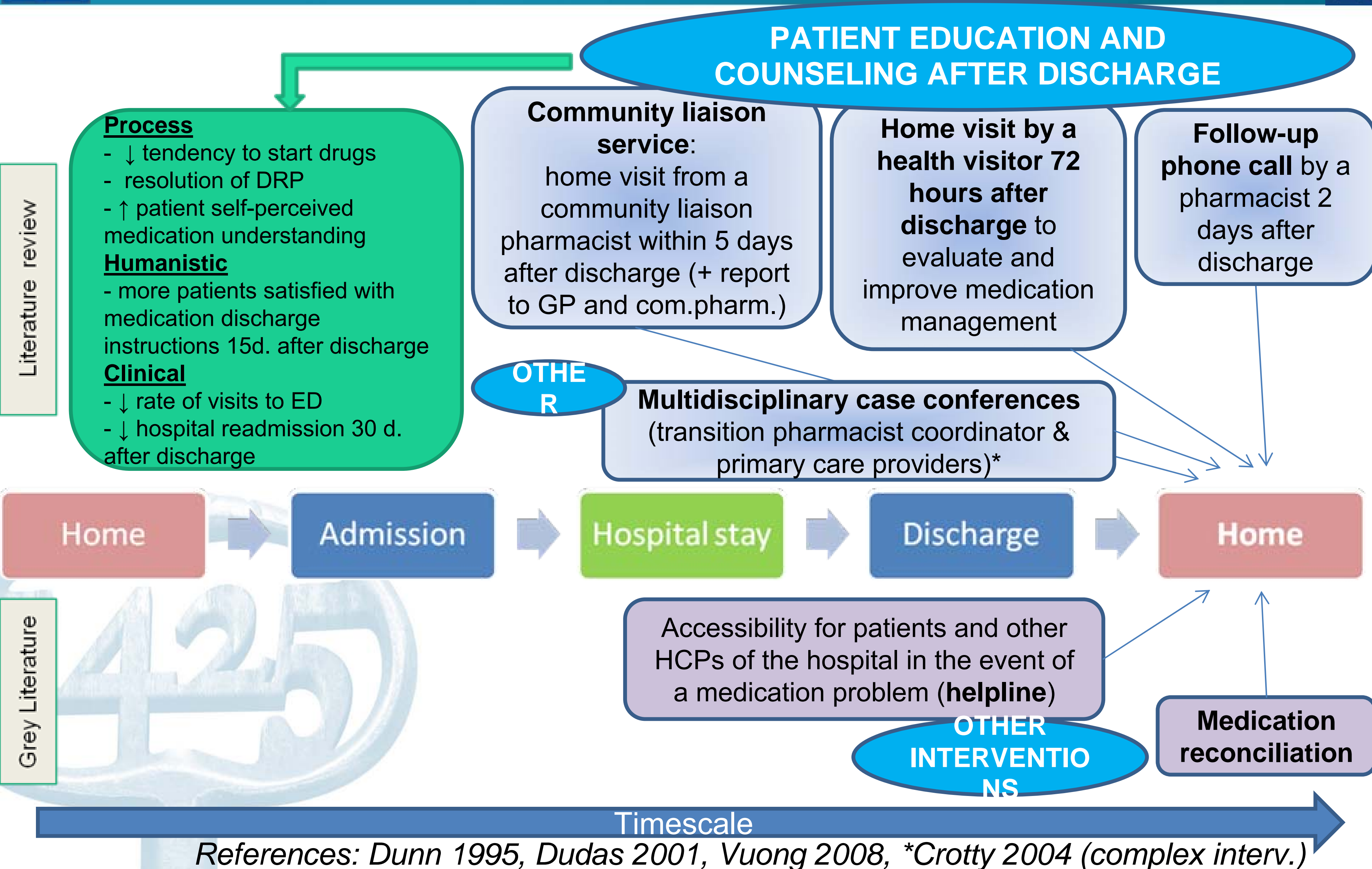
References: Kunz 2007, Duggan 1998, Gutschi 1998, Lalonde 2008

