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Original Research

Medication review practices in European countries

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Abstract

Background: Medication review procedures have been developed in many countries to improve rational and safe medication use. The similarities, comprehensiveness, and effectiveness of these procedures has not been assessed, or compared.
Objective: The aim of this study was to explore medication review practices in European countries.
Methods: An online survey was sent to 32 European countries (all 28 European Union countries and 4 other European countries) by email to one person in each country known to be aware of medication review practices in their country in May 2011. The informants were identified through Pharmaceutical Group of European Union. To complement and validate the information received through Pharmaceutical Group of European Union, medication review experts involved in Pharmaceutical Care Network Europe were contacted. The survey assessed comprehensiveness of the medication review procedures classified according to 3 types in terms of settings; access to patient clinical information; patient involvement; availability of documentation and information; collaboration with the physician; quality control, and training required.
Results: Almost two thirds (64%) of the 25 European countries which responded (response rate 78%) indicated having at least one type of medication review procedure in their country. In the community setting prescription (type I) and adherence (type II) medication reviews were the most common (established in 9 and 11 countries, respectively). More comprehensive type III clinical medication reviews requiring access to clinical patient information were still rare, and just being established in 6 countries.
Conclusions: Medication review procedures are becoming common in health care throughout Europe, however improving their comprehensiveness would require better access to patient information for those professionals conducting clinical medication reviews. In addition to benchmarking, the inventory can enhance cooperation between countries and stakeholders involved in medication review practice development nationally and internationally.

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Introduction

The hazard of prescribing and taking inappropriate medications leading to adverse drug events, extra hospitalizations and costs have been long recognized.[1–3] Medication review procedures involving pharmacists have been suggested as a way to identify, solve and prevent drug-related problems and improve patients' drug therapy outcomes.[4–8] The importance of regular medication reviews increases due to aging populations, leading to increasing drug use and polypharmacy.

Medication review procedures vary in terms of access to clinical data, patient involvement and the purpose of the medication review.[5,9–13] Australia, United States of America and the United Kingdom were the first countries to incorporate medication review services into primary outpatient care.[8,14,15] The medication review procedures in these countries are well-described in published literature.[5,16–18] In Europe, several countries are either developing or have recently implemented medication review procedures, but little is known of these procedures. The aim of this study was to explore availability and comprehensiveness of medication review practices in primary care in European countries.

Methods

Study design and population

The study design was a cross-sectional European wide online survey, which was coordinated by the University of Helsinki, Finland. The study population consisted of all European Union countries ($n = 28$) and four other European countries (total $n = 32$). In order to reach the national key informants knowledgeable of the medication review practices in their country the questionnaire was sent to the national community pharmacy associations via the mailing list of the Pharmaceutical Group of the European Union (PGEU), an advocacy organization of community pharmacies toward EU (www.pgeu.eu). As Latvia, Macedonia, Slovenia, Switzerland, Turkey and Iceland are not members of PGEU their contact information was separately searched from the Pharmaceutical Care Network Europe (PCNE) for mailing the questionnaire. In Belgium, national organizations representing Walloon and Flemish part of the country were both approached separately with the questionnaire.

Survey instrument

Previous literature was used to develop the survey instrument.[5,12,19–23] Clyne's typology of medication reviews was applied to assess comprehensiveness of the procedures[12] (Table 1). The questionnaire was divided into three sections according to this typology. Each of the three sections had the following questions related to the medication review procedures and their implementation: setting (hospital vs. primary care); the medication review type according to the classification by Clyne et al (2008)[12] (Table 1); type

Table 1
Types and characteristics of medication review procedures according to their clinical comprehensiveness

	Type I prescription review	Type II adherence and compliance review	Type III clinical medication review
Purpose	Address technical issues relating to the prescription	Address issues relating to the patient's medicine taking behaviors	Address issues relating to the patient's use of medicines in the context of their clinical conditions
Review's focus	Medicines	Medicine use	Medicines and conditions
Patient involvement	No	Yes	Yes
Access to patient information (e.g., clinical conditions and laboratory test results)	Sometimes	Sometimes	Always

Modified from Clyne et al (2008).