SECONDARY USE OF ROUTINELY COLLECTED HEALTH DATA AND CARING FOR THE ELDERLY: A CASE STUDY OF POTENTIALLY HARMFUL PRESCRIBING

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Background

Due to the multi-morbidities, multiple concomitant medicines, and underlying metabolic and cognitive changes, drug prescribing in the elderly can result in adverse health outcomes and unnecessary costs for the health system.

The objective of our work is to explore the potential of secondary use of routinely collected health data for generating the evidence in support of healthy ageing, using potentially inappropriate drug prescribing as a case study.

Material & Methods

The Central Health Information System of the Republic of Croatia (CEZIH) is the largest source of routinely collected health data in Croatia. As a measure of inappropriate drug prescribing, we chose the internationally accepted STOPP/START criteria (Screening Tool of Older People's Prescriptions and Screening Tool to Alert to Right Treatment) for prescribing in older people. We compared the data contained in CEZIH with the information needed for the implementation of the STOPP/START criteria.

Results

The STOPP/START criteria provide 114 evidence based rules to avoid commonly encountered points of potentially inappropriate prescribing. Preconditions to applying those rules is the availability of information on patient demographics, prescribed medications, indications, and diagnoses. ePrescription contains structured information for over 99% of medicines prescribed or dispensed in the primary care setting in Croatia since 2011.

The attributes available in ePrescription include brand name, active substance, dose, form, indication, date of prescription and dispensation and patient identifier which allows for application of 38 STOPP/START criteria. Additional information can be retrieved from the electronic healthcare record (EHR) within CEZIH (64 criteria), mainly related to patient comorbidities and laboratory findings.

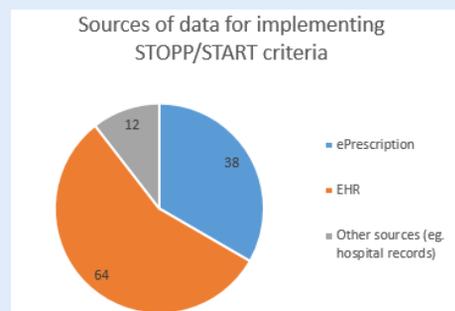Figure 1. ePrescription message data elements (available from www.cezih.hr)

Figure 2. Sources of data for implementation of STOPP/START criteria

Conclusion

Routinely collected electronic patient data in Croatia can be used to generate the evidence on inappropriate drug prescribing to elderly using international STOPP/START criteria.

Preconditions are accessible data, understanding of data sources, data structure and research methodologies.

Interdisciplinary and inter-institutional collaboration is important to make the most of the results and to support regulatory actions and policy development.