At discharge – before Patient education & other



References: Hayes 1998, Al Rashed 2002, Voirol 2004, Manning 2007

At discharge – after
Patient education & other



At discharge – before and after - patient education

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PATIENT EDUCATION AND COUNSELING BEFORE AND AFTER DISCHARGE

Literature review

Process
- ↑ patient compliance

Clinical
- ↓ rate of preventable ADEs
- ↓ rate of preventable,medication-related ED visits or
- ↓ hospital readmission
- ↓ days in hospital
- ↓ fewer deaths ($p<0.05$)

Pharmaceutical care program: **discharge counseling + post-discharge telephone calls** (monthly for 6 months, then ev 2 months for 6 additional months)

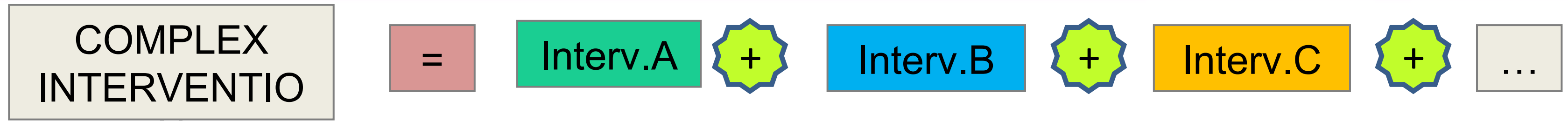
Pharmacist: medication review + **patient counseling at discharge + and follow-up telephone call** 3 to 5 days later (+ communication to GP)

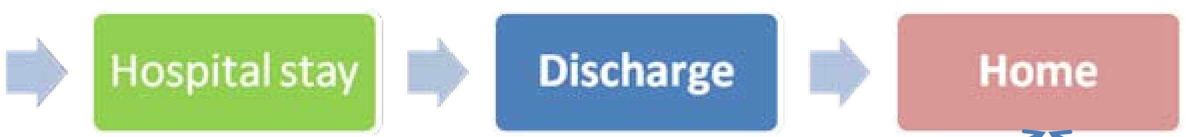
Home → Admission → Hospital stay → Discharge → Home

