

# Lessons Learnt for Successful Implementation of Medicine Reconciliation

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# Nothing to disclose

1. Does the CPE content over which you have control contain information about healthcare products or services?

Please circle:      **Yes**   or    **No**

- ➔ *If No: please go to the next page, sign and return this form.*
- ➔ *If Yes: please answer Question 2.*

# Learning objectives

- Discuss implementation strategies for pharmacy involvement in medication reconciliation
- Highlight methods
  - to overcome barriers encountered during implementation
  - to provide and sustain pharmaceutical services
- Identify metrics and quality assessment tools and techniques for process improvement

# Sharing our experience

## Implementation

3 cycles PDSA

•Metrics / KPI:

- % patient with BPMH available in < 24 h
- % patient with BPMH available in < 72 h

Validation of the process

## Quality Management

Relevant sources

- Customer approach

Training framework

- Needs identification
- «MR pathway »
- Distance learning
- Credentialing process

## Business Process Improvement

Anesthetist consultation

- Collaborative approach
- Prioritizing patient
  - Profile

Discharge

# ANTOINE BECLERE - CLAMART



# APHP : Assistance Publique Hôpitaux Paris

- **37 hospitals**

- **12 Hospital groups**

- **GH HUPS**

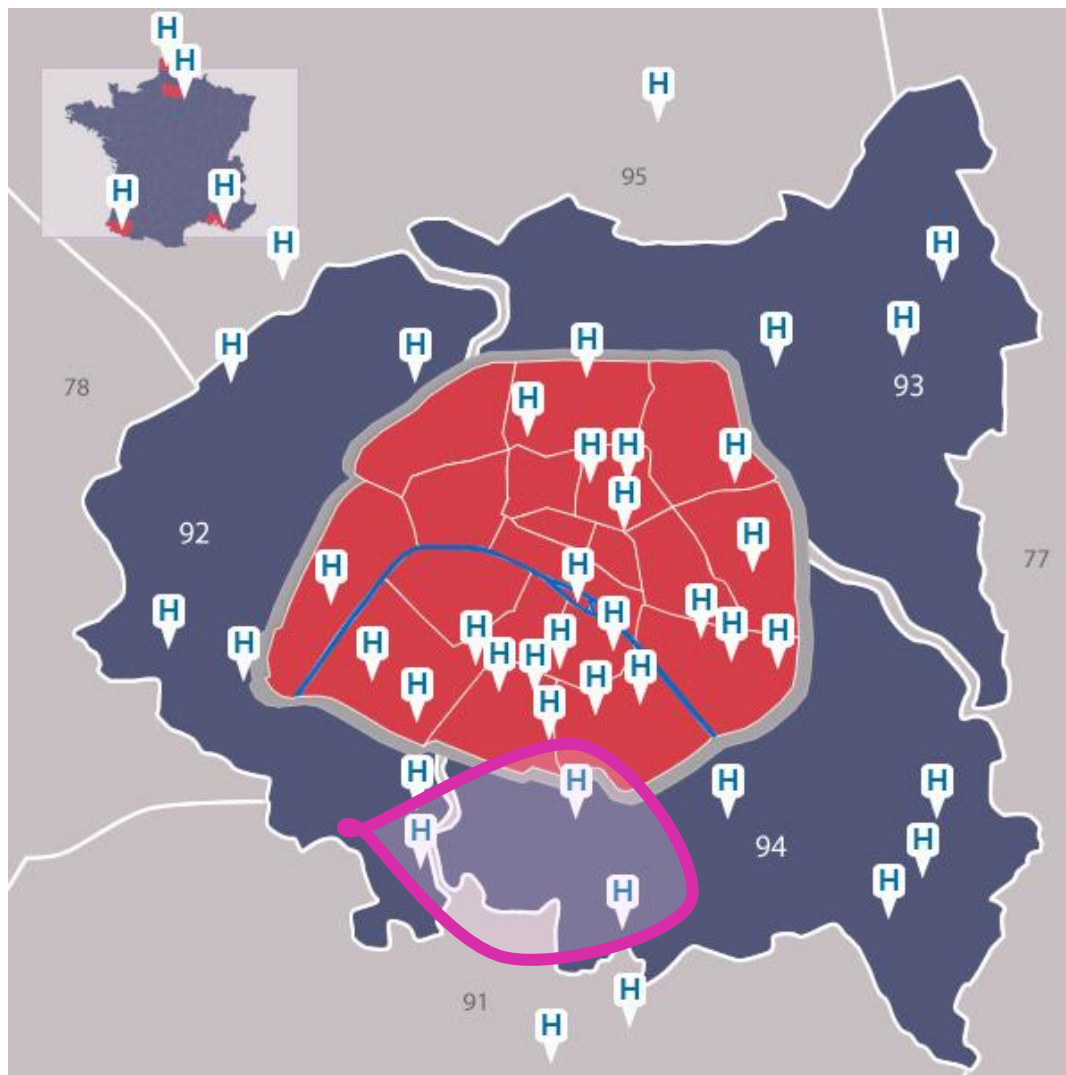
- 3 Hospitals (Kremlin-Bicêtre / Paul Brousse and Antoine Bécère)

- 2100 beds

- **2 Universities**

- School of Medicine

- School of Pharmacy



# Implementation: PDSA cycles

- **Plan:** Understand the current situation; develop a **change** and state a hypothesis about what will occur with the change

Steering  
team

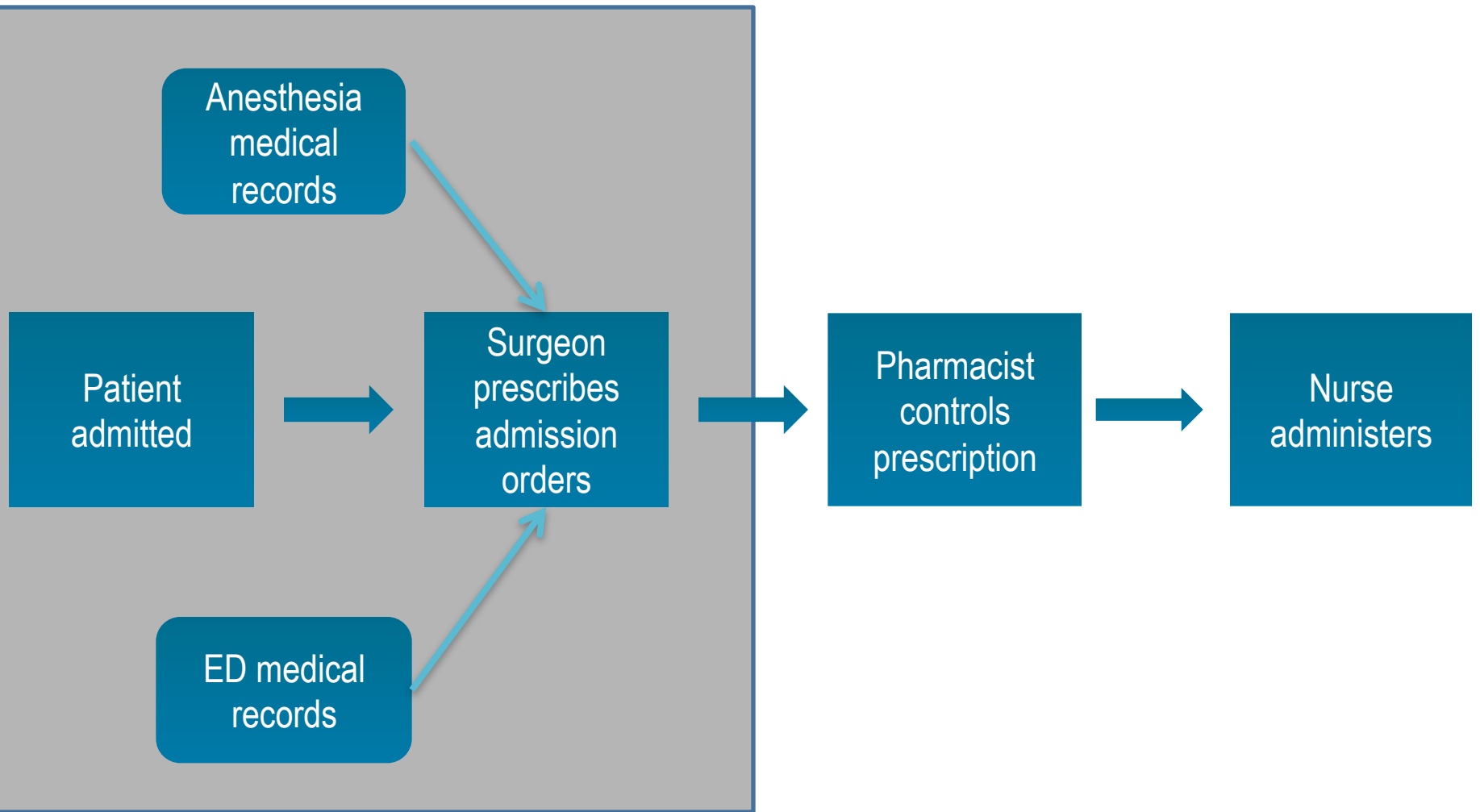
- **Do:** Carry out a **small-scale pilot test** of the change

