Univerza v Ljubljani
Fakulteta za farmacijo

WHO Collaborating Centre
for Pharmaceutical Pricing
and Reimbursement Policies

Adherence & Medicaton review

Assoc. Prof. Mitja Kos, *Ph.D., M.Pharm.*

Head, Chair of Social Pharmacy
University of Ljubljana, Faculty of Pharmacy,
Web: www.ffa.uni-lj.si
E-mail: *mitja.kos@ffa.uni-lj.si*

Chairman, Pharmaceutical Care Network Europe (PCNE)
Web: www.pcne.org

Pharmaceutical Care Network Europe

- Pharmaceutical care researchers in Europe
  - Established in 1994
- Aim:
  - stimulating research and implementation projects
  - organising working conference and a symposium

2018 Working Symposium in Fuengirola

2nd-3rd February 2018

www.pcne.org

What is what?

Adherence

Concordance

Persistance

Compliance

Time to discontinuation

Compliance

- The extent to which the patient's behaviour matches the prescriber's recommendations.

„Use according to the guidelines."

„Doctor told me I need to..."

Health care worker - patient

Paternalistic approach vs partnership

Informed patients

Acces to information: Internet….

Rights

…

Compliance

- The extent to which the patient's behaviour matches the prescriber's recommendations.

Adherence

- The extent to which the patient's behaviour matches agreed recommendations from the prescriber.

Adherence

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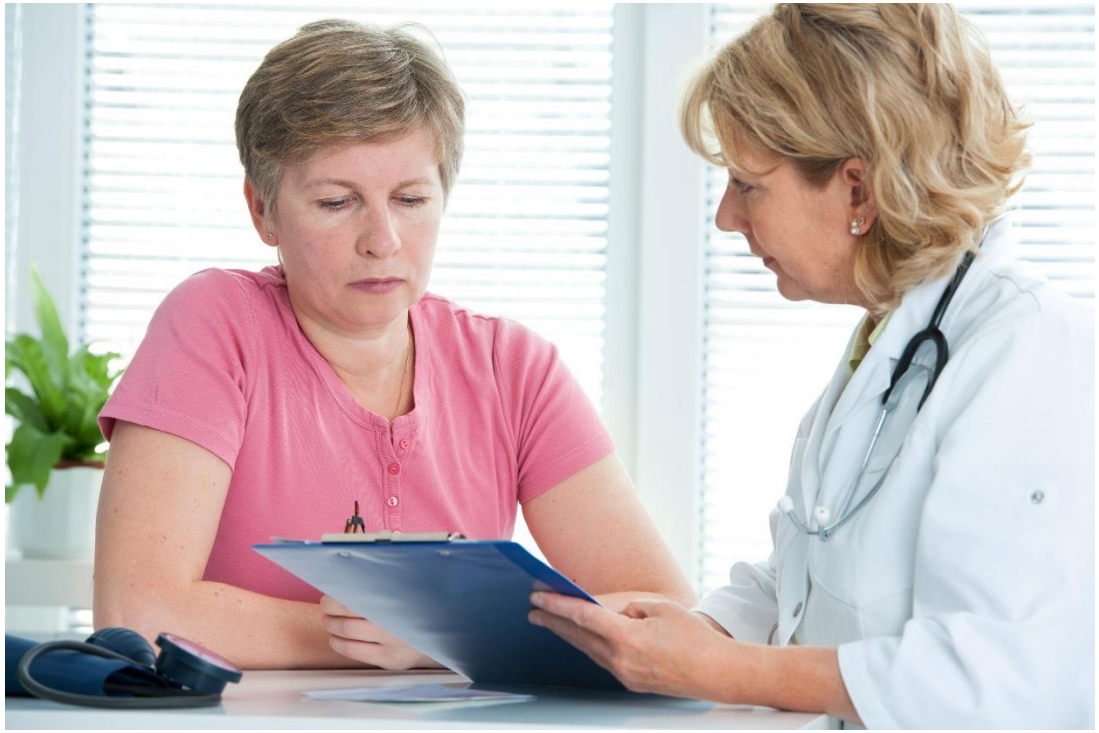

Concordance

- It is an agreement reached after negotiation between a patient and a healthcare professional that respects the beliefs and wishes of the patient in determining whether, when and how medicines are to be taken.