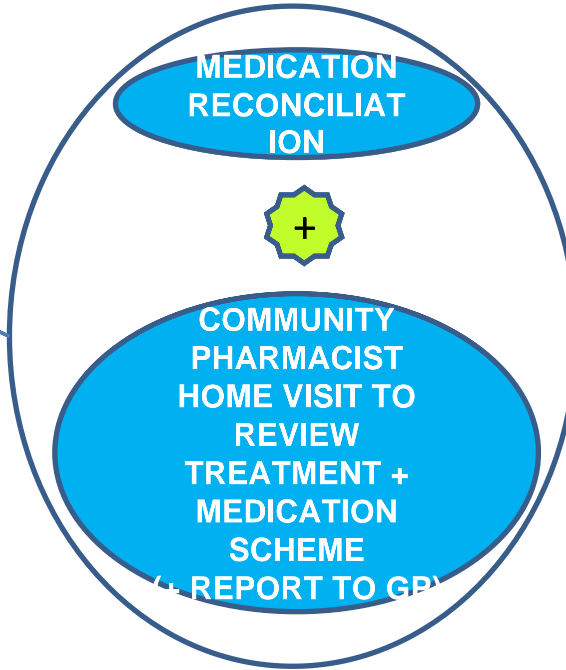
Timescale

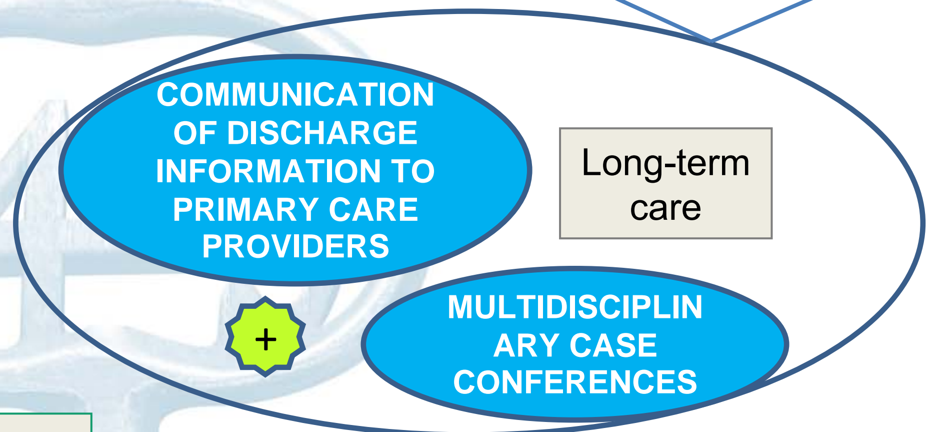
References: Cabezas 2006, Schnipper 2006

At discharge - Complex interventions







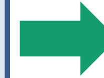


Literature review

References: Smith 1997, Shaw 2000, Hutchenburg 2009, Nazareth 2001, Crotty 2004, Jack 2009

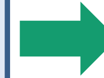
At admission and discharge - Computer-based interventions

Computer-generated drug list to cancel or renew previous outpatients prescriptions, or to prescribe new medications



Process
-↓prescriptions on admission and at discharge

Electronic communication between GP and local pharmacy to transfer data about prescriptions



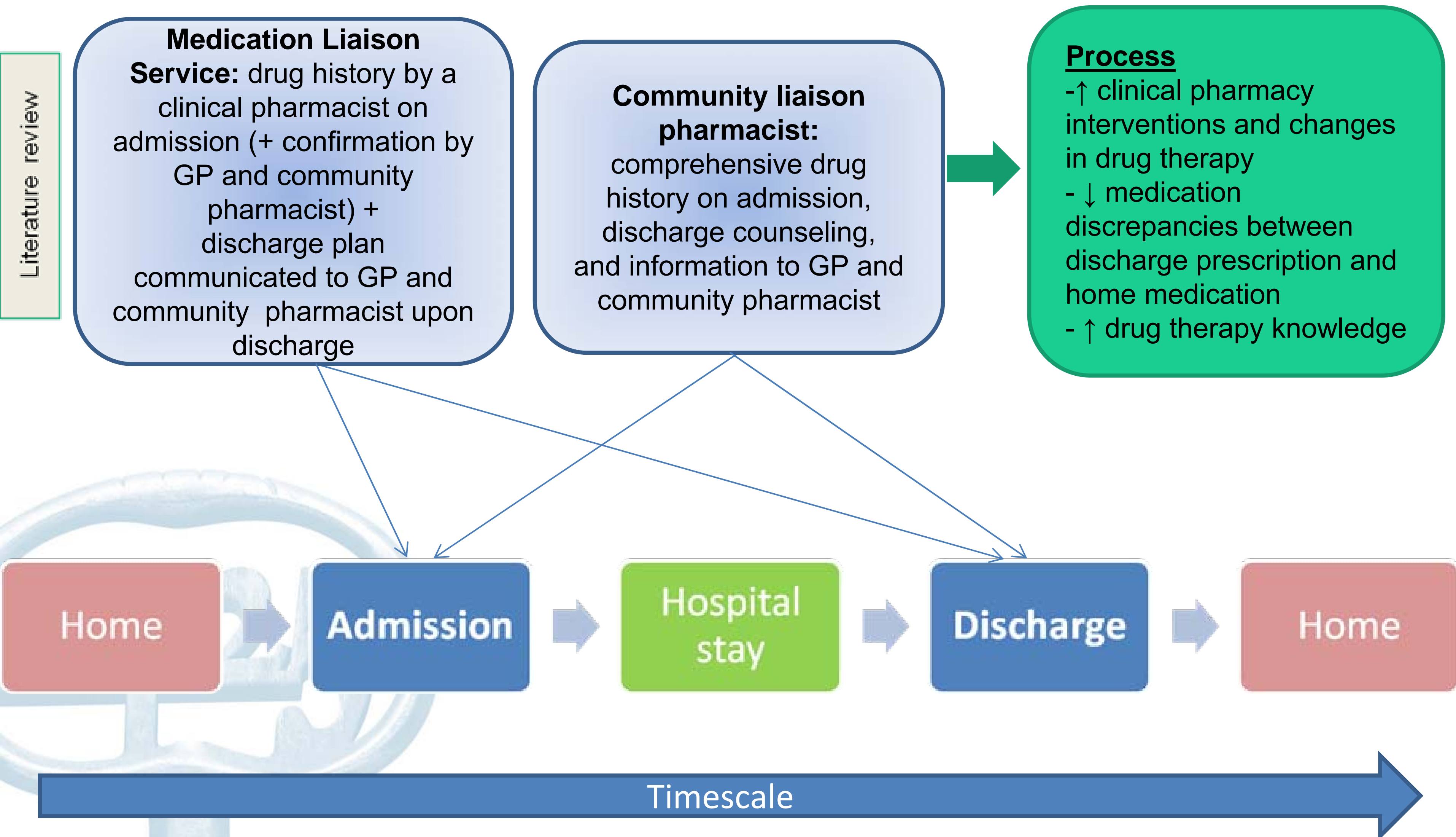
Process
-better agreement between the GP and community pharmacist on current medication of the patient – but insufficient