- **Study:** observe the changes and outcomes and analyze results

Multi-  
disciplinary  
meeting

- **Act:** Based on those results, decide to adopt, and spread the change, or make adjustments

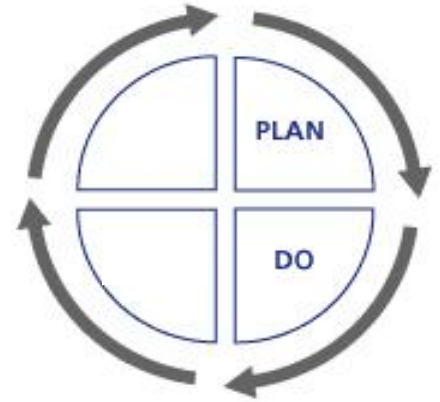
# Admission therapy management process map before PDSA cycles





Anesthetist  
medical  
records

# Cycle 1



Pati  
admi

<b>Class 1 discrepancies</b>	<b>Unlikely to cause patient discomfort or clinical deterioration</b>
Class 2 discrepancies	Potential to cause moderate discomfort or clinical deterioration
Class 3 discrepancies	potential to cause severe discomfort or clinical deterioration

3

UMDs  
identified  
by surgeon

day

Nurse  
administers

Pharmacist  
controls  
prescription

UMDs  
corrected



# Cycle 1



## UMD

31 % with at least 1 UMD  
0,65 UMD per patient  
57 % corrected by  
surgeon

Patients  
91 included  
60,8 years  
4,3 medications

## Clinical impact

64 % class 1 (no impact)  
32 % class 2 (moderate)  
4 % class 3 (severe)

Need for MR in the  
surgery  
departments

- Physicians process for collecting patient's medications history at admission not standardized
- Emergency/anesthesia documents incomplete

Current situation  
retroactive  
medrec

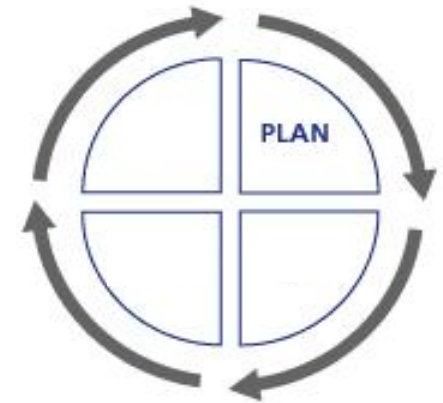


Cycle 1

Continue with MedRec

Standardize  
physician  
practice

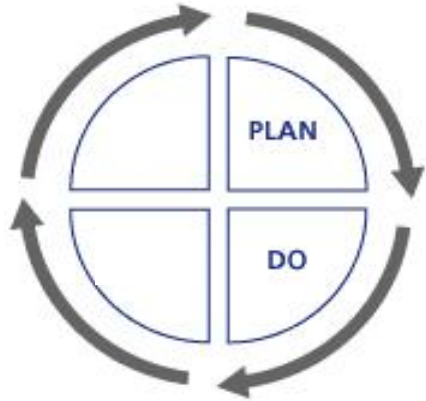
CHANGE  
Leave BPMH  
available to  
physician



Cycle 2

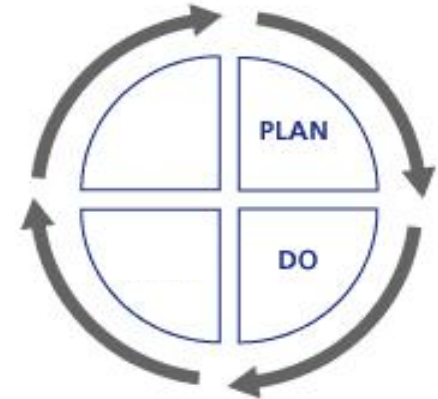
Hypothesis  
Reduction of  
admission  
UMDs

# Cycle 2



Patient admitted

Proactive



Retroactive

Surg  
comp  
BPMH  
and co

on  
es AO  
PMH

## Medication History Form

Sex :	Height :	Creatinin clearance :	Natural products, over the counter products, etc :
Age :	Weight :	Provenance :	
Admission date:	Date de l'enquête :	Contraceptive pill :	
Physician:		Allergies :	
Community pharmacy :		Medication vial in the room :	If Yes, which ones :
medical history :		Y / N	

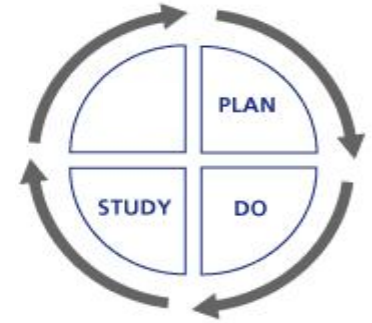
Admission reason :

Medication	Dosage	Route	Posology	End date	Indication	ABC's med (Y/N)	Alternative medication proposed by the pharmacist	Continue (C) Discontinue (D) Modify (M)

Nurs  
adminis



# Cycle 2



## UMD

15 % with at least 1 UMD  
0,18 UMD per patient

## Patients

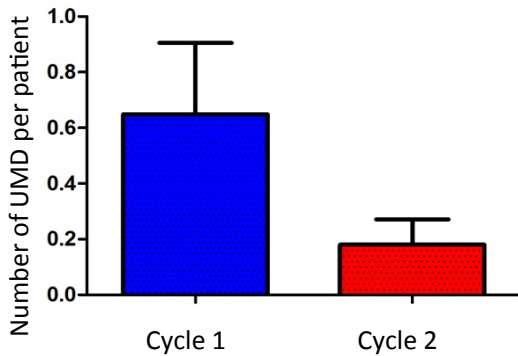
100 included  
58,1 years  
3,8 medications

## Clinical impact

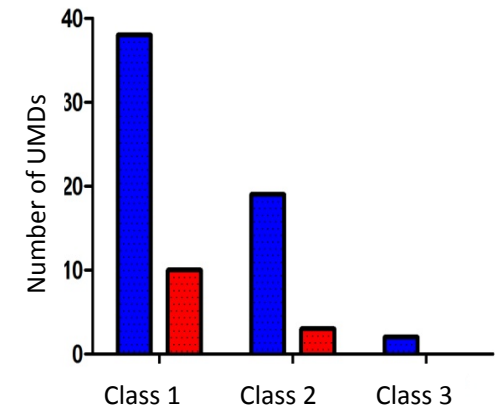
77 % class 1 (no impact)  
23 % class 2 (moderate)