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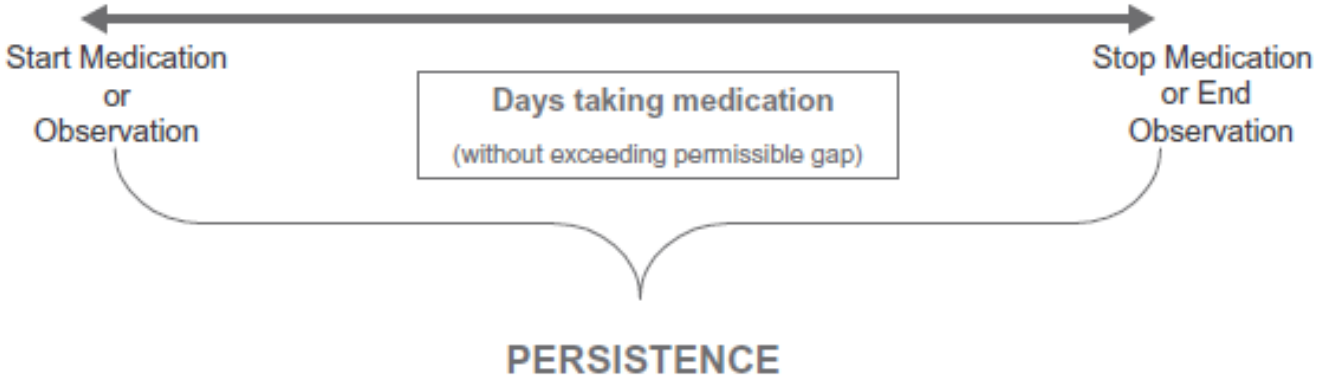
Persistance

- The duration of time from initiation to discontinuation of therapy.

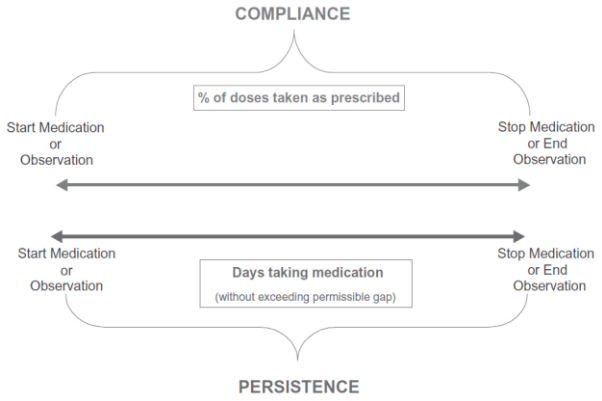


„Time to discontinuation“

Medication adherence

- Can refer to both:
  - whether patients take their medications as prescribed (eg, twice daily),
  - whether they continue to take a prescribed medication.

- OR divided into 2 main concepts:
  - adherence: refers to the intensity of drug use during the duration of therapy,
  - persistence: persistence refers to the overall duration of drug therapy.



Reasons for nonadherence

Categories of nonadherence	Examples
Health system	Poor provider-patient relationship, poor communication, lack of acess to healthcare, lack of continuity of care
Condition	Asymptomatic disease (lack of pyhsical cues), chronic conditions
Patient	Physical impairments (eg, vision problems), cognitive impairment, psychological/behavioral= > Knowledge, attitudes, beliefs, and
Therapy	Complexity of regimen, adverse effects, lifestyle burden
Socioeconomic	Financial stress (cost of medication, copayment), low “health” literacy, poor social support

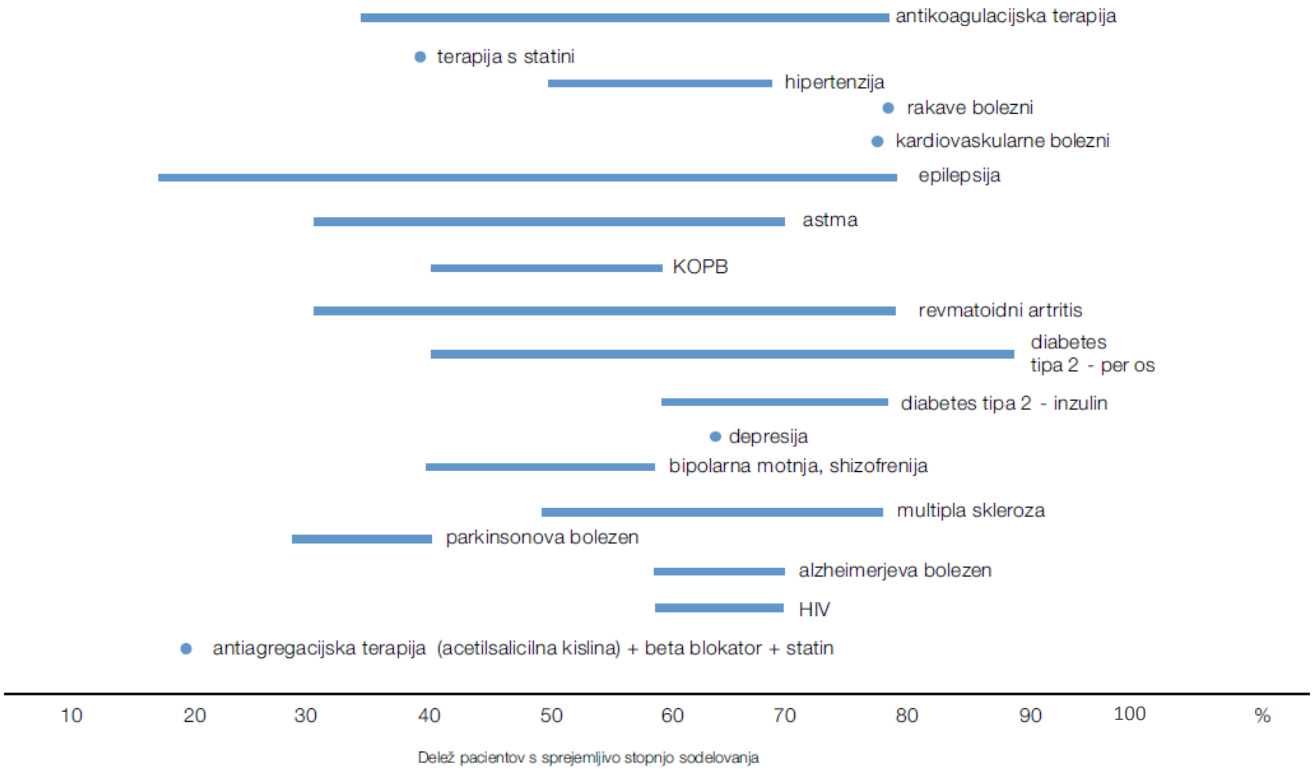
WHO Categorisations, Ho et al. Circulation. 2009;119:3028-3035.

