



## FIRST INTERNATIONAL CONFERENCE «INTEGRATION NETWORK OF THE PHARMACEUTICAL ECOLOGY IN THE MODERN ENVIRONMENT - 2023»

DIGITAL WAYS TO ENHANCE PUBLIC AWARENESS OF SEPARATE COLLECTION POINTS FOR WASTE MEDICINE PACKAGES

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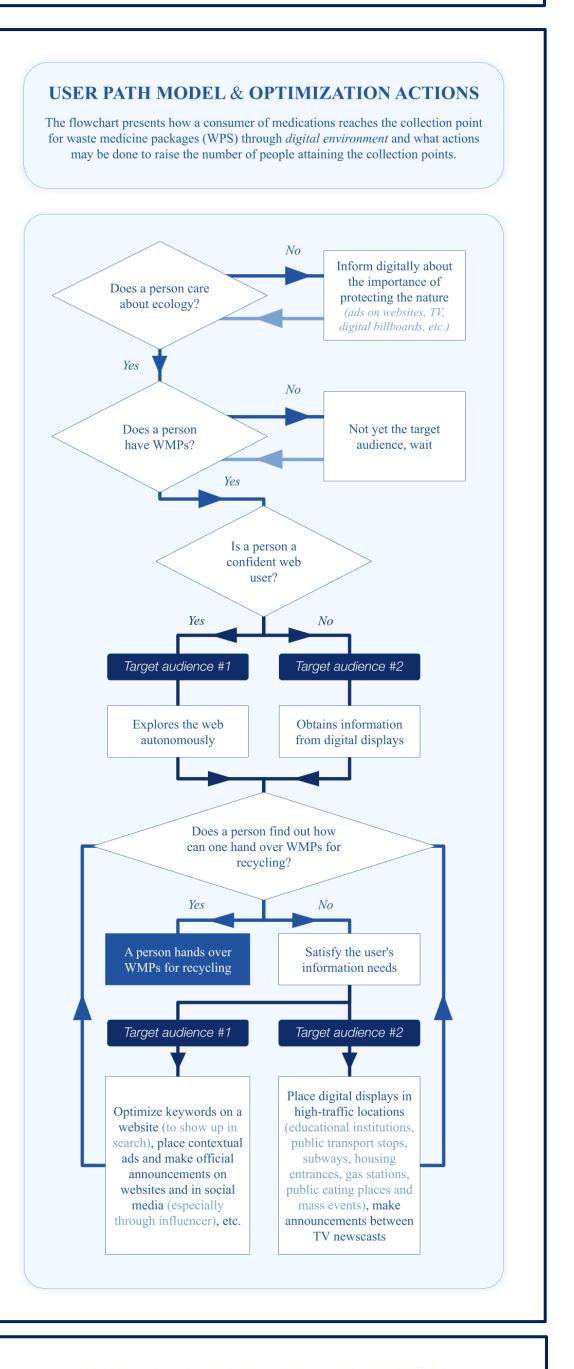
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Background. Large amounts of pharmaceuticals enter the environment (mainly water and soil) due to improper disposal by outpatients, medical and lab staff. The main groups detected are antibiotics, hormones, non-steroidal antiinflammatory drugs, beta blockers, lipid anti-depressants, cytotoxic regulators, (anticancer) drugs, and radiopharmaceuticals. The most discussed theme is the antibiotic resistance evolution, human genome mutations, and overall environmental damage. [1] Obviously, dealing with the consequences is much more difficult than organizing preventive ecological measures. Specialized waste boxes for separate collection of pharmaceutical packaging and expired, unwanted medications may be one of the solutions to the problem. In modern society, the promotion of this idea should be oriented towards the digital environment.

**Aim.** Determine the sufficiency and accessibility of information available in digital environment to the user about separate collection points (SCPs) for waste medicine packages (WMPs) and expired, unwanted medications.

**Objectives.** Conduct a thematic web search, analyze the websites and identify certain SCPs, special thematic campaigns on a regular basis for the collection of pharmaceutical waste, and point out the most commonly mentioned tools of public awareness enhancing.

**Materials and methods.** User path modeling of information obtaining on pharmaceutical waste disposal options and web-based content analysis: extraction of information relevant to the research question from publicly available non-restricted web content. The search was conducted on November 7, 2023 through Google Search in Russian and English. First 10 records for each language were included.



**Results.** We determined that the user gets access to the following information: the addresses of SCPs for WMPs (textual, online maps, through postal code). SCPs for WMPs are frequently located in grocery stores, shopping malls, pharmacies, hospitals, etc. There is also the information about dates and locations of pharmaceutical waste collection campaigns (official websites, institutional social media accounts).

**Conclusion.** For a confident web user. information on SCPs for WMPs is sufficient for a rapid search. The user's path is straightforward, as the necessary information is found in the first 10 search results, access is not restricted, and is presented comprehensively. Nevertheless, we did not find information about the presence of SCPs for WMPs in universities, public transport stops, subways, housing entrances, gas stations, public eating and mass events. To increase public awareness among information consumers who do not use the Internet, it is necessary to disseminate information through digital outdoor advertising and television. Unfortunately, no information on these distribution options was found. Additional research is needed.

## **Reference list**

1. Janik-Karpinska E. et al. Healthcare Waste – A Serious Problem for Global Health // Healthcare. — 2023. —  $N_{2}$  11(2). — P. 242. URL: 2023, 11(2), 242; <u>https://doi.org/10.3390/healthcare11020242</u> (access date: 07.11.23).

## INFORMATION ON SEPARATE COLLECTION POINTS (SCPs) FOR WASTE MEDICINE PACKAGES (WMPs) OBTAINED VIA THE INTERNET BY A WEB USER

