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The PRIMA-eDS electronic decision support system – a multinational European project

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Background and Aim: The PRIMA-eDS study - Polypharmacy in chronic diseases: Reduction of Inappropriate Medication and Adverse drug events in elderly populations by electronic Decision Support - is a randomized controlled trial performed in four European countries (Austria, Germany, Italy, and United Kingdom). The trial intervention is an electronic decision support service, the Comprehensive Medication Review (CMR) tool. The aim is to develop and validate this tool for use by practicing physicians and nurses at the point of care.

Methods: The EBMeDS clinical decision support system developed by Duodecim Medical Publications Ltd. (DMP) (www.ebmeds.org) was used as the platform for the CMR tool. A set of systematic reviews was performed that led to the development of 46 recommendations covering 17 drug classes and 15 chronic conditions. Existing decision support rules on medication reduction and safety produced by DMP, and drug databases developed by Medbase Ltd. (Finland) were included in the tool. The study is funded by the European Union Seventh Framework Programme (FP7-Health-2012-Innovation-1-2.2.2.-2), grant agreement no 305388-2.

Results: The CMR tool (video: <http://bit.ly/1SuGYxi>) receives coded patient data from the case report form used in the study, and shows the results of the medication review after data entry has been completed. In clinical use outside and after the study, the tool receives patient data automatically from electronic health records that have integrated the EBMeDS system, or the user can enter the data by using a simple web form. A total of 30 171 messages can be triggered from the drug databases and decision support rules included in the PRIMA-eDS CMR tool.

Conclusions: The development of a CMR tool that analyzes individual patient data enables a review of the patient's medication during primary care patient encounters. We expect the tool to improve medication safety and avoid inappropriate prescribing.