Reasons for nonadherence

- Often multifactorial.

- Nonadherence to medications can be intentional or nonintentional.

Overview of adherence



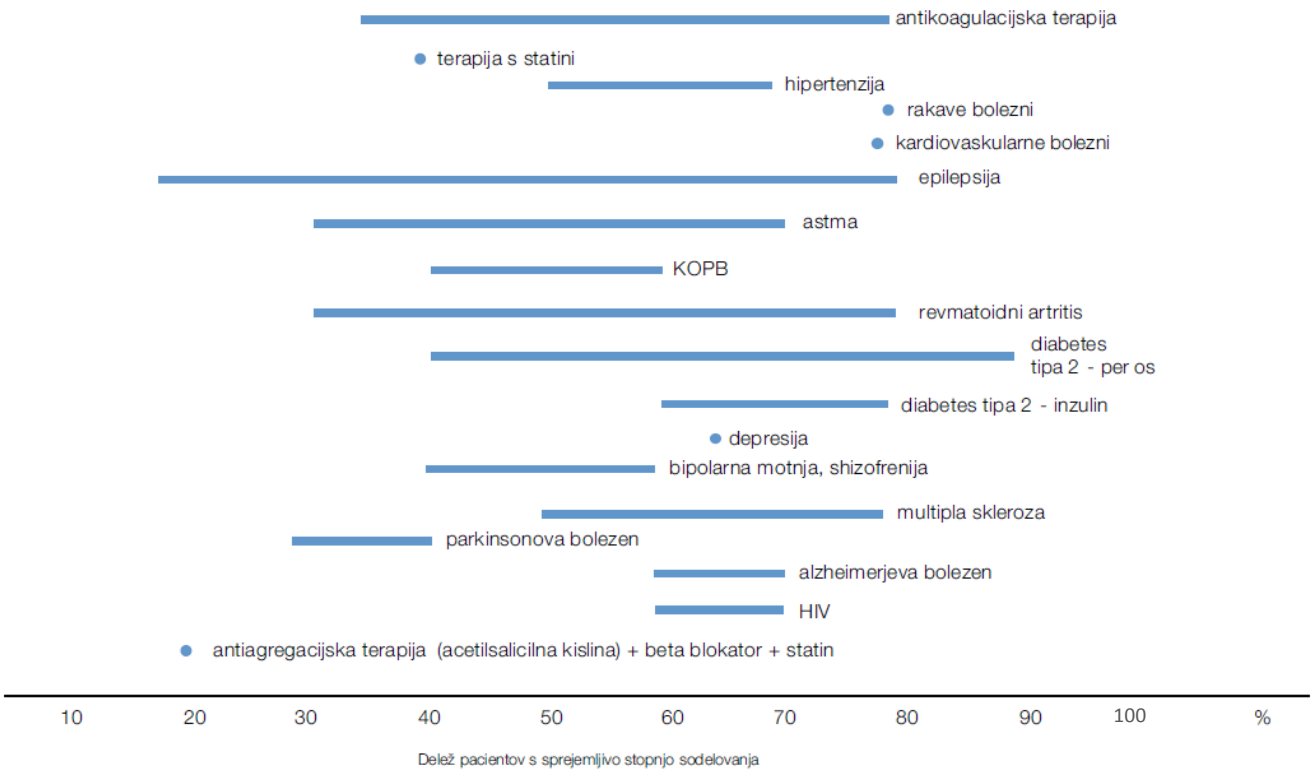
Slika 1: Deleži ustrezno sodelujočih pacientov po različnih terapevtskih področjih (1, 6–28). Slika podaja pregled rezultatov raziskav, vendar podatki iz naslova različnih opredelitev sodelovanja in uporabljenih metod precej variirajo.
Figure 1: Proportions of adherent patients across different therapeutic areas. The figure provides an overview of research results, but data vary considerably due to different definitions of medication adherence and methods used.

Janezic A & Kos M. farm vestn 2015

Overview of adherence

Definition of nonadherent patients?

Methods?



