

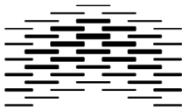
HØGSKOLEN I OSLO  
OG AKERSHUS

# Performing clinical pharmacy studies across the Nordic and Baltic countries

**-how can we strengthen research by using joint protocols and/or supervision?**

Anne Gerd Granås,  
Oslo and Akershus University College, Norway.



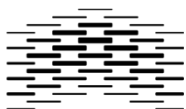


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# Who are you?

- works with clinical pharmacy?
- done systematic medication reviews?
- used STOPP/START criteria?
- used Beer's criteria?
- used the BMQ scale?
- used categorisations of drug related problems?
- performed studies in community pharmacy?
- studied medication or prescribing errors?
- used prescripion databases in epidemiological research?





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# Comparing across European borders

**REPORT OF INTERVENTIONS ON PRESCRIPTIONS**

Prescription no..... Pharmacist ID.....

Patient: Year of birth..... ☐ Male ☐ Female

Prescriber: ☐ MD hospital ☐ MD community ☐ Other.....

Prescribed: Information on prescription given regarding drug, dose and use  
.....  
.....

PROBLEM	SHORT DESCRIPTION
Inappropriate drug:	<input type="checkbox"/> .....
Inappropriate dose:	<input type="checkbox"/> .....
Inappropriate form:	<input type="checkbox"/> .....
Inappropriate schedule:	<input type="checkbox"/> .....
Inappropriate quantity:	<input type="checkbox"/> .....
Contraindications:	<input type="checkbox"/> .....
Side effects:	<input type="checkbox"/> .....
Interactions:	<input type="checkbox"/> .....
Other:	<input type="checkbox"/> .....

**PROBLEM DETECTED BY**

Communication with patient ☐ Patient profile reviewed ☐

Other, specify.....

**INTERVENTION**

Added or discontinued drug: ☐

Changed or clarified drug / substance: ☐

Changed or clarified dose / strength: ☐

Changed or clarified form / route: ☐

Changed or clarified schedule: ☐

Changed or clarified duration / quantity: ☐

Other, specify.....

Prescriber contacted: Yes ☐ No ☐

Unable to get in touch with prescriber: ☐

Volmer D, Haavik S, Ekedahl A. Use of a generic protocol in documentation of prescription errors in Estonia, Norway and Sweden. *Pharmacy Practice (Internet)* 2012 Apr-Jun;10(2):72-77.

## Original Research

### Use of a generic protocol in documentation of prescription errors in Estonia, Norway and Sweden

Daisy VOLMER, Svein HAARIK, Anneli EKEDEHL  
Received (first version)

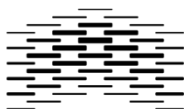
#### ABSTRACT

Pharmacists have been responsible for preventing, and documenting, prescription errors, which if left uncorrected, can harm the patient. The objective of this study was to evaluate the use of a generic protocol for documenting prescription errors in primary care contact with pharmacists.

Experiences and reflections

scribing errors in primary care are frequently detected by

ations in detected error ratios between the studies may largely as in study design and inclusion criteria used. There is a need for a protocol in order to compare the results from different studies. A uld provide a valuable means of evaluation of new technology, c.



# Comparing across European borders

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Pharm World Sci  
DOI 10.1007/s11096-010-9393-x

## RESEARCH ARTICLE

### Provision of pharmaceutical care by community pharmacists: a comparison across Europe

Carmel M. Hughes · Ahmed F. Hawwa · Claire Scullin · Claire Anderson ·  
Cecilia B. Bernsten · Ingunn Björnsdóttir · Maria A. Cordina ·  
Filipa Alves da Costa · Isabelle De Wulf · Patrick Eichenberger ·  
Veerle Foulon · Martin C. Henman · Kurt E. Hersberger · Marion A. Schaefer ·  
Birthe Søndergaard · Mary P. Tully · Tommy Westerlund · James C. McElroy