## BPMH availability

76 % > 24h



BPMH availability for physicians reduced UMDs frequency and clinical impact



- Positive results for the medical teams
- Delay for BPMH too long

Current situation  
mixed med  
rec

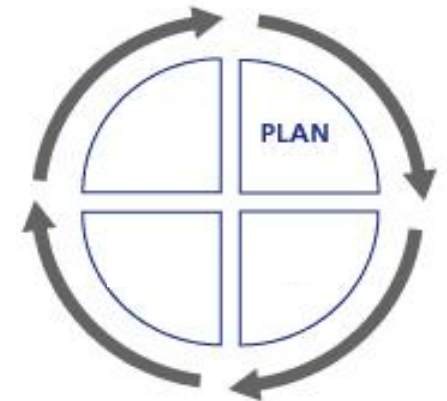


Cycle 2



Reduce delay for  
BPMH availability

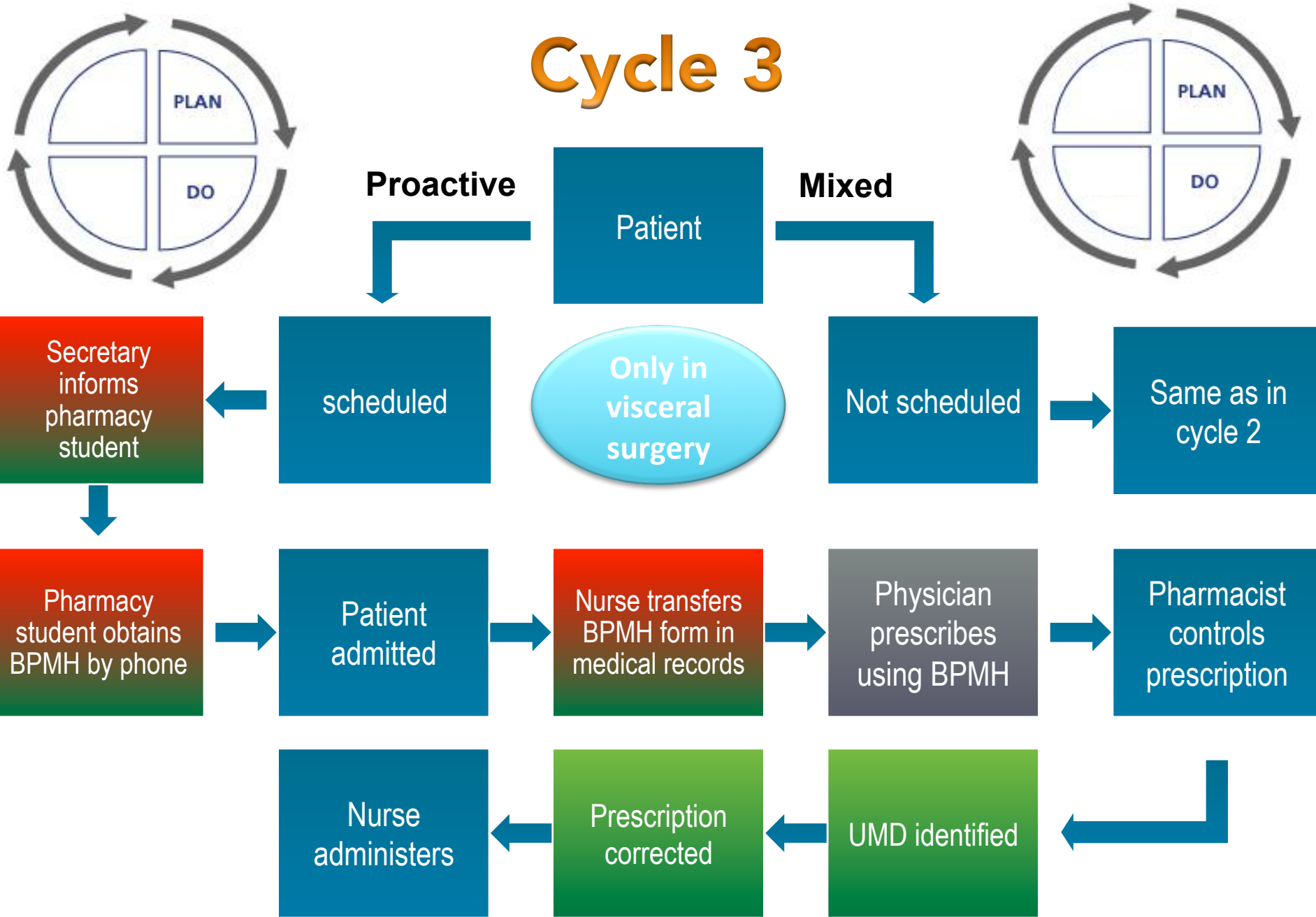
CHANGE  
Phone based  
BPMH for elective  
patients



Cycle 3

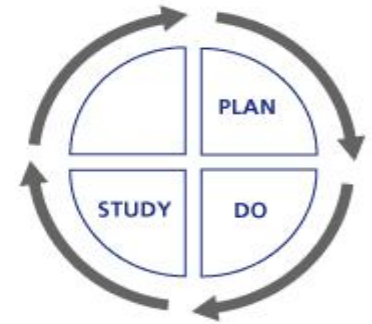
Hypothesis  
Reduce %  
patients with  
BPMH available >  
24hours

# Cycle 3





# Cycle 3

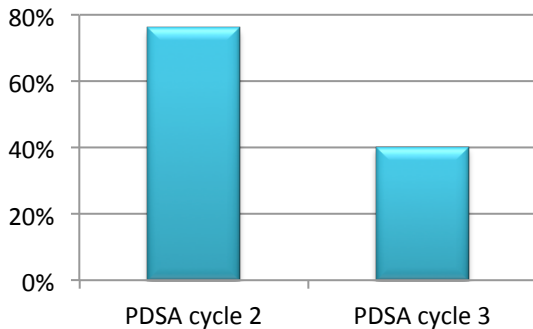


BPMH delay  
40 % > 24h

Patients  
55 included  
48,3 years  
2,3 medications

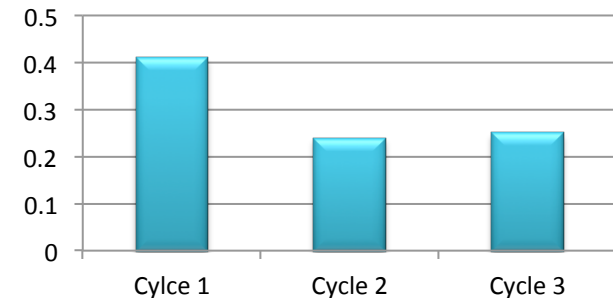
UMD  
20 % with at least 1 UMD  
0,25 UMD per patient