Computerized medication reconciliation tool and process redesign involving physicians, nurses, and pharmacists and supported by information technology

Process
- ↓ rate of unintentional discrepancies between preadmission medications and admission or discharge medications that had potential for harm

References: Smith 1996, Vanderkam 2001, Schnipper 2009

At admission and discharge – other interventions



References: Stowasser 2002, Bolas 2004

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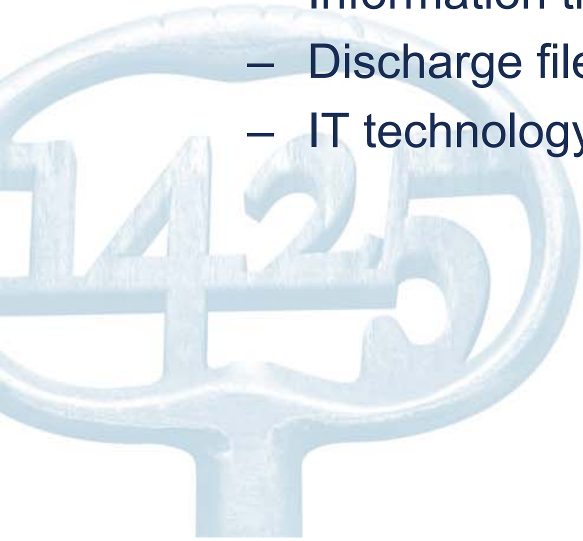
DEFINING CLINICAL PHARMACY INTERVENTIONS

