

Medication persistence with lipid-lowering treatment in Slovenia

Assist. Andreja Detiček, M.Pharm.

Chair of Social Pharmacy

Faculty of Pharmacy

University of Ljubljana

Web: www.ffa.uni-lj.si



Background

□ Challenges:

- low medication persistence on lipid-lowering agents;
 - many users who discontinue very early (e.g. within the 1st year);
 - decreased long-term clinical benefits in patients at risk for cardiovascular events.
-



Background

Persistence on lipid-lowering agents (refill sequence):

Country (author & year)	N° of patients	1-year persistence	Methodology
UK (<i>Vinogradova 2016</i>)	570,337	73% prim. prev. 81% second. prev.	Statins, Gap=90 days Restart analysis
Finland (<i>Upmeier 2014</i>)	157,709	77–81% patients	Statins
Hungary (<i>Kiss 2013</i>)	459,034	20% patients	LLAs, Gap=60 days
Systematic review (<i>Cramer 2007</i>)	not reported	51% patients on LLAs	32 studies on LLAs and other, mostly MPR>80%
Australia (<i>Simons 2011</i>)	77,867	55% patients	Statins
Canada (<i>Perrault 2005</i>)	17,958	55% prim. prev. 65% second. prev.	Statins
Denmark (<i>Larsen 2002</i>)	3,623	75% patients	LLAs, MPR>80% between refills, Gap=30 days



Aim

To evaluate medication persistence with lipid-lowering agents after treatment initiation in the Slovenian population



Methods

- **Data source:**
 - National health claims database on all outpatient prescription medicines – *the Health Insurance Institute of Slovenia*

 - **Population:**
 - patients initiated on therapy in 2009
 - who could have been followed in the database until the end of 2013 →
4-5 years observation
-



Methods

□ Parameters used:

- ATC Classification codes of the lipid-lowering agents („C10“)
- N° of units dispensed (tablets, capsules);
- Dispensing date.

□ Medication persistence:

= time from initiation to discontinuation.

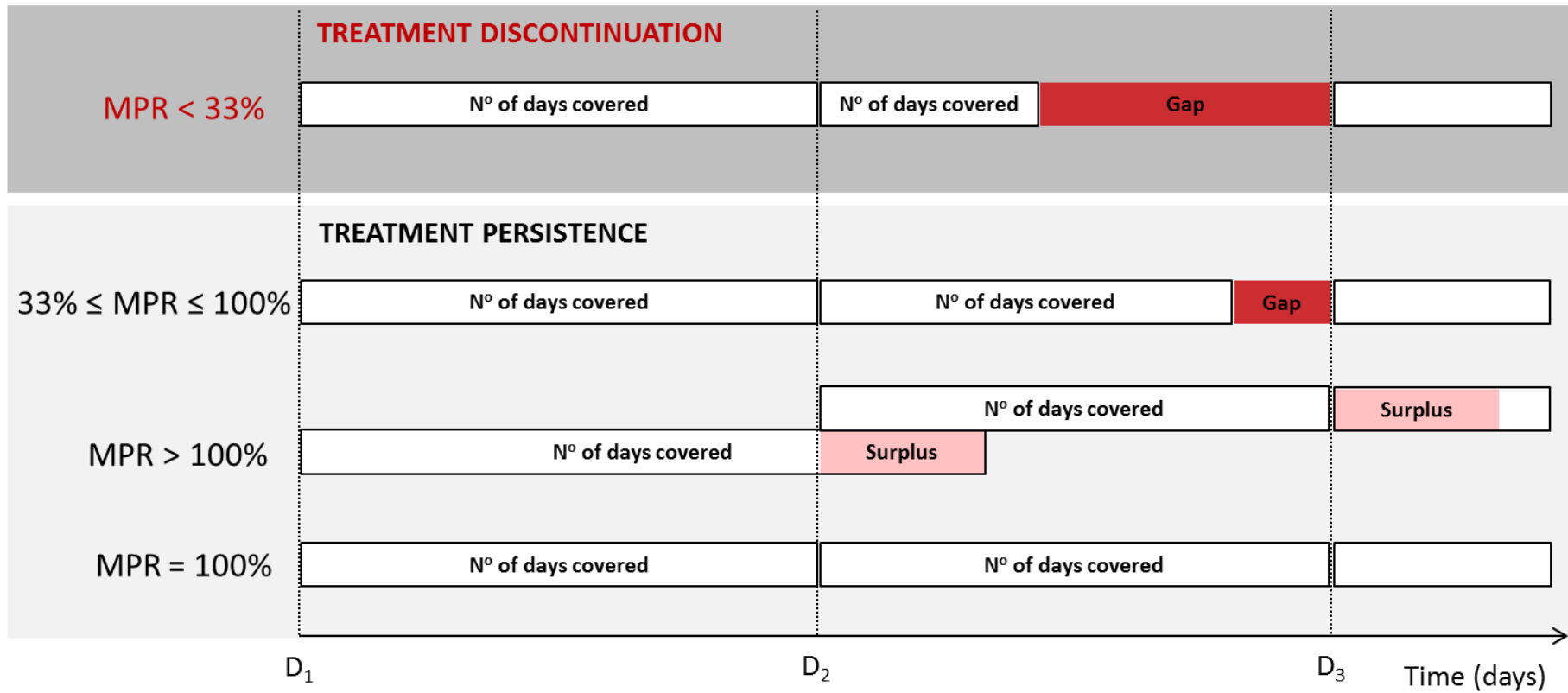
- Dosing: 1 unit per day.