**BPMH available > 24h**



Proactive MedRec  
by phone reduced  
BPMH delay

**UMDs per patient**



- Stakeholders satisfied with this MedRec process





# Cycle 3



Stop PDSA cycles  
and

Monitor

70%

% of patient with  
BPMH available  
in < 24 h

Performance  
indicators

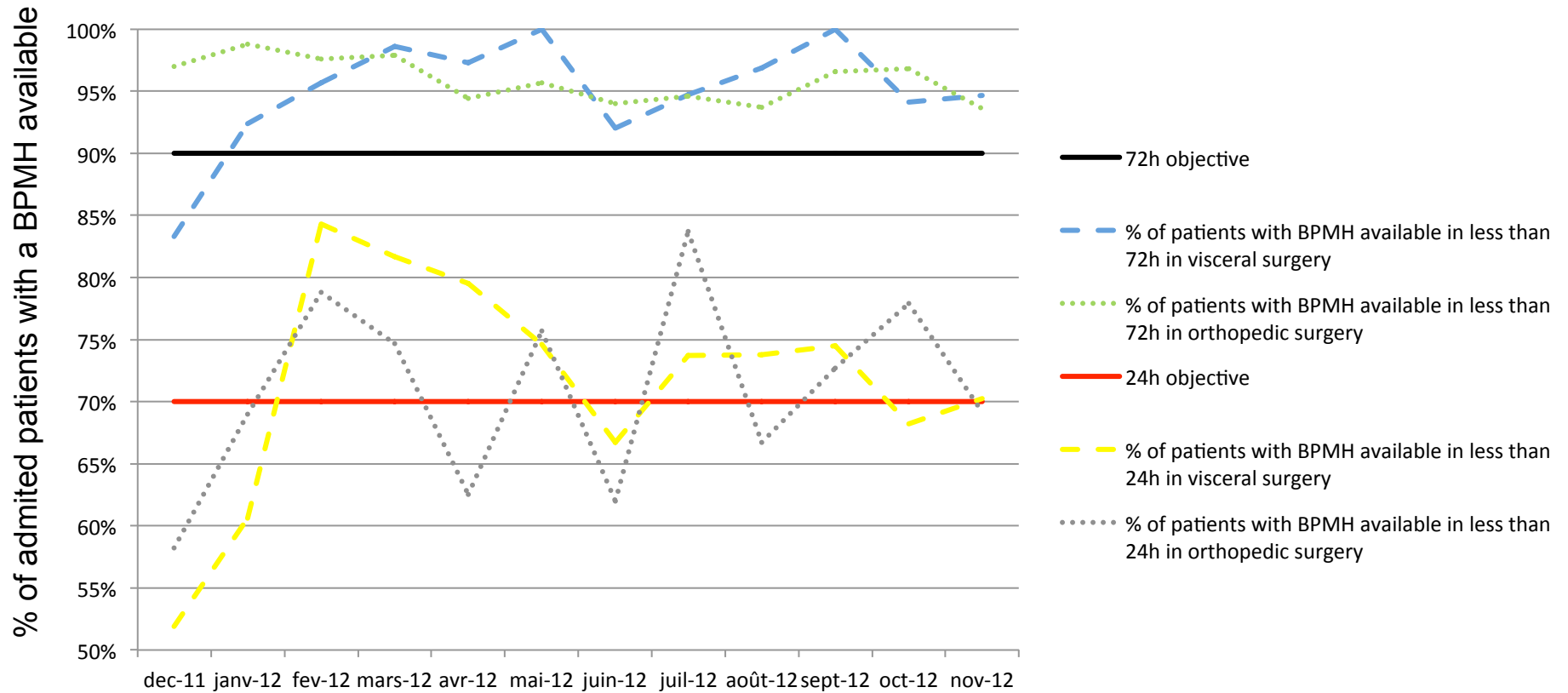
90%

% of patient with  
BPMH available  
in < 72 h

# Lessons learnt

- Pharmacist leadership
- Multidisciplinary
- Tactical approach
  - Where, when, which patients?
- Process oriented approach
- Change Management: PDSA++
- Communication
- Metrics

# 12 months monitoring



# Barriers: Human factors

- Decrease coverage areas assigned?
- Optimize workflow and multi-tasking?
- Develop cross coverage and assistance strategies?
- Identify a role for pharmacy technicians?
- Focus efforts on high risk patients?

# Quality Mangement : Relevance of documentation sources

- Medication reconciliation is usually based on 2 sources :
  - Patient interview
  - Another source

## ***RELEVANT SOURCES***

- patient's general physician
- pharmacist
- retirement home
- the prescription
- patient interview

## ***INSUFFISANT RELEVANT SOURCES***

- hospitalisation report <3 months
- clinical letter
- anaesthesia file
- drugs brought by the patient
- patient's family
- emergency's report

**What is done ?**

# Evaluation of used documentation sources

## *Method*

- One month prospective study
- Inclusion of all patients of surgery wards
- Main outcomes measures for each patient
  - Number of relevant or irrelevant sources used
  - Risk factors status
    - Age over 65 years
    - At least two chronic pathologies
    - At least 3 long term drugs

# Evaluation of used documentation sources

## Results

129 patients { 56,6 ± 19,8 years old  
1,4 chronic pathologie/patient  
3,4 long term treatments/patient

		0 source	1 source	≥2 sources
All patients	All sources	0%	20,6%	79,4%
	Only relevant sources	8,7%	70,7%	20,6%
Patients with 3 risk factors	All sources	0%	0%	100%
	Only relevant sources	8,4%	49,3%	42,3%