Received: 26 June 2009 / Accepted: 19 April 2010  
© Springer Science+Business Media B.V. 2010

**Abstract** *Objective* To investigate the provision of pharmaceutical care by community pharmacists across Europe and to examine the various factors that could affect its implementation. *Methods* A questionnaire-based survey of community pharmacies was conducted within 13 European countries. The questionnaire consisted of two sections. The first section focussed on demographic data and services provided in the pharmacy. The second section was

a slightly adapted version of the Behavioral Pharmaceutical Care Scale (BPCS) which consists of three main dimensions (direct patient care activities, referral and consultation activities and instrumental activities). *Results* Response rates ranged from 10–71% between countries. The mean total score achieved by community pharmacists, expressed as a percentage of the total score achievable, ranged from 31.6 (Denmark) to 70.9 (Sweden).

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Experiences and  
reflections

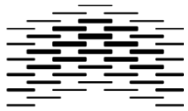
**Table 1** Sampling strategy for each participating country and their response rates

		Sample as a % of total number of pharmacies in	Response rates N (%)
			623 (24.9)
			137 (42.7)
			327 (29.8)
			725 (10.1%)
			20 (35.7)
			464 (51.7)
			112 (55.4)
		100	213 (41.4)
		100	564 (20.9)
		51	250 (41.7)
Sweden	1,010	100	717 (70.9)
Switzerland	814	100	392 (48.2)
Wales	718	100	152 (21.2)
Overall	18,577	40	4,696 (25.3)

—Provision of pharmaceutical care by community pharmacists across Europe: has it evolved over time?

**Table 1** Response rate to BPCS survey & surveyed in 2013

Country	Survey methodology
Bosnia	Online
Denmark	Online
England	Online
Germany	Online
Italy	Online
Lithuania	Face to face interview
Malta	Postal
Moldova	Online and postal
Netherlands	Online
Northern Ireland	Postal
Norway	Online
Portugal	Online
Serbia	Postal
Spain	Online
Sweden	Online
Switzerland	Online
<b>Overall<sup>1</sup></b>	



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# Comparing across European borders



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



RESEARCH IN SOCIAL &  
ADMINISTRATIVE PHARMACY

Original Research

## General sale of non-prescription medicinal products: Comparing legislation in two European countries

Johanna Lind, M.Sc.<sup>a</sup>, Ellen Schafheutle, Ph.D.<sup>b</sup>,  
Annika Nordén Hägg, Ph.D.<sup>a</sup>, Sofia Källemark Sporrøng, Ph.D.<sup>a,c,\*</sup>

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Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



RESEARCH IN SOCIAL &  
ADMINISTRATIVE PHARMACY

Original Research

## A review of countries' pharmacist-patient communication legal requirements on prescription medications and alignment with practice: Comparison of Nordic countries

Karin Svensberg, M.Sc.Pharm<sup>a,\*</sup>, Sofia Källemark Sporrøng, Ph.D.<sup>b</sup>,  
Ingunn Björnsdóttir, Ph.D.<sup>a</sup>

<sup>a</sup>School of Pharmacy, Section of Social Pharmacy, Research Group Pharma-Safe, University of Oslo, P.O. Box 1068, Blindern, 0316 Oslo, Norway

<sup>b</sup>Department of Pharmacy, University of Copenhagen, Universitetsparken 2, 2100 Copenhagen, Denmark

- Legislation
- OTC
- Rx-communication





# Comparing across European borders



UPPSALA  
UNIVERSITET

## Lost in translation?

-Comparing three Scandinavian translations of the Beliefs about Medicines Questionnaire.

Experiences and reflections



S KÄLLEMARK



LS NØRGAARD

2. University of Copenhagen



ELSEVIER

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: [www.elsevier.com/locate/pateducou](http://www.elsevier.com/locate/pateducou)



Assessment

Lost in translation?

