

Analysis of pharmaceutical waste in Vienna

Sabine Vogler¹, Christel Zuidberg^{2,1}, Christine Leopold¹

¹ Health Economics Department / WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies (WHO CC),
Gesundheit Österreich GmbH / Austrian Health Institute, Vienna, Austria

² Division of Pharmacoepidemiology and Clinical Pharmacology, Utrecht Institute for Pharmaceutical Sciences, Utrecht, the Netherlands

Problem Statement

In Austria, the issue of unused medicines ending up in waste has been raised in the media, suggesting a high amount. However, a serious comprehensive analysis of pharmaceutical waste to assess the dimension and the economic implications has never been performed in Austria.

Objective

To analyze a sample of pharmaceutical waste which had ended up in normal household waste in Vienna in order to learn if and which medicines were disposed by the households.



Results

A total of 152 packs was included in the analysis, thereof 74% prescription-only medicines and 26% OTC products. 14.5% of the packs had content, varying from one tablet in a blister to up to 56 tablets. The most common pharmaceutical form was the oral one (86%). The leading therapeutic groups of this sample were the cardiovascular system (24% of all packs), the musculo-skeletal system (18%) and alimentary tract and metabolism (18%).

Out of the total of 152 packs, 5% were expired, 85% were not expired yet, and the remaining 10% of packs had no visible expiry date. 13% of the non-expired packs still contained medicines. Analyzed per therapeutic group, 14% of the packs and 21% of the blisters of cardiovascular medicines had content; for the musculo-skeletal system and the alimentary tract and metabolism the percentages were 27% (packs) / 52% (blisters) and 7% (packs) and 52% (blisters).

Discussion

Every seventh pack, which was not expired, contained medicines: This outcome challenges speculations disseminated in local media about the high relevance of medicines which end up in waste unused.

The study was confronted with several limitations (small sample size, previous collection by waste department staff, problems in tracking back the medicines to the packs) and covers only one aspect of a waste analysis. No statement about the costs resulting from unused waste can be made.

Conclusions

To better explore the dimension of wasted medicines, further research (e.g. of the medicines returned to pharmacies) would be required.

Methodology

Sample of pharmaceutical waste:

Data source: A sample of pharmaceutical waste from the public waste department ("Magistratsabteilung 48") of the City of Vienna (the waste department has been performing on a regular basis an analysis of the Viennese waste, with a sample of pharmaceutical waste as part of it)

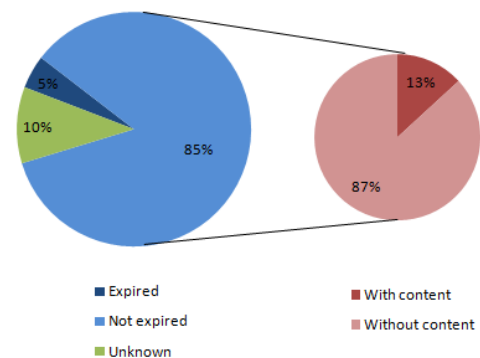
Sample size: approximately 300 items (staff of the public waste department manually separated the pharmaceutical waste from the other waste)

Investigation: Manual investigation of the research team by checking each item and reporting per each pack and blister according to predefined criteria

Investigation of the sample - example OTC medicines



Sample of pharmaceutical waste in Vienna with regard to expiry date and content



N = 152 packs

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