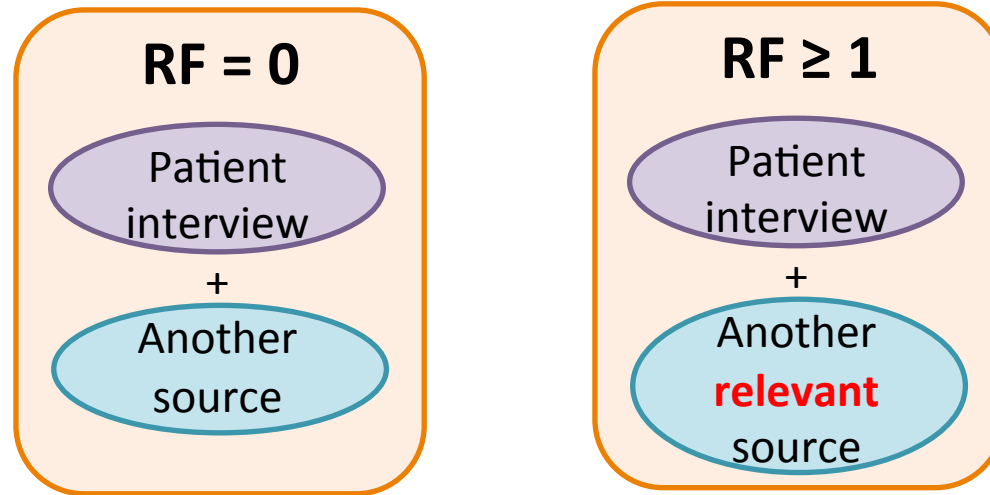


34 medication reconciliation without patient interview  
Only 10 cases justified

**1 error with clinical outcome among the 24 MR without interview**

# Evaluation of used documentation sources

## *Conclusion*




+ evolution of medication reconciliation document

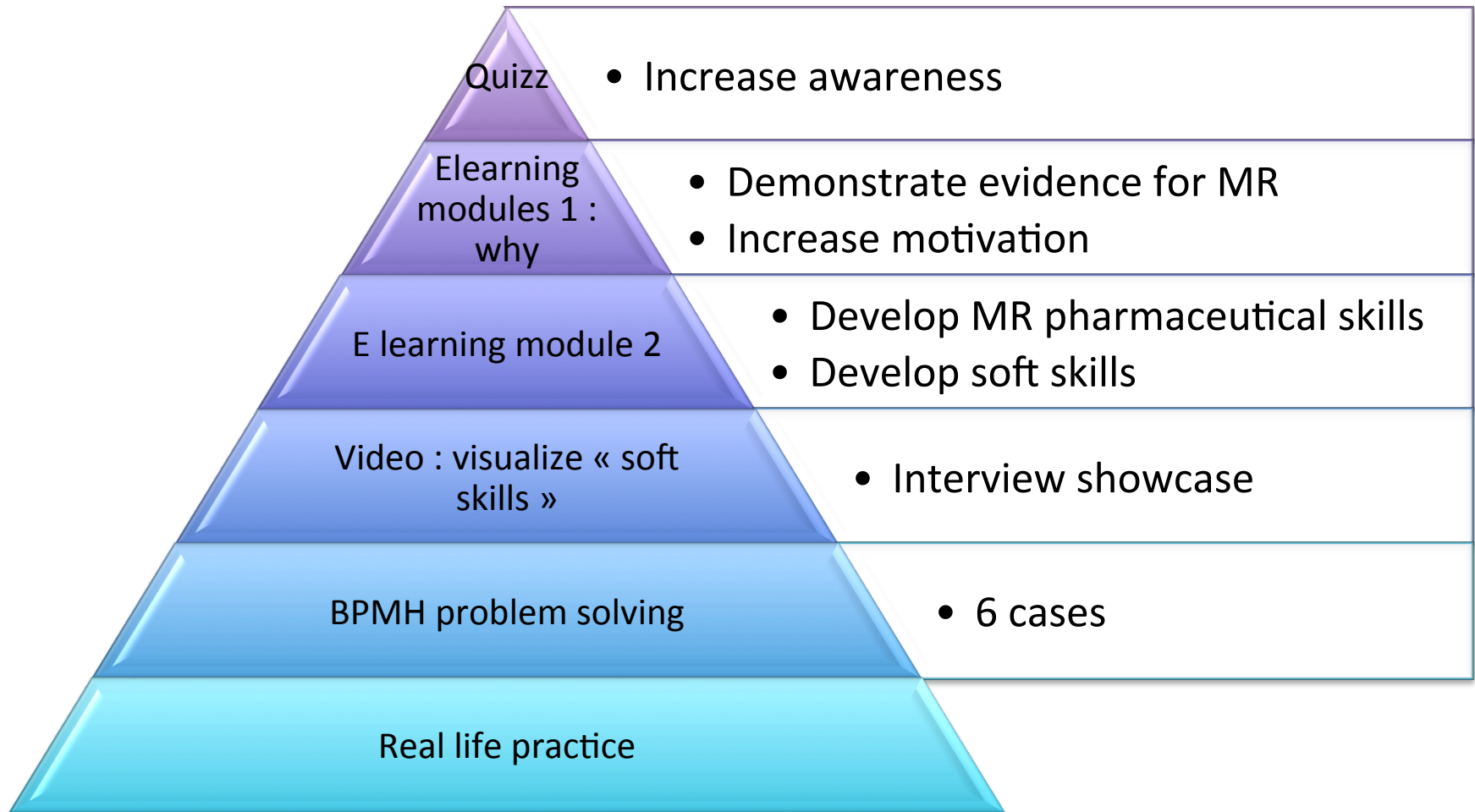
+ learning educational program



# Medication reconciliation document

Etiquette patient		<b>Historique médicamenteux à l'admission</b>			 <small>Assistance Publique HÔPITAUX DE PARIS</small>		
Personne de confiance :							
Date admission :		Age :	M / F	Automédication (comprimés, collyres, patch, inhalations) :			
Date de l'historique :		Poids :					
MT :			Officine :				
Allergie / intolérance		Médicament (DCI)/Type de réaction		Le patient a-t-il amené ses traitements personnels avec lui ? O / N Si oui lesquels ?			
Antécédents médicaux :				Raison admission / Diagnostic :			
				Créatinine : _____ Clairance rénale : _____ Date : _____			
1. Patient    2. Officine    3. MT    4. Ordonnance, date: _____    5. Compte rendu hospitalisation, date: _____ 6. Famille du patient    7. Maison de retraite / médicalisée    8. Médicaments apportés par le patient    9. Dossier anesthésie    10. Autre : _____							
Médicament	Dosage	Voie	Posologie	Indication	Sources	Disponible à l'hôpital (O/N)	Commentaires / Alternatives si médicament non disponible à l'hôpital

# Blended learning training framework



# Module 1 : why?

Module 1 sur la conciliation médicamenteuse

Objectifs pédagogiques du module

Les objectifs pédagogiques du module sont :

**Objectif 1**  
**Définir** un historique médicamenteux

**Objectif 2**  
**Expliquer** l'importance de la réalisation de l'historique médicamenteux

27%

# Module 2: develop skills

## Objectif 1

**Préparer**  
l'entretien

## Objectif 2

**Développer le**  
savoir être  
durant  
l'entretien

## Objectif 3

**Développer le**  
savoir faire  
durant  
l'entretien

## Objectif 4

**Réaliser la**  
validation et le  
suivi de  
l'historique  
médicamenteux

# Visualize soft skills



**Video**







# Problem solving

HTAP depuis (2008)  
 DID-Glaucome-Stent MI (2010)  
 IRC (4 ans) (agénésie Mb Drat)  
 Sd malfomatif = amputation à 10 ans

Fracture pertrochanterienne D

Créatinine : \_\_\_\_\_ Clairance rénale : \_\_\_\_\_ Date : \_\_\_\_\_

1. Patient 2. Officine 3. MT 4. Ordonnance, date: \_\_01/07/2014\_\_ 5. Compte rendu hospitalisation, date: \_\_\_\_\_

6. Famille du patient 7. Maison de retraite / médicalisée 8. Médicaments apportés par le patient 9. Dossier anesthésie 10. Autre : \_\_\_\_\_

Médicament	Dosage	Voie	Posologie	Indication	Sources			Disponible à l'hôpital (O/N)	Commentaires / Alternatives si médicament non disponible à l'hôpital
					4	1	9		
KARDEGIC®	75 mg	PO	0-1-0	Prevention trombolique	4	1	9	O	Aspirine
TAHOR®	40 mg	PO	0-0-1	hypercholesterolémie	4	1	9	O	ATORVASTATINE
CARDENSIEL®	2,5 mg	PO	1-0-1	Angor	4	1	9	O	BISOPROLOL 1,25
NITRIDERM®	5 mg	Patch	1 patch (de 8h à 20h)	Angor	4	1	9	N	24h (attention Discotrine)
LASILIX®	40 mg	PO	1-0-0	IRC/HTAP	4	1	9	O	Furosemide
LASILIX®	20 mg	PO	0-1-0	IRC/HTAP	4	1	9	O	Furosemide
XALACOM®	50mg/5 MG	collyre	1 goutte/j	Glaucome	4	1	9	N	Les deux yeux Latanoprost-Timolol
INEXIUM®	40 mg	PO	0-0-1	Prevention RGO	4	1	9	O	Esomeprazole

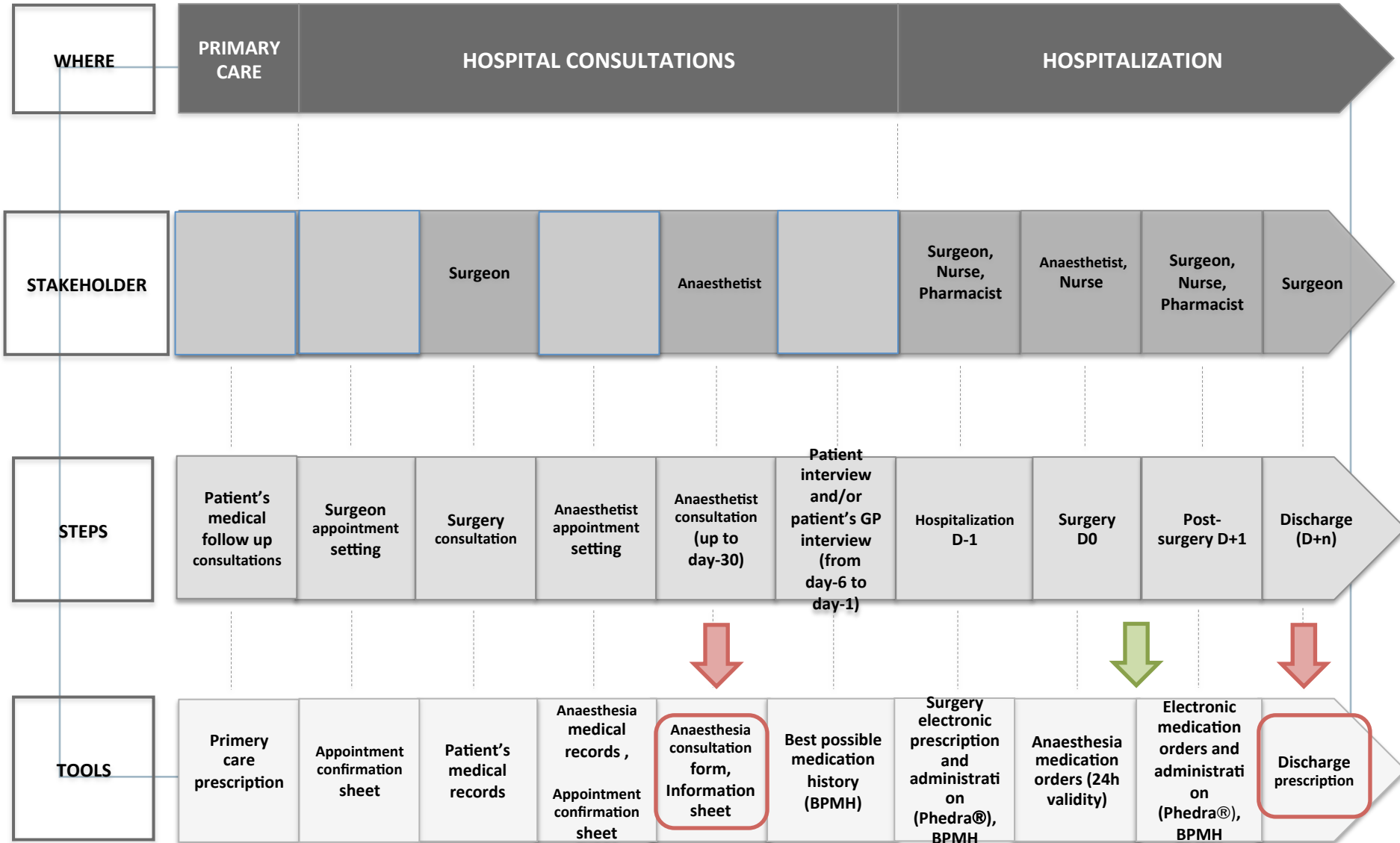


# Lessons learnt

- Risk factors
- Relevant sources
- Training framework
- Credentialing process

**Quantity**  **Quality**

# BPI: Medication pathway surgery patients



# Medication reconciliation and anaesthesia consultation

- Interest +++ for planned surgery (40%)
- Anaesthesia form : relevant source ?