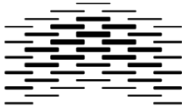
Comparing three Scandinavian translations of the Beliefs about Medicines Questionnaire

Anne Gerd Granas <sup>a,\*</sup>, Lotte Stig Nørgaard <sup>b</sup>, Sofia Källemark Sporrang <sup>b</sup>

<sup>a</sup>Department of Pharmacy and Biomedical Laboratory Sciences, Oslo and Akershus University College, Norway

<sup>b</sup>Department of Pharmacy, University of Copenhagen, Denmark





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## European definition

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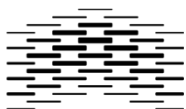
# Drug related problems (PCNE)

- A DRP can be defined as *“an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes”*

Pharmaceutical Care Network Europe (PCNE). Drug-Related Problems classifications.

<http://www.pcne.org/sig/drp/documents/PCNE%20classification%20V6-2.pdf>





HØGSKOLEN I OSLO  
OG AVEDSKUL

Article

## Development of an Aggregated System for Classifying Causes of Drug-Related Problems

Benjamin J. Basger, MSc<sup>1</sup>, Rebekah J. Moles, PhD<sup>1</sup>, and Timothy F. Chen, PhD<sup>1</sup>

### Abstract

**Background:** More than 20 different types of classification systems for drug-related problems (DRPs) and their causes have been developed. Classification is necessary to describe and assess clinical, organizational, and economic impacts of DRPs through documentation of collected data. However, many researchers have judged classification systems incomplete when describing their data, and have modified them or developed their own. This variability between systems has made study comparisons difficult. **Objectives:** To perform a category-by-category comparison of the content of selected DRP classification systems to construct an aggregated cause-of-DRP classification system containing the content of all systems. **Method:** DRP classification systems were identified after a literature review, with 7 chosen based on their use in varied health care settings, geographical diversity, frequency of use, and method of development. These systems were critically analyzed, and the content of each category was compared and aggregated where appropriate. A hierarchy of categories

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1-14  
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Research in Social and  
Administrative Pharmacy 4 (2008) 320-331

RESEARCH IN SOCIAL &  
ADMINISTRATIVE PHARMACY

## Comparing 4 classification systems for drug-related problems: Processes and functions

Ingeborg K. Björkman, Ph.D., R.Ph.\*<sup>1</sup>, Margareta A. Sanner, Ph.D.,  
Cecilia B. Bernsten, Ph.D.

*Department of Public Health and Caring Sciences, Uppsala Science Park, 751 85 Uppsala, Sweden*

## Classification of drug-related problems

### Abstract

**Background.** Drug-related problems are prevalent and cause considerable patient morbidity and in some cases death, as well as increased health care expenditures. A classification system may contribute to identify such problems, and further to resolve and prevent them.

**Material and methods.** A draft classification was sent to a broad panel of clinicians and pharmacists and comments were requested. Consensus was reached after two subsequent reviews

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og  
Lovisenberg Diakonale Sykehus

nursing homes, pharmacies) and contexts (research, clinical practice) and with varying access to relevant clinical information (from patients, medical records, drug charts and prescriptions).

### Material and method

**Development of a classification system**  
The process started with a seminar for ten physicians and pharmacists who had experience with medication reviews from research or clinical practice. A working group (authors) developed a draft for classification with a hierarchical structure based on a European system (15), to ensure comparability with international studies.