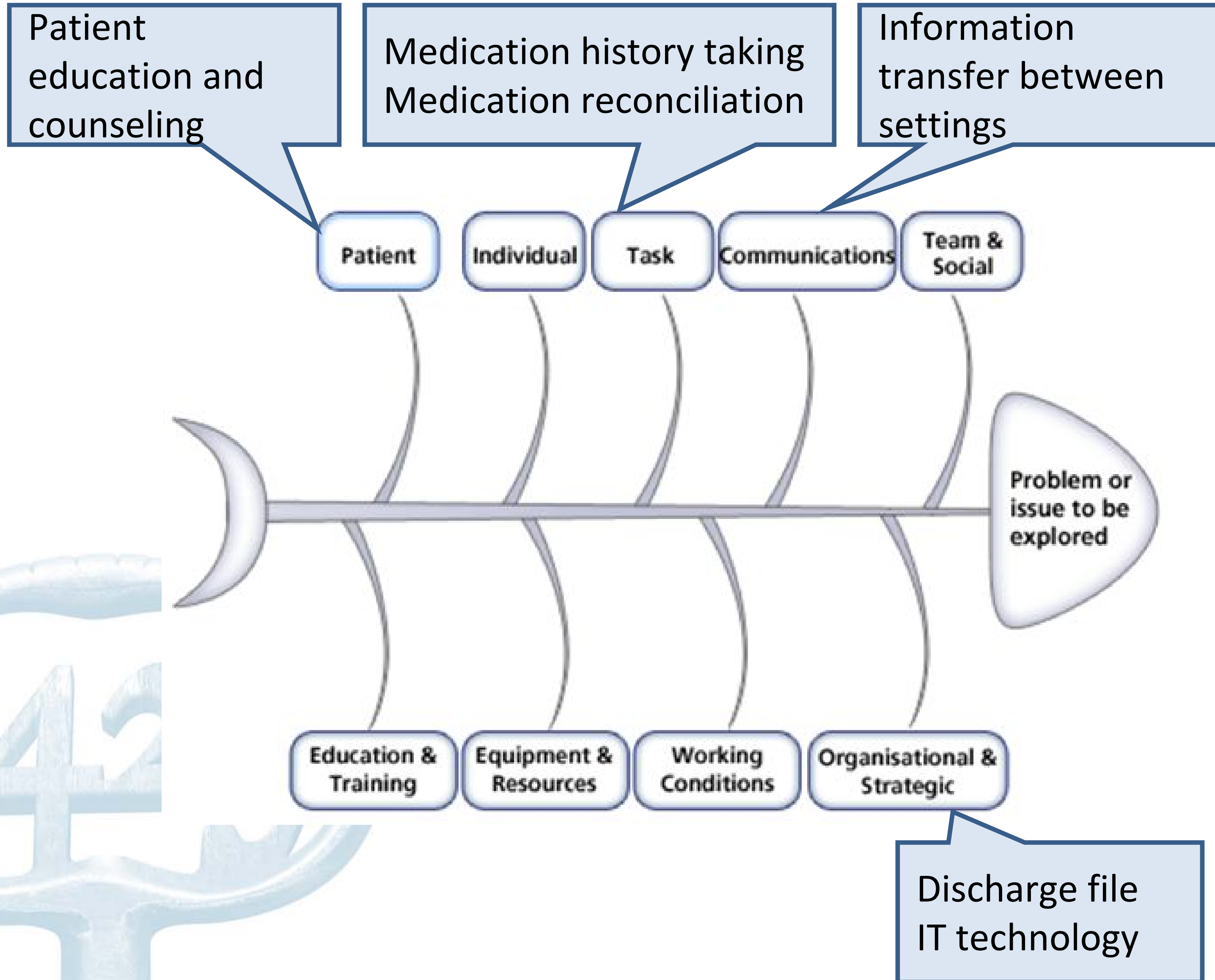
Small group work

Work out one intervention:

- Medication history taking at admission (using different strategies)
- Medication reconciliation (in hospital)
- Patient education and counseling at discharge
- Medication reconciliation (after discharge)
- Patient education and counseling after discharge
- Information transfer from hospital to primary care
- Information transfer from primary care to hospital
- Discharge file / transfer form
- IT technology



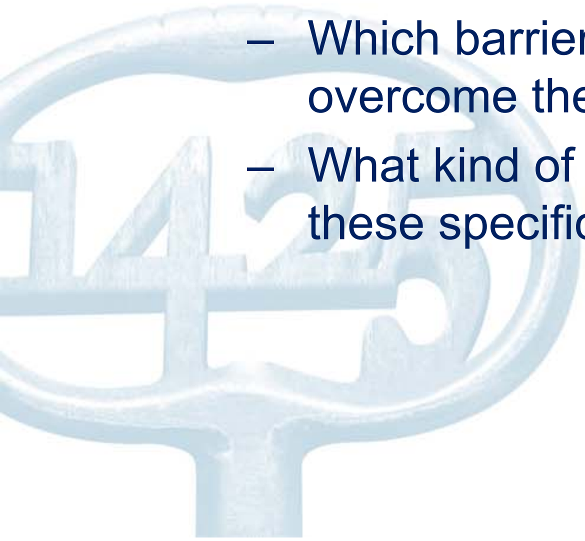
Small group work



Small group work

Think about different aspects of the intervention (form):

- At which moment in the process will the intervention take place?
- What is the goal of the intervention? How will this intervention improve seamless care?
- What is the content of the intervention? What will be done? What kind of information do you need and from whom?
- Who is involved in the intervention? Who will do what?
- Which tools can be used?
- Which barriers can be expected and what actions could be taken to overcome them?
- What kind of outcomes would you measure? Why would you measure these specific outcomes? How would you measure it?