# MR and anaesthetic consultation / 1<sup>st</sup> step


## *Method*

- **Comparison of :**
  - Medication reconciliation performed by pharmacist
  - Medication reported on anaesthesia form
- **One month prospective study**
- **Identification of discrepancies :**
  - Medication
  - Plan of administration

# MR and anaesthesia consultation / 1<sup>st</sup> step Results

		1 <sup>st</sup> study	2 <sup>nd</sup> study
Drug discrepancies	Additional or missing drug	29,2%	29%
	Omitted dosage	28,7%	7%
	Discrepancies about dosage	6,5%	2%
All administration plan discrepancies	Omitted administration plan	6,7%	10%
	Administration plan discrepancies	19,3%	2%
<b>Globale concordance</b>	<b>p &lt; 0,01</b>	<b>10%</b>	<b>44%</b>

*Evolution of anaesthetic form + usual orders*





*Evolution of anaesthetic form*

TRAITEMENTS PERSONNELS									
MÉDICAMENTS	Dosage	Forme / Voie	M	M	S	A donner la veille au soir	A donner le matin du bloc	ADMINISTRATION	
								soir	matin
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
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						OUI / NON	OUI / NON	<input type="checkbox"/>	<input type="checkbox"/>
								Date / signature	Date / signature
								.....	.....

## CONCLUSION

- ① Anaesthetic form = irrelevant source
- ② Interest of medication reconciliation before anaesthetic consultation ?

# MR before anaesthesia consultation / 2<sup>nd</sup> step *Method*

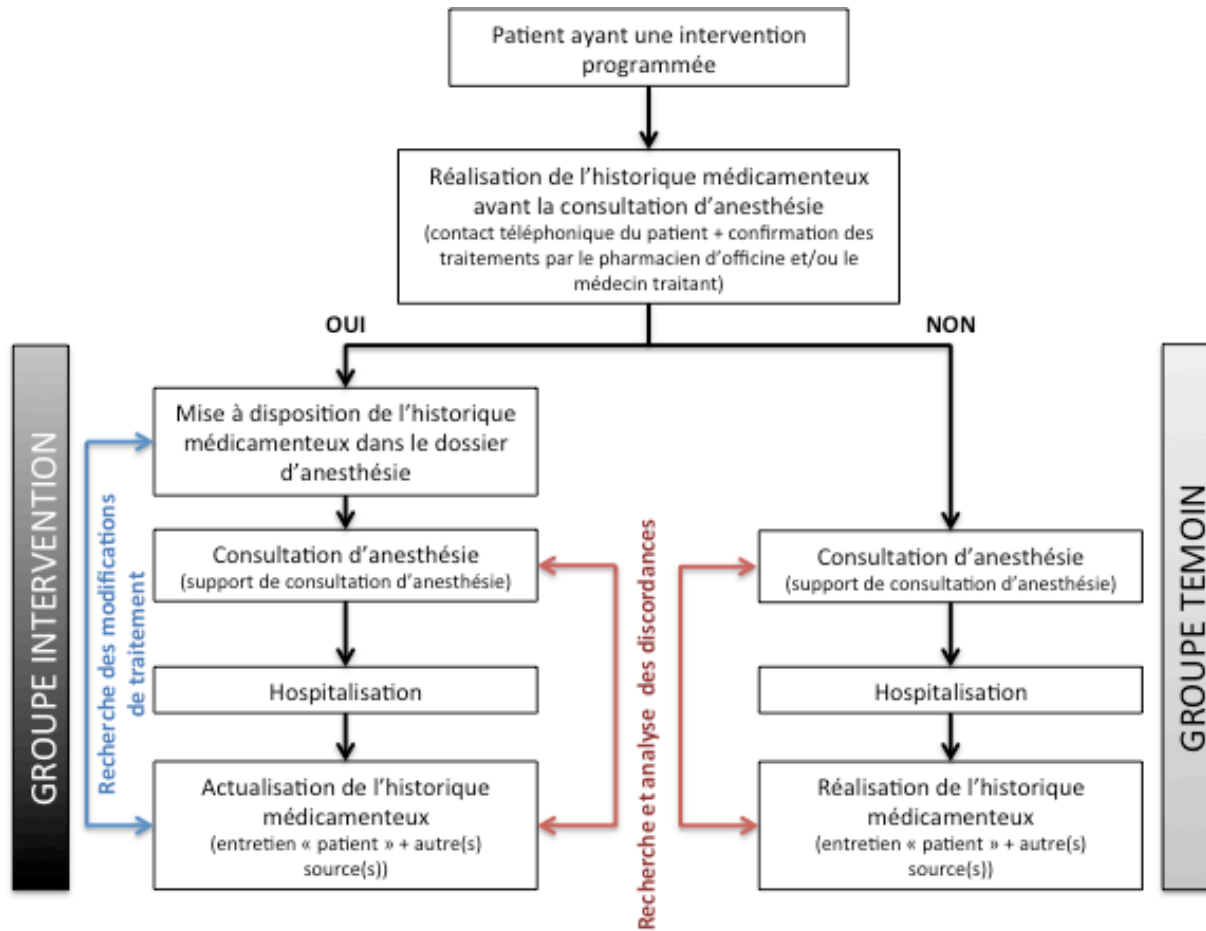
## Discrepancies

- Analysis of discrepancies between MH upon admission and Anesthesia consultation worksheet
- Additional or missing drug
- Omitted or conflicting dosage
- Omitted or conflicting administration plan

## Clinical Impact

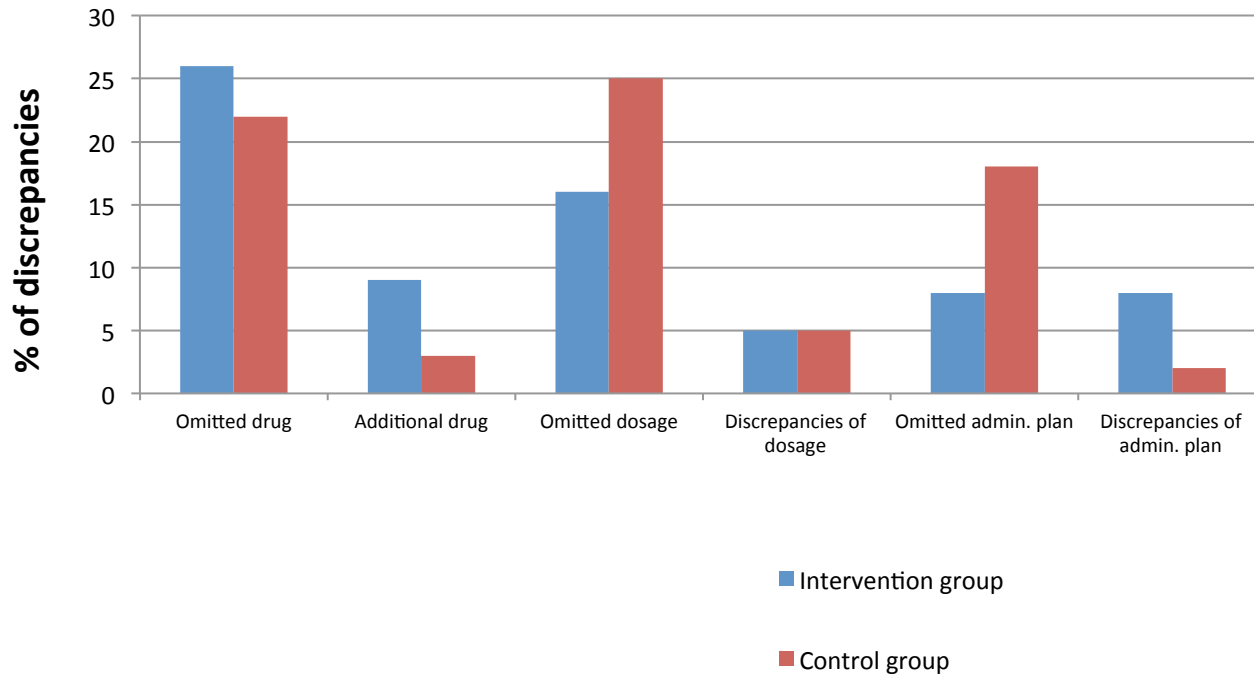
- Reviewed and classified by an independent anesthetist according to Cornish *et al.* (1) :
- **Grade 1** : unlikely to cause patient discomfort or clinical deterioration
- **Grade 2** : moderate patient discomfort or clinical deterioration
- **Grade 3** : severe patient discomfort or clinical deterioration