N° of units dispensed = N° of days covered



Methods

□ Medication persistence defined as:



Legend: D_x = Dispensing date; MPR = medication possession ratio



Methods

Data analysis:

Kaplan-Meier survival curve:

- Median time to discontinuation;
- Probability of persistence (at 1y, 2y, 3y...);
- Log-rank - to assess the impact of factors affecting persistence:
 - Sex,
 - Age group,
 - Lipid-lowering agent.

1st start
Restart



Results

- Cohort followed for persistence:

2,038,733 inhabitants



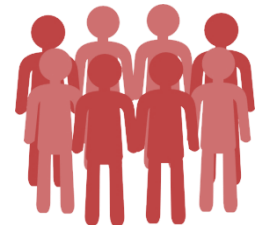
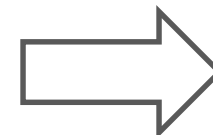
193,740 lipid-lowering agent users



35,790 new on lipid-lowering treatment



30,571 new on lipid-lowering monotherapy
still detected in the database at the end of 2013



Year
2009



Results

□ Patient characteristics:

30,571 patients

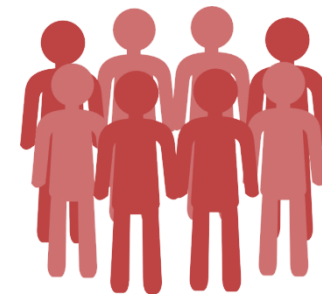
Average age: 60 ± 11 years

Sex: 50.5%  and 48.5% 

Initiation of lipid-lowering therapy:

97.0% statins

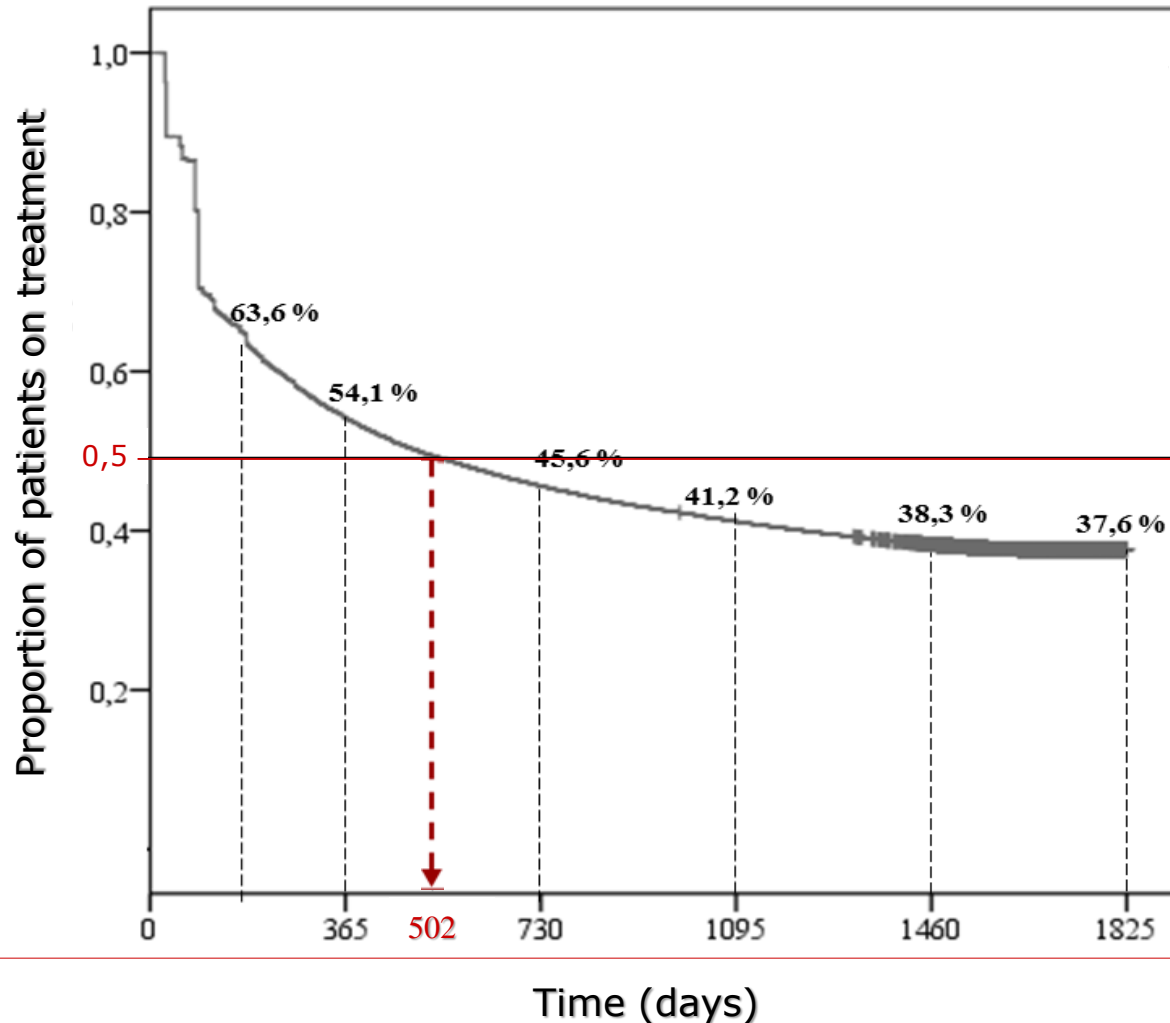
3.0% fibrates, ezetimibe, omega-3 fatty acids, nicotinic acid





Results

□ Persistence on lipid-lowering agents:



Median = 1.4 year

45.9% discontinued within the 1st year

12.8% drop-outs (only 1 refill)

