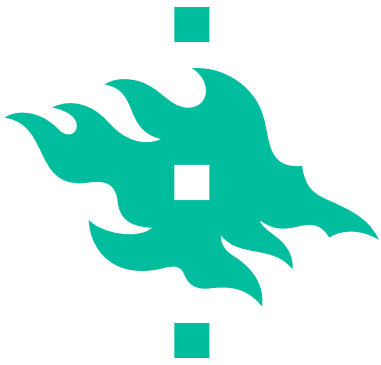


# **Collaborative Medication Review Practices in Europe**

**Professor Marja Airaksinen**

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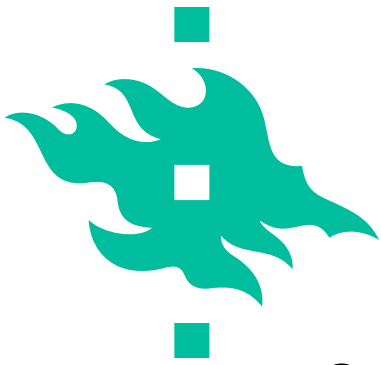
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# WORKING GROUP

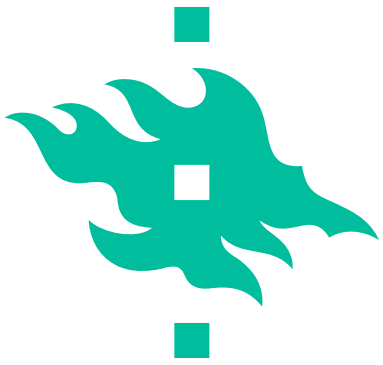
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- Prof. Marja Airaksinen, University of Helsinki



# INTRODUCTION

- Collaborative medication review (CMR) procedures have been developed in many countries to improve rational and safe medication use
- The importance of these procedures will increase as populations are ageing and prevalence of diseases needing long-term pharmacotherapy are increasing
- Some countries have advanced CMR practices that are acknowledged and integrated in health systems (e.g., USA, Australia and UK)
- In Europe, several countries are under process of developing and implementing CMR procedures



# OBJECTIVE OF THIS STUDY

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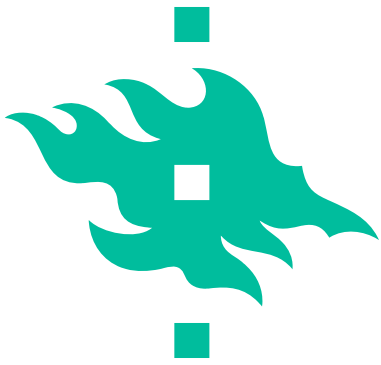
- The objective of this study was to explore collaborative medication review practices in European countries
- The study specially focused on primary care setting and community pharmacists' involvement in medication reviews

# METHODS

- The study design was a cross-sectional online survey to all European Union countries + some other European countries (altogether 32 countries)
- The national contact persons of the Pharmaceutical Group of the European Union (PGEU) performed as informants (representatives of the national professional associations of community pharmacies)
- Responses were received from 25 countries (response rate 76%)

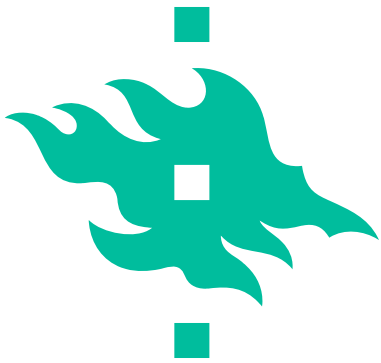
# METHODS

- The questionnaire was based on the Medication Review Guide from the Medicines Partnership, UK (Clyne et al. 2008)
- The following aspects of the procedures were asked:
  - Type (according to the UK Guide)
  - Patient involvement
  - Collaboration with other healthcare professionals
  - Access to patient information, clinical results
  - Addressed drug-related issues
  - Payment
  - Documentation
  - Postgraduate training
  - Evaluation of outcomes



Types and characteristics of medication review according to Clyne et al (2008), modified			
	Type 1	Type 2	Type 3
	Prescription review	Concordance and compliance review	Clinical medication review
<b>Purpose</b>	Address technical issues relating to the prescription.	Address issues relating to the patient's medicine taking behaviour.	Address issues relating to the patient's use of medicines in the context of their clinical condition.
<b>Review of</b>	Medicines	Medicines use	Medicines and condition
<b>Patient involvement</b>	No	Yes	Yes
<b>Access to patient notes</b>	Sometimes	Sometimes	Always