Elements from a modified Delphi tech-

### RESEARCH ARTICLE

## Characterization of pharmacy staff

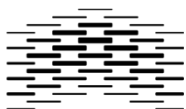
Lene Juel Kjeldsen  
Karina Pors

Experiences and  
reflections

## Evaluating categorisation and clinical relevance of drug-related problems in medication reviews

Anne Gerd Granas · Christian Berg · Vidar Hjellevik · Cecilie Haukereid ·  
Arvid Kronstad · Hege S. Blix · Bente Kilhovd · Kirsten K. Viktil ·  
Anne Marie Horn





HØGSKOLEN I OSLO  
OG AKERSHUS

# Comparison across borders in clinical pharmacy

## STOPP/START criteria for potentially inappropriate prescribing in older people: version 2

DENIS O'MAHONY<sup>1,2</sup>, DAVID O'SULLIVAN<sup>3</sup>, STEPHEN BYRNE<sup>3</sup>, MARIE NOELLE O'CONNOR<sup>2</sup>, CRISTIN RYAN<sup>4</sup>, PAUL GALLAGHER<sup>2</sup>

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Experiences and  
reflections

Søk i kildene våre

[Hjelp](#) [Databaser](#) [Pasientinformasjon](#) [Verktøy](#) [Fagprosedyrer](#)

### Legemiddel

#### STOPP 2 for enda bedre legemiddelbehandling hos eldre

STOPP er systematiske verktøy til støtte for valg av legemiddelbehandling hos eldre. De bygger på faglitteratur og europeisk ekspertkonsensus, og er nylig kommet i revidert utgave.

23.04.2015 | Åse Sofie Skjerdal

Hos eldre er ofte effektene av legemidler endret på grunn av alder og sykdom. **START** og **STOPP** kan bidra med nødvendig spesialkunnskap.

**START** (screening tool to alert doctors to right treatment) sier noe om hvilke legemidler som er best egnet for den eldre pasienten.

**STOPP** (screening tool of older people's potentially inappropriate prescriptions) handler om hvilke som ikke bør brukes.

START 2 og STOPP 2 finner du i Helsebiblioteket.no under **Legemidler**, pasientgruppen **Eldre**. Lenkene går til Norsk legemiddelhandbøok, som har en god **elektronisk utgave av START 2 og STOPP 2**.

Se også:

- Ranhoff, AH, Bakken, MS, Granås, AG et al. **Bedre legemiddelbehandling av eldre**. Tidsskr Nor Lægeforen 2015; 135; 318.




Foto: Helsebiblioteket, Håkon Harris

### G24 Legemiddelgjennomgang (LMG)

- Publisert: 27.09.2012
- Sist endret: 16.01.2015

#### Tabell 1 START

##### START Screeningverktøy for forskrivning av legemidler til eldre

Oversatt til norsk av Marit Stordal Bakken, Sabine Ruths, Anette Hylen Ranhoff, Olav Spigset, Aina Langørgen, Anne Gerd Granås (2014).

##### START 2 (Screening Tool to Alert to Right Treatment)

Følgende legemiddelbehandling skal vurderes hos eldre > 65 år med mindre:

- pasienten er i siste fase av livet og fokus er lindrende behandling
- det er åpenbar(e) grunn(er) til at behandlingen ikke skal brukes

Det forutsettes at forskrivende lege vurderer alle spesifikke kontraindikasjoner til behandlingsforslagene før man anbefaler dem til eldre pasienter.

##### A: Hjerne- og karsystemet

1. Warfarin, dabigatran, apiksaban eller rivaroksaban ved **kronisk atrieflimmer**.
2. Acetylsalisylsyre 75–160 mg en gang daglig ved **kronisk atrieflimmer**, der warfarin, dabigatran, apiksaban og rivaroksaban er kontraindisert.
3. **Blodplatehemmer** (acetylsalisylsyre, klopidoogrel eller prasugrel) ved kjent koronar, cerebral eller perifer karsykdom.
4. Antihypertensiv behandling ☐ ved vedvarende systolisk blodtrykk > 160 mm Hg og/eller vedvarende diastolisk blodtrykk > 90 mm Hg, ved systolisk blodtrykk > 140 mm Hg og/eller diastolisk blodtrykk > 90 mm Hg når pasienten har diabetes.
5. Statinbehandling ☐ (f.eks. simvastatin eller atorvastatin) ved kjent koronar, cerebral eller perifer karsykdom hvis ikke pasienten er i livets siste fase eller er > 85 år.
6. **ACE-hemmer** (f.eks. enalapril, lisinopril eller ramipril) ved systolisk hjertesvikt ☐ og/eller kjent koronarsykdom ☐.
7. **Betablokker** (f.eks. metoprolol) ved iskemisk hjertesykdom ☐.