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Methods of measuring adherence

Method	Advantages	Disadvantages
Direct methods		
Directly observed therapy by a health care worker's assessment	Simple, cheap, requires no structured tool	Subjective, inaccurate: estimates affected by doctor-patient relationship, patients can hide pills in the
Drug level monitoring (measurement of the level of medicine or metabolite or biologic marker in blood)	Objective	Expensive, requires lab, invasive, unknown timing of doses; PK profile of population needed, "white coat" adherence prior to test
Indirect methods		
Patient questionnaires, patient self-report	Simple,inexpensive, qualitative assessment possible, the most useful method in the clinical setting	Subjective, inaccurate: poor patient recall - susceptible to errors with increses in time between visists, results are easily distorted by the patient
Patient diaries	Help to corect for poor recall	Easily altered by the patient
Pill counts	Objective, quantifible, easy to perform	Data easily altered by patient (e.g. pill dumping, pill sharing)
Rates of prescription refills	Objective, easy to obtain	Pill dumping, pill sharing; good records needed; a prescription refill is not equivalent to ingestion od medication
Electronic medication monitoring	Objective, precise, results are easily quantified, tracks patterns of taking medication	Expensive, Awareness raised due to special device for monioring can influce behaviour
Assesment of the patients's clinical response	Simple, generealy easy to perform	Factors other than medication adherence can affect clinical response

Interventions

Technical solutions	Education	Influencing behaviour	Social support
e.g. lower number of dosis per day, medicine	e.g. understanding of the disease	e.g. remainders, special containers, motivational interviews	e.g. inclusion of family members, lowering stigma

Complex interventions

Interventions

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Complex interventions

Drug related problems, PCNE 1999

An event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes.

The Problems

Primary Domain	Code V8.0	Problem
1.Treatment effectiveness There is a (potential) problem with the (lack of) effect of the pharmacotherapy	**P1.1**	No effect of drug treatment/ therapy failure
	P1.2	Effect of drug treatment not optimal
	P1.3	Untreated symptoms or indication
2. Treatment safety Patient suffers, or could suffer, from an adverse drug event	**P2.1**	Adverse drug event (possibly) occurring
3. Others	**P3.1**	Problem with cost-effectiveness of the treatment
	P3.2	Unnecessary drug-treatment
	P3.3	*Unclear problem/complaint. Further clarification necessary (please use as escape only)*

❑	Potential Problem
❑	Manifest Problem

The Causes (including possible causes for potential problems)

N.B. One problem can have more causes

	Primary Domain	Code V8.0	Cause
Prescribing	**1. Drug selection** The cause of the (potential) DRP is related to the selection of the drug	**C1.1**	Inappropriate drug according to guidelines/formulary
		C1.2	Inappropriate drug (within guidelines but otherwise contra-indicated)
		C1.3	No indication for drug
		C1.4	Inappropriate combination of drugs or drugs and herbal medication
		C1.5	Inappropriate duplication of therapeutic group or active ingredient
		C1.6	No drug treatment in spite of existing indication
		C1.7	Too many drugs prescribed for indication
	2. Drug form The cause of the DRP is related to the selection of the drug form	**C2.1**	Inappropriate drug form (for this patient)
	3. Dose selection The cause of the DRP is related to the selection of the dose or dosage	**C3.1**	Drug dose too low
		C3.2	Drug dose too high
		C3.3	Dosage regimen not frequent enough
		C3.4	Dosage regimen too frequent
		C3.5	Dose timing instructions wrong, unclear or missing
	4. Treatment duration The cause of the DRP is related to the duration of treatment	**C4.1**	Duration of treatment too short
		C4.2	Duration of treatment too long
Disp	**5. Dispensing** The cause of the DRP is related to the logistics of the prescribing and dispensing process	**C5.1**	Prescribed drug not available
		C5.2	Necessary information not provided
		C5.3	Wrong drug, strength or dosage advised (OTC)
		C5.4	Wrong drug or strength dispensed

The Causes (including possible causes for potential problems)

N.B. One problem can have more causes

Use	**6. Drug use process** The cause of the DRP is related to the way the patient gets the drug administered by a health professional or carer, despite proper dosage instructions (on the label)	**C6.1**	Inappropriate timing of administration and/or dosing intervals
		C6.2	Drug under-administered
		C6.3	Drug over-administered
		C6.4	Drug not administered at all
		C6.5	Wrong drug administered
	7. Patient related The cause of the DRP is related to the patient and his behaviour (intentional or non-intentional)	**C7.1**	Patient uses/takes less drug than prescribed or does not take the drug at all
		C7.2	Patient uses/takes more drug than prescribed
		C7.3	Patient abuses drug (unregulated overuse)
		C7.4	Patient uses unnecessary drug
		C7.5	Patient takes food that interacts
		C7.6	Patient stores drug inappropriately
		C7.7	Inappropriate timing or dosing intervals
		C7.8	Patient administers/uses the drug in a wrong way
		C7.9	Patient unable to use drug/form as directed
	8. Other	**C8.1**	No or inappropriate outcome monitoring (incl. TDM)
		C8.2	Other cause; specify
		C8.3	No obvious cause