# MR before anaesthesia consultation / 2<sup>nd</sup> step Method





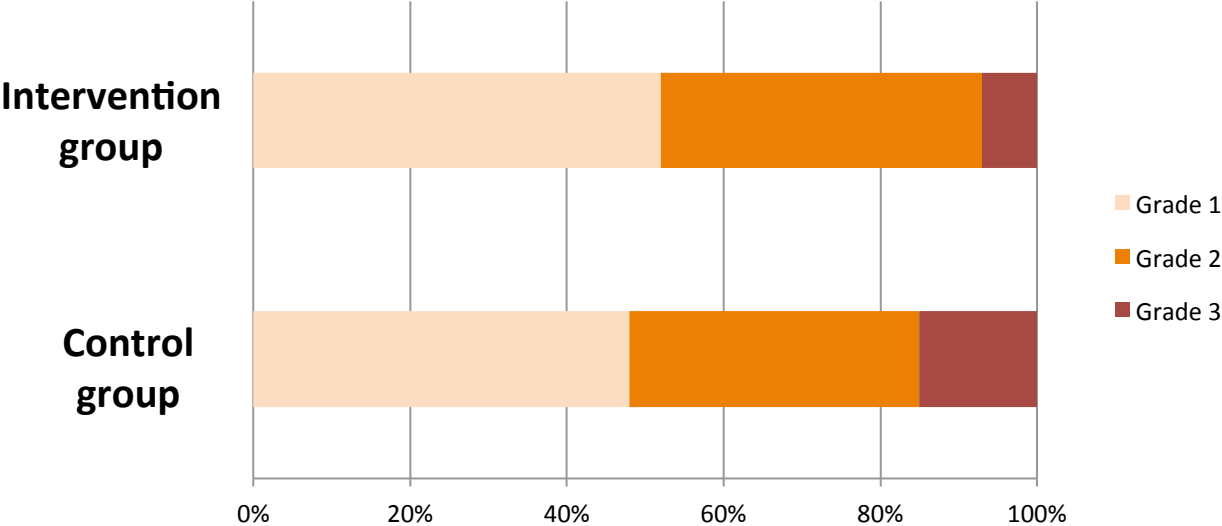
# MR before anaesthesia consultation / 2<sup>nd</sup> step *Results*



**Globale concordance** { Intervention group : 56%  
Control group : 42 % } → **No statistical difference**

# MR before anaesthesia consultation / 2<sup>nd</sup> step

## *Results*



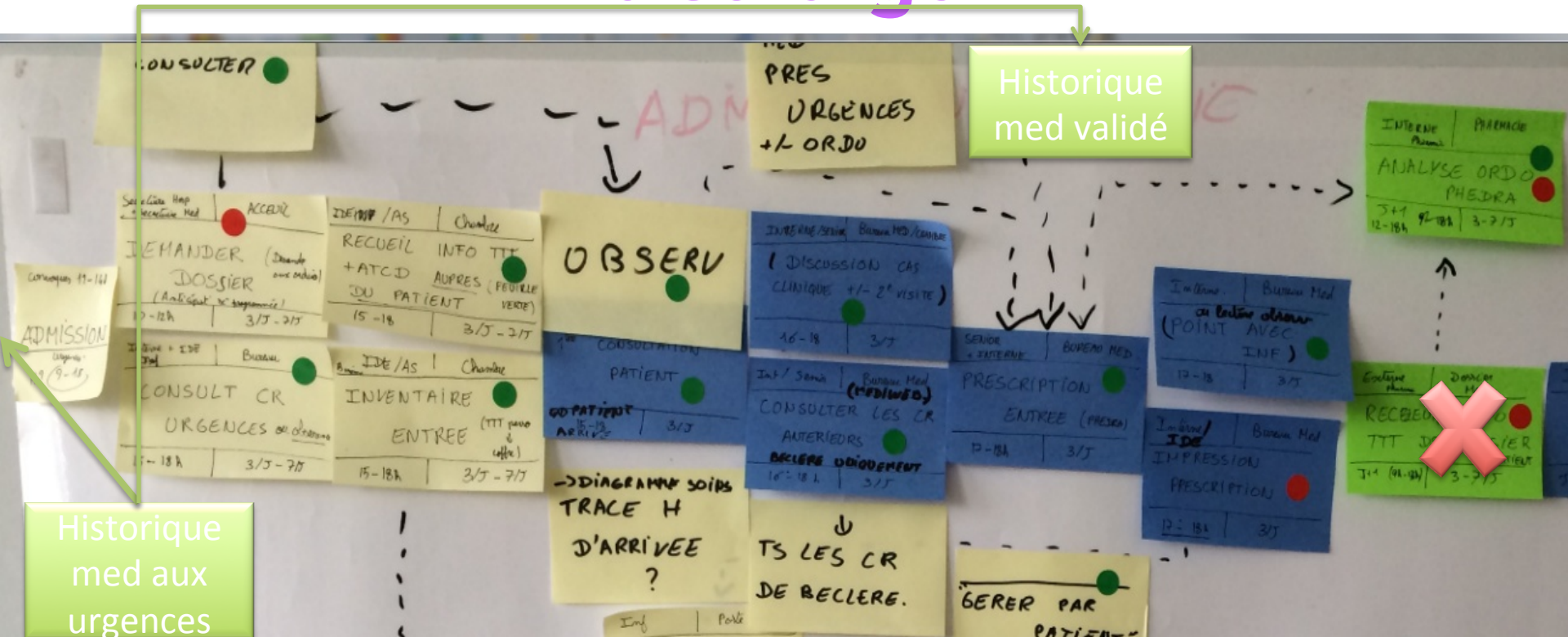
# MR before anaesthesia consultation / 2<sup>nd</sup> step *Discussion*

- No evidence of improvement but.....
- Only 91 patients
- **Anaesthesia form used as documentation source for 75% medication reconciliation of control group**

# Lessons learnt

- Anticipate MR for scheduled surgery patient
- Close collaboration with anesthetists
- Edit and communicate records
- Prioritize patients
- Prioritize drugs