# What does it take?



Who leads the way?  
Time for network building?  
Who writes the research  
application?  
Nordic and baltic funding?  
EU-funding?



# What if it's NO money?

## Project period

From date 01.01.2013  
To date 31.12.2015

## PLANNED PARTICIPANTS

Getting only partly  
funding?  
Getting no funding?  
Having a plan B?



	Involved researchers		Other participants		Country total		
	M	F	M	F	Male	Female	Total
Denmark	0	4	0	0	0	4	4
Finland	2	8	0	0	2	8	10
Norway	0	5	0	0	0	5	5
Sweden	4	2	0	0	4	2	6
Total	6	19	0	0	6	19	25

## #53361 Health promotion through medicine education

### APPLICATION INFORMATION

Application ID 53361  
Submitted by Tuula Keinonen  
Last updated 03.04.2012  
Call Research Projects "Education for Tomorrow"



## Meld. St. 10

(2012–2013)

Melding til Stortinget

God kvalitet – trygge tjenester

Kvalitet og pasientsikkerhet i helse- og omsorgstjenesten



## St.meld. nr. 47

(2008–2009)

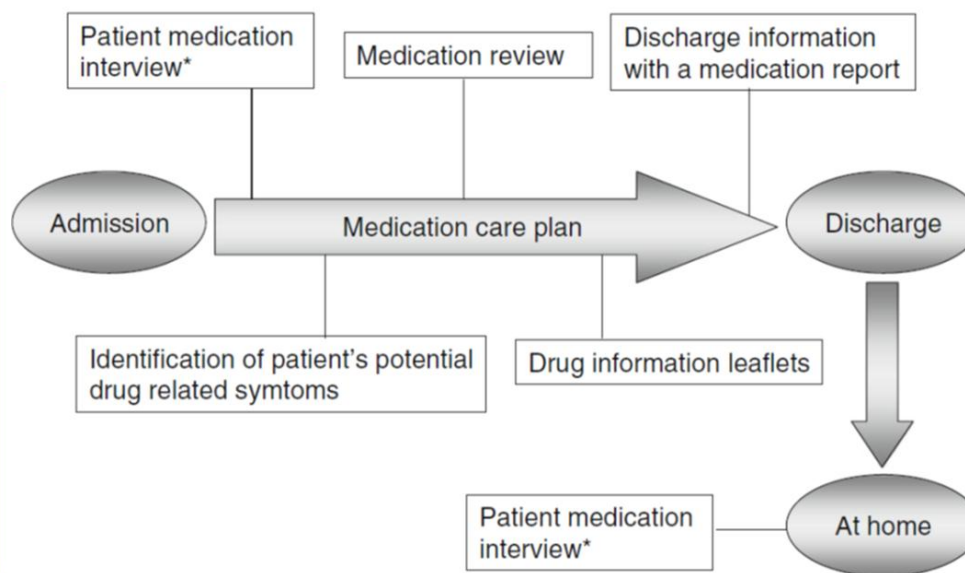
Samhandlingsreformen

Rett behandling – på rett sted – til rett tid



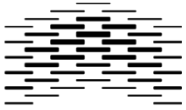
## Influence on clinical pharmacy policy:

Why go Nordic?  
Why go Baltic?  
Why go European?



Riktig legemiddelbruk til eldre pasienter/beboere  
på sykehjem og i hjemmesykepleien

Forslag til tiltak



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OG AKERSHUS

# Summary

**We can** strengthen research by using joint protocols and/or supervision!

Is it **you** who will **take the lead** in performing clinical pharmacy studies across the Nordic and Baltic countries ?