Report on small group work

- Goals / How / Who / Tools
- Applicability?
- Experiences?

Report on small group work

Medication history taking at admission	
Goals	Complete overview of medication Changes in last week
How	Information GP, family caregivers, residential home
Who	Team: pharmacy: pharmacy technician first interview
Tools	Standardised procedures, checklist, protocols

Report on small group work

Medication reconciliation in hospital	
Goals	Target population: 65+ polypharmacy Define list of drugs – being detective Advice physicians on problems Check treatment: dosage, administration time, interactions, …
How	Get information from patient, physician, drug bag, community pharmacy, medication plan of hospital
Who	Multidisciplinary team: pharmacist as leader but needs helpers Systematic approach Responsibility versus accountability
Tools	Computer Pharmaceutical file Document reasons for change

Report on small group work

Patient education and counseling at discharge	
Goals	Improve patient knowledge Better therapy management
How	2 days before discharge in an ideal situation
Who	Clinical pharmacist Nurse
Tools	Request for education/counseling in patient file Pill box Standardised teaching brochures Feedback Calendar – medication scheme

Report on small group work

Medication reconciliation after discharge	
Goals	Total reconciliation Remove all old medication Avoid medical expenses
How	Discard old medication Refer to community pharmacy to collect new medicines 1-3 days after discharge
Who	Community pharmacist GP
Tools	Medical overview of hospital and pre-admission Discharge letter: fax or e-mail or portal

Report on small group work

Patient education and counselling after discharge	
Goals	Appropriate treatment Observe patient needs
How	Min 2 moments: 2 days after discharge and 1 month after discharge Along with medication reconciliation
Who	Hospital pharmacist to provide discharge letter Home care nurse Community pharmacist
Tools	Discharge letter: complete and accessible

Report on small group work

Information transfer from hospital to primary care	
Goals	Explain GP/community pharmacist differences in medication profile
How	Letter: fax or e-mail Letter to be added to general discharge letter Explain patients about the differences: patient education Add reasons for change
Who	Clinical pharmacist
Tools	Letter Patient file, patient history Need for a system to write medication once to avoid copy errors

Report on small group work

Information transfer from primary care to hospital	
Goals	
How	
Who	
Tools	

Report on small group work

Discharge file / transfer form	
Goals	Transparant information on all changes and reasons for changes
How	Written information accessible for patient, pharmacist, physician and nurse
Who	Discharge manager
Tools	Discharge procedures SOPs toolbox

Report on small group work

IT technology	
Goals	Accurate medication history including herbal medicines and OTC Monitor concordance, compliance Allergy status Care status Indications …
How	E-prescribing available to all HCPs
Who	All HCPs who need it Patient involvement?
Tools	Computer servers Software Programming …

Sharing of expertise …

- Existing projects?

- Keep in touch with each other … pass by before you leave the workshop – we will take note of your contact details.

Seamless care workshop

FURTHER READING

Further reading

- Summary of KCE report
- List of references used in literature review
- List of websites consulted for comparison of initiatives in 7 selected countries

- Full KCE report, and interesting links within
  www.kce.fgov.be

- Workshop material: websites of institutions
  www.kuleuven.be/pharm_care
  www.pharmacie-clinique.be
  or by e-mail: veerle.foulon@pharm.kuleuven.be

Other sessions related to this topic

- WS 10: Medication reconciliation, a priority for the European community and WHO : the experience in Europe (EUNetPaS) and an update on the High 5s project looking at impact over 5 years
- WS 15: Therapeutic Education: what is the story? what is the issue? How can the pharmacist get involved?
- Oral communication on the results of the qualitative study
- Posters with data of Belgian and international projects

Seamless care

GOOD LUCK WITH ALL ‘TRANSITIONS’ YOU MAY MAKE IN THE NEAR FUTURE… MAKE THEM SEAMLESS!