**Figure 1.** *Classification of medication review procedures (modified from Clyne et al. 2008)*

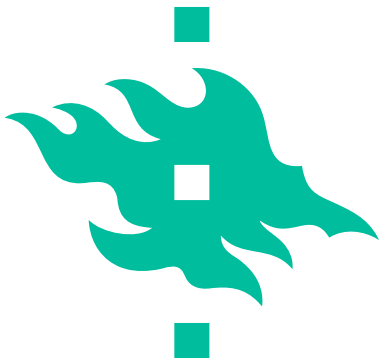


# RESULTS

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- Of the 25 responding countries 15 (60%) indicated to have a medication review procedure
- Of the 15 countries having medication review procedures:
  - 12 countries (80%) had a medication review procedure in the primary care setting
  - 12 countries (80%) had it in the hospital setting, and 6 (40%) in the nursing home setting
  - 8 countries (53%) had published studies on their medication review practices

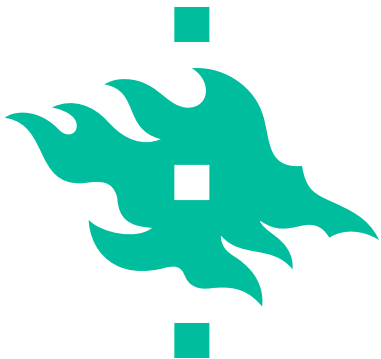




# RESULTS

Type I and II medication review procedures were most common in the community settings:

Setting of medication review	<i>Frequency n (%)</i>			
	<i>General</i>	<i>Type I</i>	<i>Type II</i>	<i>Type III</i>
Community setting	12 (80%)	9 (75%)	11 (92%)	4 (33%)
Hospital setting	12 (80%)			
Nursing home setting	6 (40%)			

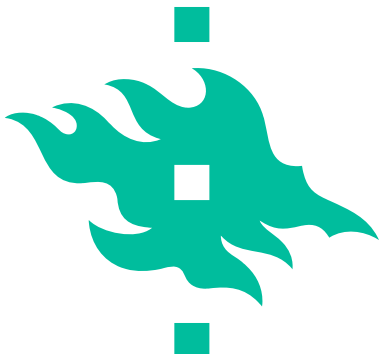


# RESULTS:

## Type I medication review

Table 2: Medication review procedure type 1

Country	National/local procedure	Patient interview	Access to: prescription medicines	non- prescription medicines	clinical conditions and laboratory test results	Case report/ written follow up plan	Case conference with the physician	Guidelines	Postgraduate training	Payment
Bulgaria	national		x	x				x		
Croatia	local	x	x	x						
Czech republic	local	x	x	x	x			x		
Denmark	national		x	x						
Finland	both		x	x						
Hungary	national	x	x							
The Netherlands	both		x	x	x	x	x	x	x	
Sweden	local	x	x	x						
Switzerland	national	x	x	x				x		x

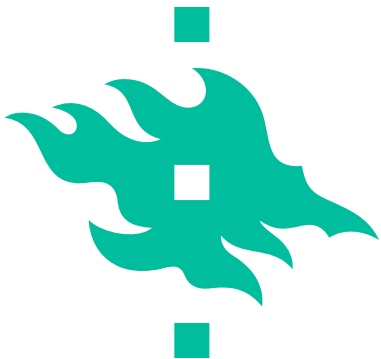


# RESULTS:

## Type II medication review

Table 3: Medication review procedure type 2

Country	National/local procedure	Patient interview	Access to: prescription medicines	non-prescription medicines	clinical conditions and laboratory test results	Case report/ written follow up plan	Case conference with the physician	Guidelines	Postgraduate training	Payment
Bulgaria	national	x	x	x						
Croatia	local	x	x	x	x	x	x			
Czech republic	local	x	x	x	x			x		
Denmark	national	x	x	x	x	x		x	x	x
Finland	both		x	x			x	x	x	x
The Netherlands	both		x	x	x	x	x	x	x	x
Norway	local	x	x	x				x	x	x
Portugal	national	x	x	x	x	x		x	x	x
Sweden	local	x	x	x						
Switzerland	national	x	x	x						x
United Kingdom	national	x	x	x		x		x		x