# Business Process Improvement: discharge

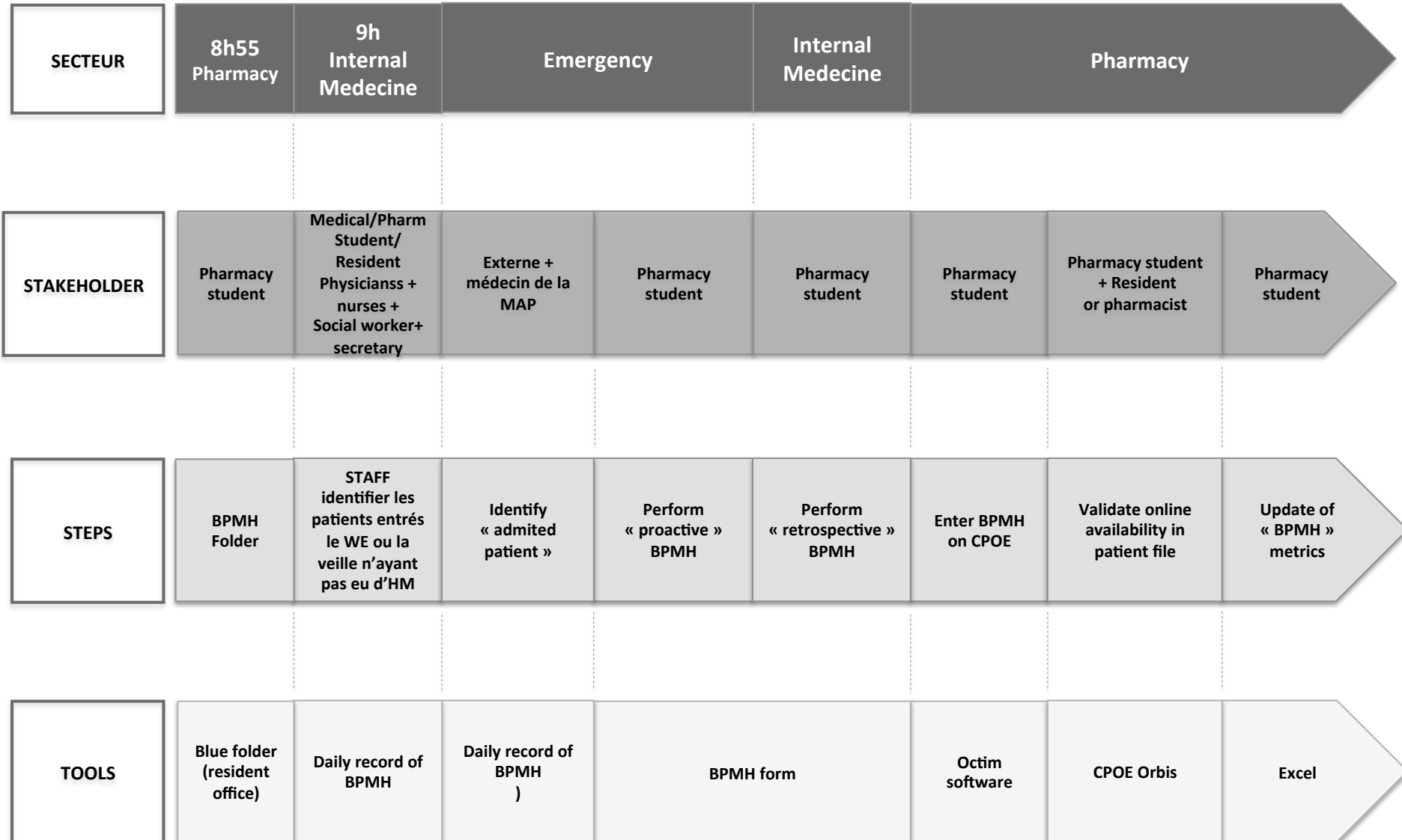


1 MOIS

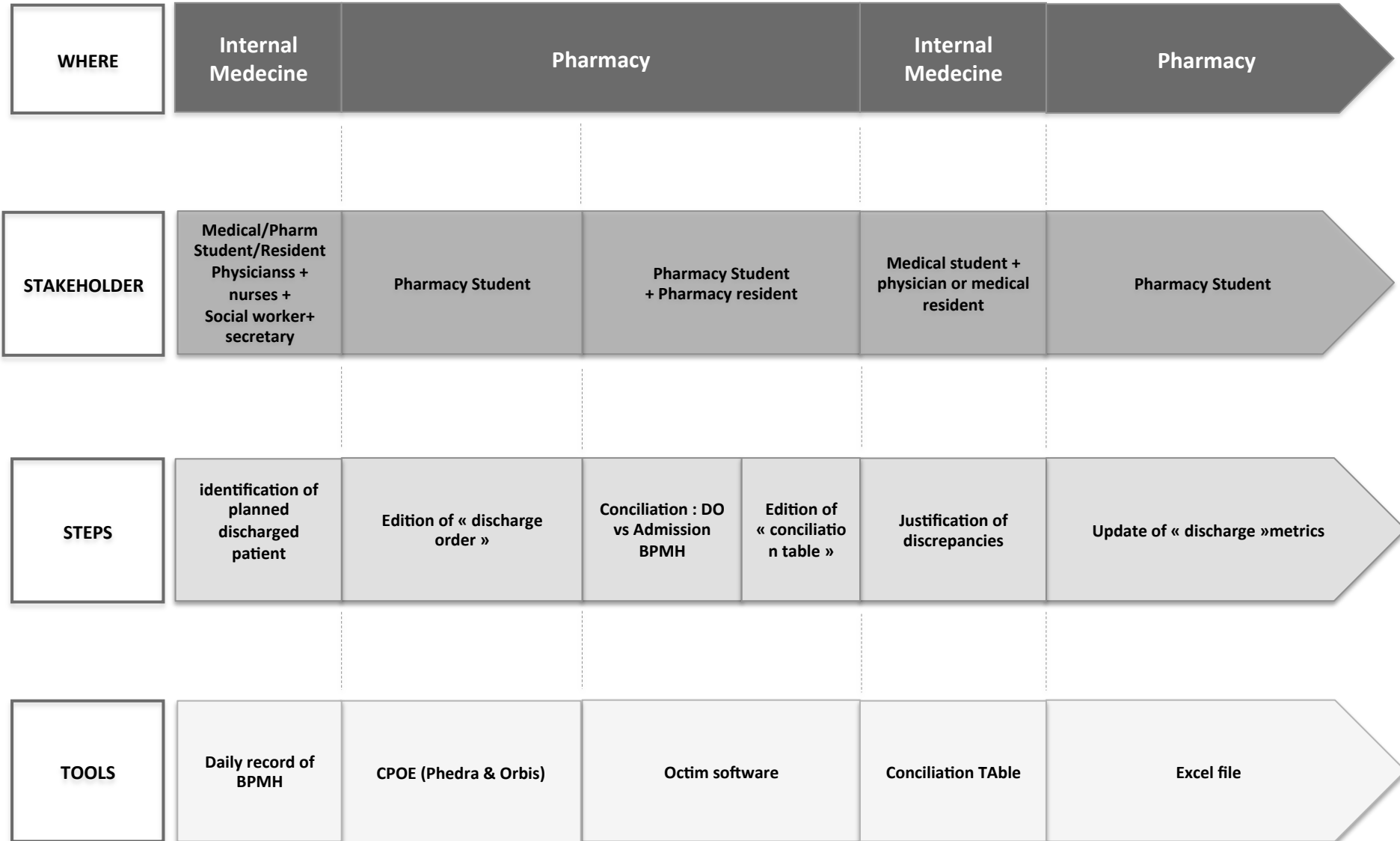
49 patients admis > 65 ans ou > 3 traitements




12% patient avec  
erreur  
médicamenteuse

# BPI: discharge



# BPI: discharge



Documents nécessaires	Où les trouver
<ul style="list-style-type: none"> <li>→ Le classeur bleu (contient les historiques médicamenteux des patients du service classés par numéro de chambre)</li> </ul>	<p>→ armoire du bureau des internes</p> 
<ul style="list-style-type: none"> <li>→ Le récapitulatif journalier des patients présents dans le service</li> </ul>	<p>→ fourni au STAFF de MAP à 9h</p> 
<ul style="list-style-type: none"> <li>→ Le récapitulatif journalier des HM (feuille de route)  W:\commun\Projets\15_PROJETS\14-002 CC ARCHIMED-MAP-Urgences\MAP-Urgences</li> </ul>	<p>→ dans le classeur bleu</p> 

# Tutorial



# Lessons learnt

- Select/prioritize patients
- Anticipate discharge
- Collaboration +++
- Communication +++
  - Hospital
  - Community
- Bedside activity: ++

# Conclusion

- Enthusiasm, passion
- Process oriented approach
  - Common vision
  - Internal customer
  - Kaizen culture
  - Change management (BPI)
  - Quality management
- Communicate « worldwide »

# Acknowledgements

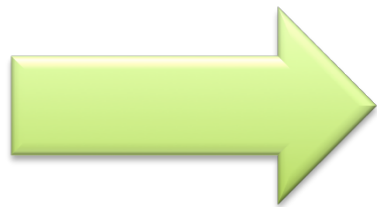
- Project leaders
  - Dr Sandrine ROY,
    - Pharm D, PhD / Clinical Pharmacist Surgery Dpt
  - Dr Niccolo CURATOLO
    - Pharm D, PhD , Clinical Pharmacist Internal Medecine + Chief Operating Officer
- Clinical partners
  - Pr BEGUE / Pr DAGHER (Surgery Dpt)
  - Pr MERCIER (Anesthesiology Dpt)
  - Drs FIOR, BUSSONE (Internal Medecine)
- Pharmacist Residents
- Pharmacist students

# Acknowledgements



# Which patients ?

- Every patient (Gold standard)
- High risk patients : age , number of treatments at admission (*Coffey et al. 2009; Gleason et al. 2010*)
- High risk criteria : frequent hospitalizations, high alert medications, etc. (*Rumball-Smith and Hider, 2009*)



Every patient > 72h