37.6% persisted after 5 years



Results

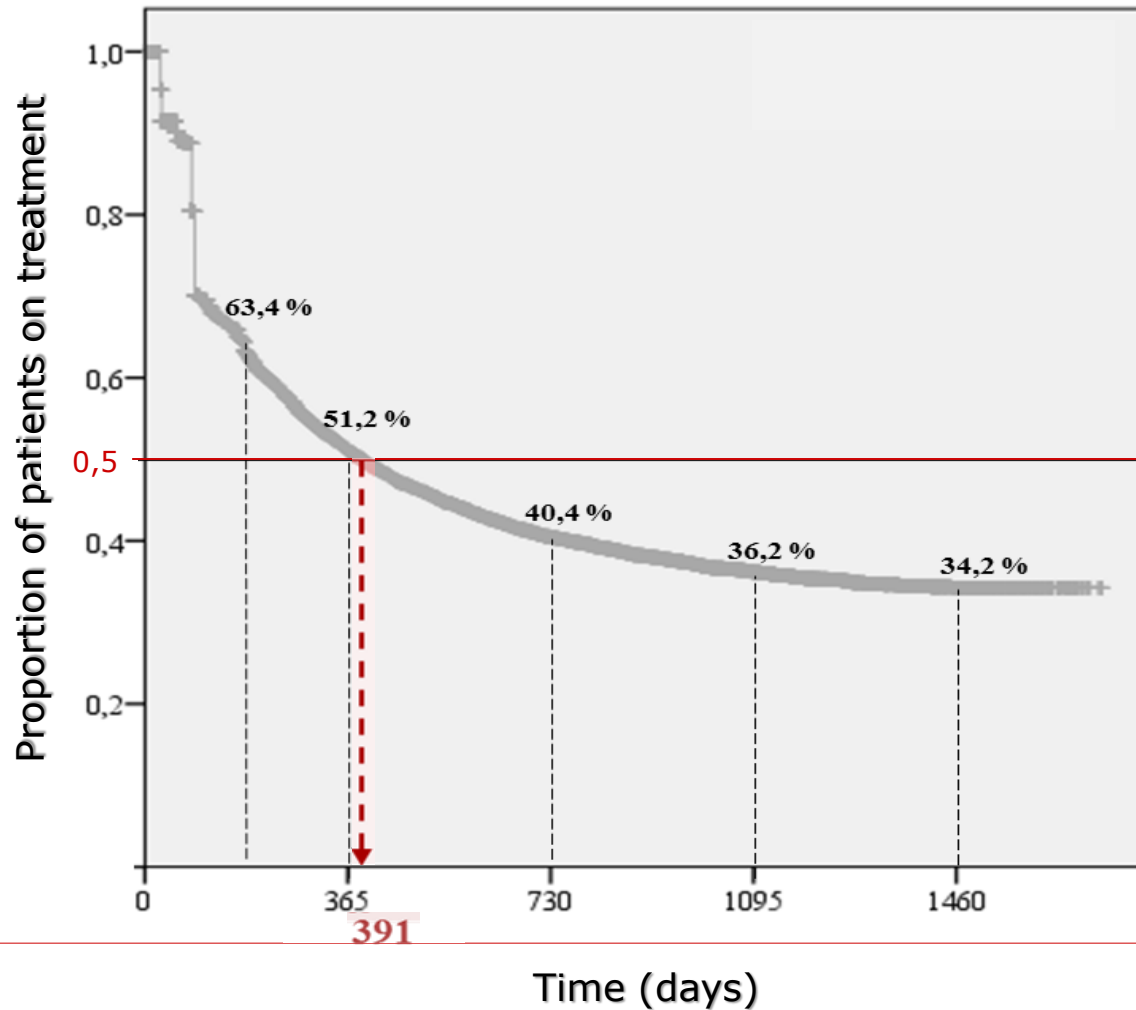
□ Factors affecting persistence:

Factor		Median time	Log-rang test
Age	≥65 years	M=600 days	$p < 0.01$
	<65 years	M=455 days	
Sex	Men	M=544 days	$p < 0.01$
	Women	M=466 days	
Lipid-lowering agent	Statins	M=516 days	$p < 0.01$
	Fibrates	M=211 days	
	Ezetimibe	M=266 days	



Results

□ Persistence after 2nd start: N=11,234



Median = 1.1 year

48.8% discontinued within the 1st year

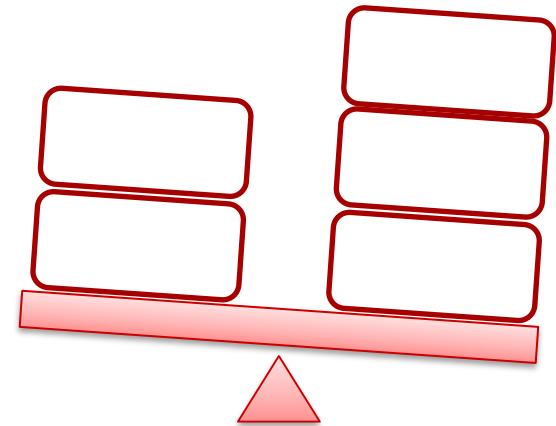
8.5% drop-outs (only 1 refill)

34.1% persisted after 5 years



Strengths & Limitations

- No data on actual medication use.
- Long permissible gap (low MPR allowed).
- Population data.





Conclusions

- Half of the Slovenian patients discontinue lipid-lowering treatment very early.
 - Many of them restart (60%).
 - After restarting, half discontinues again.
-