The Planned Interventions

N.B. One problem can lead to more interventions

Primary Domain	Code V8.0	Intervention
No intervention	**I0.1**	No Intervention
1. At prescriber level	**I1.1**	Prescriber informed only
	I1.2	Prescriber asked for information
	I1.3	Intervention proposed to prescriber
	I1.4	Intervention discussed with prescriber
2. At patient level	**I2.1**	Patient (drug) counselling
	I2.2	Written information provided (only)
	I2.3	Patient referred to prescriber
	I2.4	Spoken to family member/caregiver
3. At drug level	**I3.1**	Drug changed to ….
	I3.2	Dosage changed to ….
	I3.3	Formulation changed to …..
	I3.4	Instructions for use changed to …..
	I3.5	Drug stopped
	I3.6	New drug started
4. Other intervention or activity	**I4.1**	Other intervention (specify)
	I4.2	Side effect reported to authorities

Acceptance of the Intervention proposals

N.B. One level of acceptance per intervention proposal

Primary domain	Code V8.0	Implementation
1. Intervention accepted (by prescriber or patient)	**A1.1**	Intervention accepted and fully implemented
	A1.2	Intervention accepted, partially implemented
	A1.3	Intervention accepted but not implemented
	A1.4	Intervention accepted, implementation unknown
2. Intervention not accepted (by prescriber or patient)	**A2.1**	Intervention not accepted: not feasible
	A2.2	Intervention not accepted: no agreement
	A2.3	Intervention not accepted: other reason (specify)
	A2.4	Intervention not accepted: unknown reason
3. Other (no information on acceptance)	**A3.1**	Intervention proposed, acceptance unknown
	A3.2	Intervention not proposed

Cognitive pharmacist services

Pharmaceutical Care

- Pharmaceutical Care is the pharmacist's contribution to the care of individuals in order to optimize medicines use and improve health outcomes. *PCNE 2013*

http://www.pcne.org//upload/files/3_PCNE_Definition_Position_Paper_final.pdf

PCNE definition

- ... is a framework limiting:
  - the provider of PhC to the pharmacist,
  - the recipient to the individual patient, and
  - the subject to the use of medicines

- describing specific services that should show measurable improvements in health outcomes.

Pharmaceutical care

Clinical pharmacy

Medicine optimisation

Patient care

Medicines management

Medication review

…

Medication review, PCNE 2016

Medication review is a structured evaluation of patient‘s medicines with the aim of optimizing medicines use and improving health outcomes. This entails detecting drug related problems and recommending interventions.

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Retrospective review => Ph. Care

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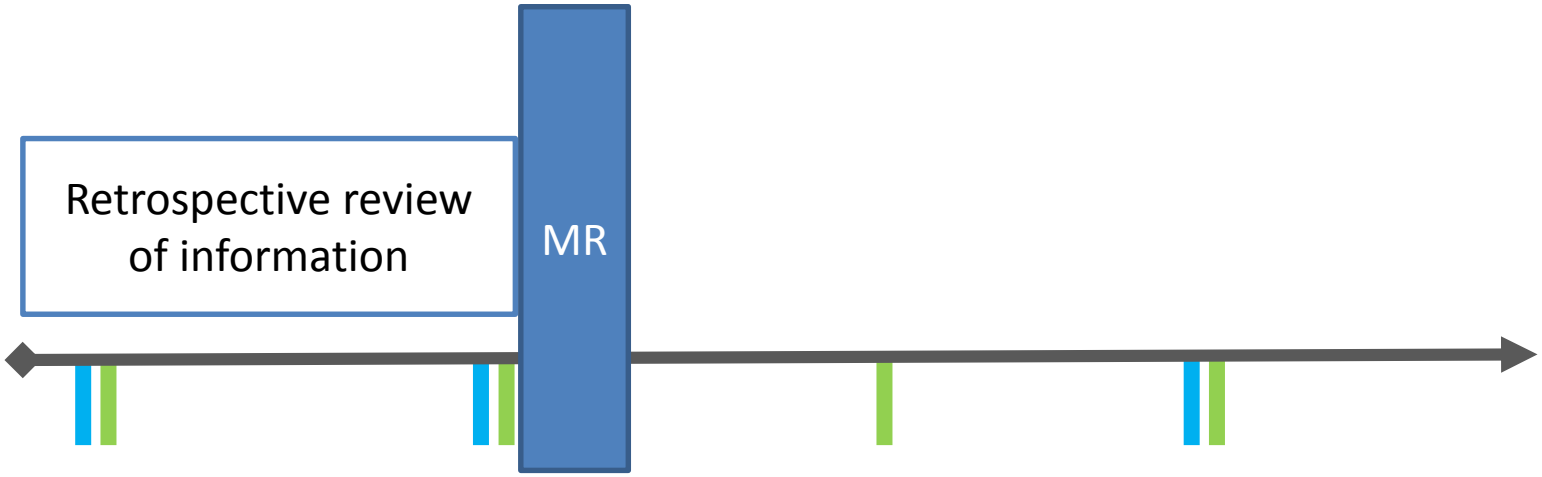

