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Systemic solutions influencing physicians' prescription behavior leading to savings in the reimbursement budget in European countries: a systematic literature review

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Objectives

Physicians' prescribing behavior significantly affects reimbursement budget expenditures. Understanding how it can be shaped relies on the analysis of documented examples from other countries.
The aim of this review is to analyze systemic solutions influencing physicians' prescribing behaviors and their impact on payer expenditures in European countries.
The focus is on legal regulations, guidelines for physicians, as well as financial incentives and penalties.

Methods

The MEDLINE, EMBASE and Cochrane electronic databases were used. The Cochrane Handbook for Systematic Reviews of Interventions,[2] The PRISMA 2020 statement[3] and data elements from previous systematic reviews were used to create a template for data extraction. Particular attention was given to the list of European countries, drug reimbursement mechanisms and documented impact on prescribing behavior.

Results

A total of 3 208 records were screened by title and abstract, which resulted in 71 full-text publications that met the inclusion/exclusion criteria. Ultimately, 8 publications were included in the analysis.

In **Latvia**, since April 2020, it has been mandatory to use the international non-proprietary name (INN) on prescriptions for reimbursed medicines. Pharmacists are required to dispense the cheapest generic medicine available in stock. The percentage of INN prescriptions for antihypertensive drugs (bisaprolol/perindopril) increased from 2,1% in 2019 to 92,3% in 2021[4] and for oral anticoagulants from 3,1% in 2018 to 79,7% in 2022.[5]

In 2023, **Ireland** introduced the national Medicines Management Programme.
It included the development of a preferred drugs list, publication of prescribing and cost guidelines and implementation of specific reimbursement criteria for selected drugs.
This led to better control over the reimbursement of expensive drugs (e.g. evolocumab, nusinersen, sacubitril+valsartan, liraglutide, dupilumab) and budget savings (e.g. expenditures for medicated plaster with lidocaine fell from €28 million in 2016 to €2 million in 2018).[6 7 8]

In **Italy**, four regions implemented various actions to promote the appropriate use and/or control of cholecalciferol expenditures. The best results were achieved in the Molise region, where penalties for doctors were combined with educational activities, followed by Emilia-Romagna (education only).[9]

In 2018, **France** introduced financial incentives to encourage the prescription of biosimilars (etanercept and insulin glargine).
An increase in biosimilar prescribing was observed in both hospitals newly participating in the program and those that had taken part in similar initiatives in the past.[10]

In **the United Kingdom**, between 2011 and 2018, the influence of GPs' dispensing rights on their prescribing behavior (drug cost, size pack, number of items per prescription) was analyzed across all drug types. Compared to non-dispensing GPs, those with dispensing rights issued 19.1% more prescriptions per patient, incurred 3.1% higher drug cost per patient and 1.4% higher prescription costs.[11]

Conclusions

Introducing appropriate reimbursement regulations can lead to better control over pharmaceutical spending and improved allocation of healthcare resources.

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