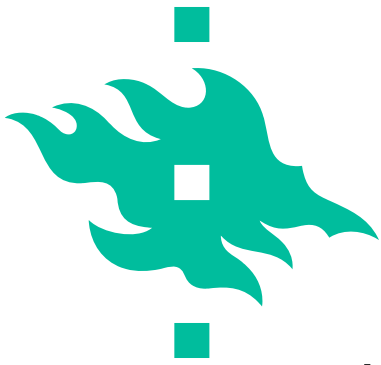
# RESULTS:

## Type III medication review

Table 4: Medication review procedure type 3

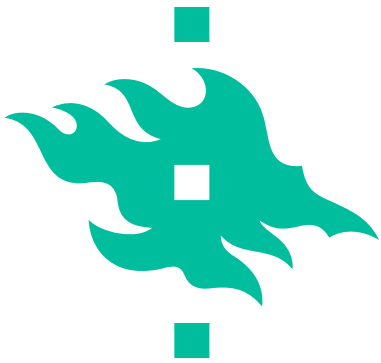
Country	National/local procedure	Patient interview	Access to: prescription medicines	non-prescription medicines	clinical conditions and laboratory test results	Case report/ written follow up plan	Case conference with the physician	Guidelines	Postgraduate training	Payment
Croatia	local	x	x	x	x	x	x			
Denmark	national		x	x	x <sup>1)</sup>	x		x	x	x
Finland	both	x	x	x	x	x	x	x	x	x
The Netherlands	both	x	x	x	x	x	x	x	x	x

<sup>1)</sup> Clinical information only if known by staff or documented in nursing home record



# DISCUSSION

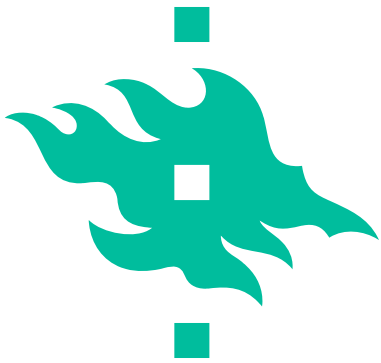
- A good response rate indicates timeliness and popularity of the subject
- The type I medication review procedures are sometimes mixed up with the usual daily prescription reviews
- Even if there are some contradictory responses, 9 countries seem to meet the purposes of type I medication review procedures
- 11 countries with type II medication review procedures have many contradicted results;
- 2 countries seem to have proper type III medication review procedures out of the 4 countries which indicated to have such a procedure



# CONCLUSIONS

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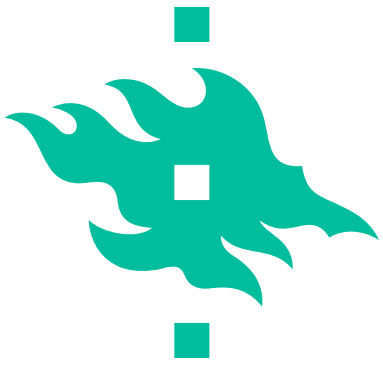
- The data collected in this study do not provide reliable information on all aspects of medication review procedures
- This study provides an overview of medication review procedures in Europe, but some aspects of the practices need to be investigated more in detail in order to make conclusions -> next step of the study



# MEDICATION REVIEW-RELATED PUBLICATIONS

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- Leikola SNS, Tuomainen L, Ovaskainen H, *et al.* Continuing education course to attain collaborative comprehensive medication review competencies. *Am J Pharm Educ* 2009;73(6):Article 108.
- Leikola SNS, Virolainen J, Tuomainen L, Tuominen RK, Airaksinen MSA. Collaborative comprehensive medication reviews for elderly primary care patients – community pharmacists' findings and recommendations to physicians. *J Am Pharm Assoc* (accepted for publication 26.6.2011)
- Dimitrow MS, Airaksinen MSA, Kivelä S-L, Lyles A, Leikola SNS. Comparison of prescribing criteria to evaluate the appropriateness of drug treatment in individuals aged 65 and older: a systematic review. *J Am Geriatr Soc* 2011; 59:1521-1530.
- Leikola S, Dimitrow M, Lyles A, Pitkälä K, Airaksinen M. Potentially inappropriate medication use among Finnish non-institutionalized people aged  $\geq 65$  years. A register-based, cross-sectional, national study. *Drugs Aging* 2011;28(3):227-236.



# THANK YOU FOR YOUR ATTENTION!

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- **ANY QUESTIONS?**