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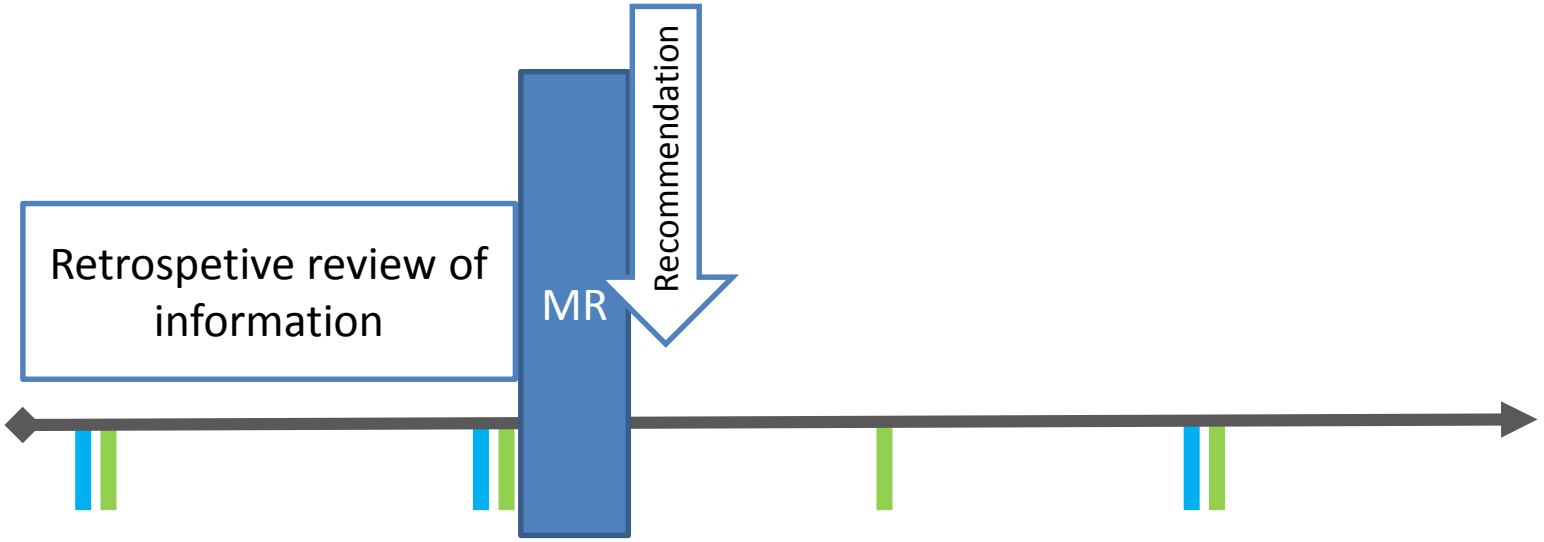

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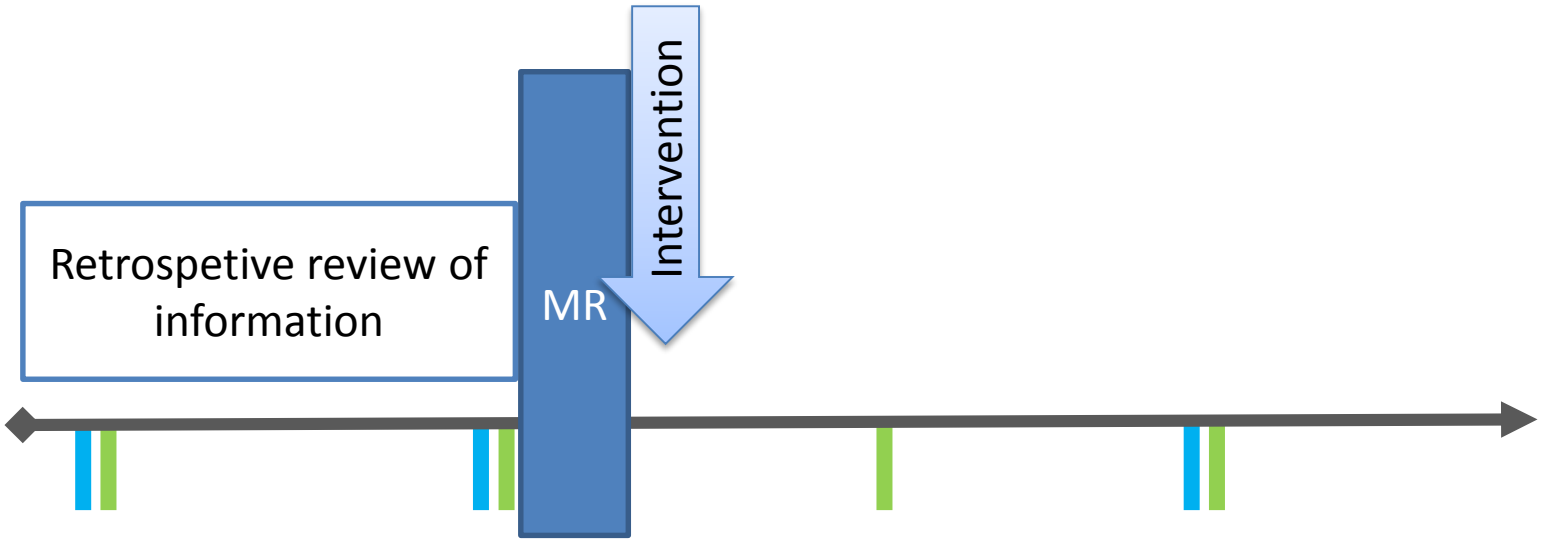

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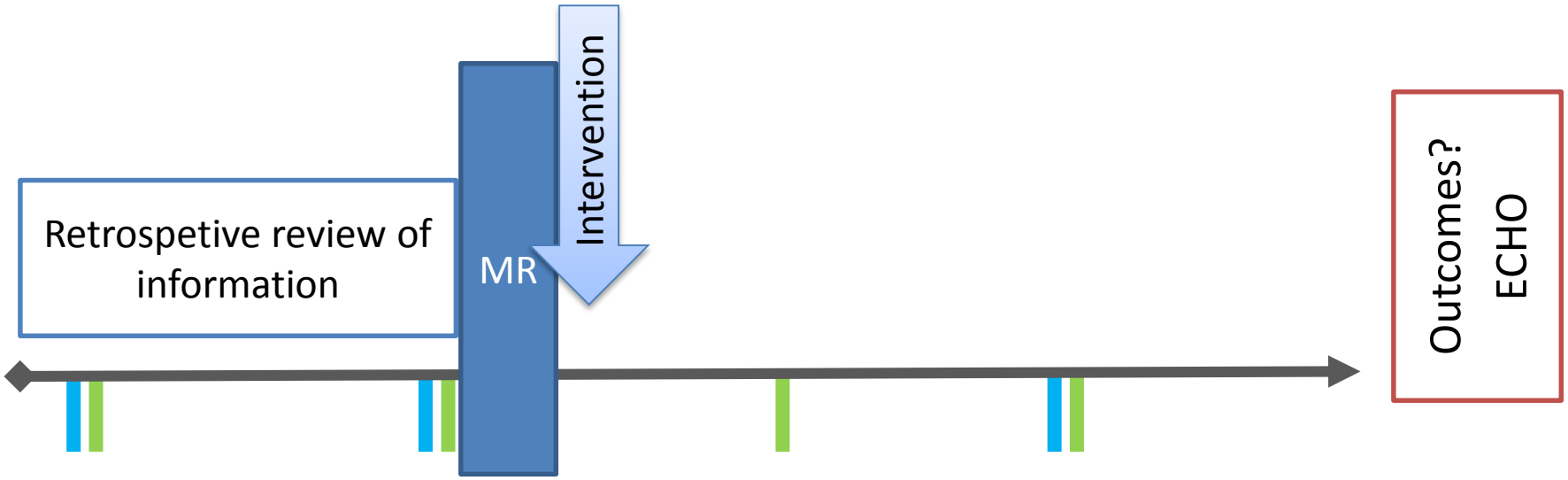

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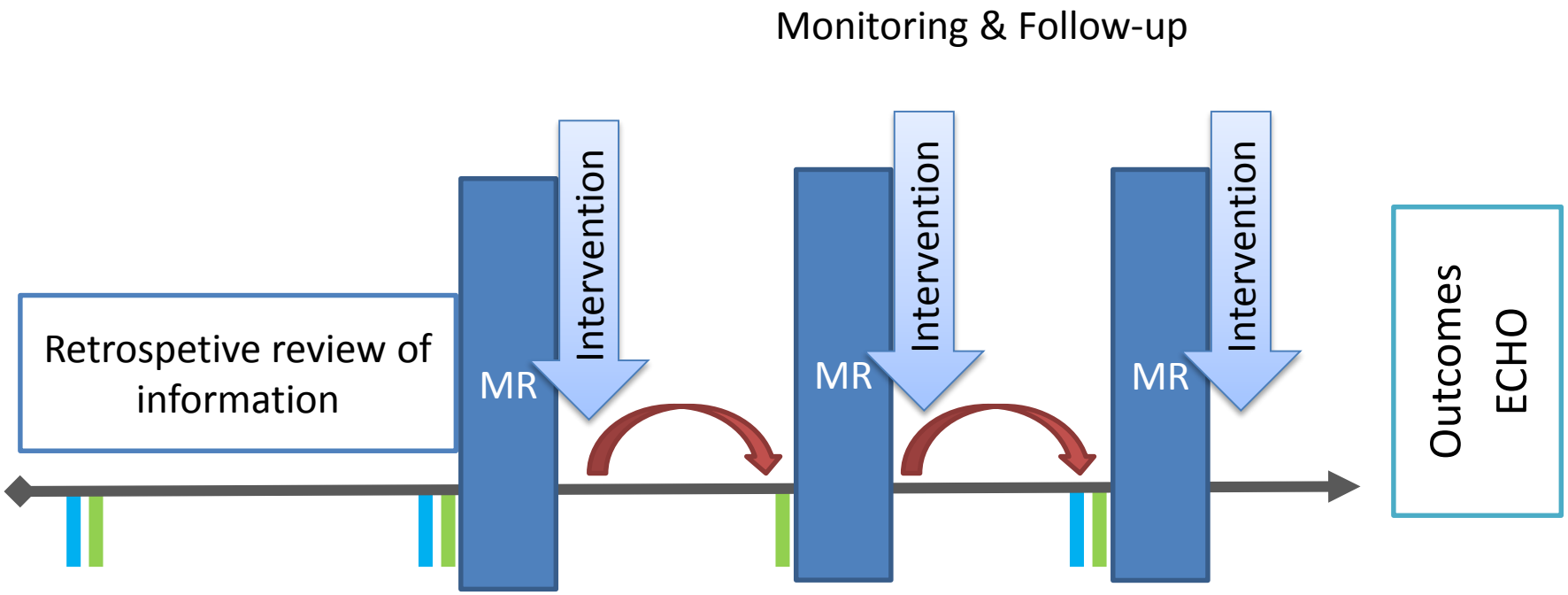

Types of medication review

Type of MR	Information available: Medication history	Patient interview	Clinical data	
Type 1: Simple MR	+			
Type 2: Intermediate MR				
Type 2a:	+	+		
Type 2b:	+		+	
Type 3: Advanced MR	+	+	+	

Experience from Slovenia

- Medication use review
  - „Pregled uporabe zdravil“
  - Type 2a
- Avanced medication review
  - „Farmakoterapijski pregled“
  - Type 3

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Type 3: Advanced MR	+	+	+	

Experience from Slovenia

- Medication use review
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  - Focus on patient
  - M.Pharm.

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- Avanced medication review
  - „Farmakoterapijski pregled“
  - Type 3
  - Recommendations to physicians
  - M.Pharm. & specialist in clinical or community pharmacy

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- Medication use review
  - „Pregled uporabe zdravil“
  - Type 2a
  - Focus on patient
  - M.Pharm.
  - Free or out of pocket

Type of MR	Information available: Medication history	Patient interview	Clinical data	
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Type 2: Intermediate MR — Type 2b:	+		+	
Type 3: Advanced MR	+	+	+	

- Avanced medication review
  - „Farmakoterapijski pregled“
  - Type 3
  - Recommendations to physicians
  - M.Pharm. & specialist in clinical or community pharmacy
  - Remunerated by Health Insurance Institute of Slovenia, since 2016

Certification

- Slovene Chamber of Pharmacy
  - Certification of competencies
  - Courses: theory + practice with mentors
  - Continuing Professional Development
  - A special body „Skrbnik kompetenc“
    - Assuring quality: development, monitoring and upgrading of MR services

http://www.lek-zbor.si/

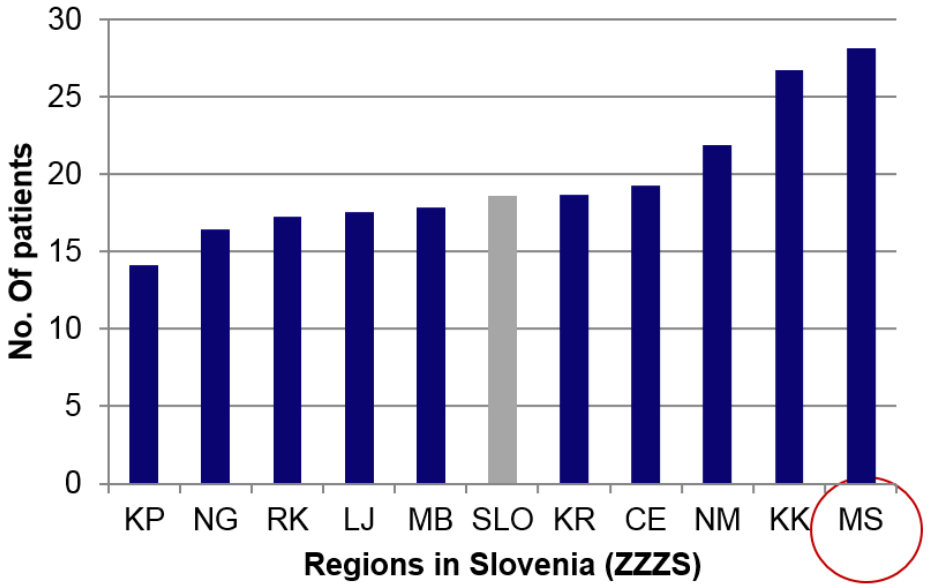
Remuneration

Remuneration

- Several proposals of PhC services to the Health Council
- Education at the undergraduate and postgradute levels, CPDs...

Remuneration

- Health Insurance Institute of Slovenia
- Pilot project in 2012, „economic crisis“



Average no. of patients per physicans that were prescribed 10 or more medicines

ZZZS info

Health Care Team Collaboration

It will not work for the patient if the collaboration is not in place.

Univerza v Ljubljani
Fakulteta za farmacijo

MR.

Challenge & opportunity

Pharmacy practice

Academia: sci&edu

System