

Good practices to minimize pharmaceutical waste in hospitals



HUS Pharmacy highlights communication and collaboration within the hospital pharmacy and with departments to reduce pharmaceutical waste.

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Why was it done?

HUS Helsinki University Hospital (HUS) is the largest provider of specialized healthcare in Finland, treating nearly 700,000 patients every year. HUS has 21 hospitals in the Uusimaa region, and HUS purchases pharmaceuticals from HUS Pharmacy with over 190 million euros per year.

In 2021, HUS produced over 110,000 kilograms of pharmaceutical waste, corresponding to almost 2.5 million euros if the value of medicines and the pharmaceutical waste management costs were considered. In 2022, HUS Pharmacy, the biggest hospital pharmacy in Finland, launched a project to reduce pharmaceutical waste, both for economic and environmental reasons.

What was done?

The goal was to reduce the annual pharmaceutical waste in euros and in kilograms at HUS, primarily at the Pharmacy. Aim was also to help HUS departments to reduce their pharmaceutical waste.

How was it done?

The project team consisted of 15 pharmacists and pharmacy technicians from different units of HUS Pharmacy. The project team met monthly to review the costs and causes of pharmaceutical waste at the Pharmacy. Three main reasons for producing pharmaceutical waste were identified: expired products, surplus of cytotoxic drugs, and compounding errors.

The team discussed challenges, shared good practices and found new ideas (Figure 1). In addition, HUS departments were supported in reducing pharmaceutical waste with lectures, materials, videos etc.

What has been achieved?

The annual value of wasted pharmaceuticals at the Pharmacy decreased from 928,000 euros (year 2021) to 507,000 euros (year 2023).

The annual amount of pharmaceutical waste at HUS reduced from 112,000 kilograms (year 2021) to 101,000 kilograms (year 2023).

Also, the total cost of pharmaceutical waste at HUS, including the value of wasted pharmaceuticals, the cost of pharmaceutical waste containers and the pharmaceutical waste management costs, decreased from 2.45 million euros (year 2021) to 2.15 million euros (year 2023) (Figure 2).

What next?

The project team's work has been implemented as a part of daily practice at HUS Pharmacy. Next, we will focus even more on developing procedures that help departments to minimize their pharmaceutical waste.

Communication and collaboration between all healthcare workers are in a key role for reducing pharmaceutical waste. Waste cannot be completely avoided, but it can be reduced significantly, as our project has revealed.

Procedures must be developed further, for example early notifications from departments to the Pharmacy about changes in medical practices are critical for managing our stock. Also, having more suitable package sizes on market would help to reduce pharmaceutical waste. In addition, dose rounding, dose banding, and re-labelling of unused cytotoxic drugs can reduce cytotoxic waste and open new opportunities for the future.

What was done to reduce pharmaceutical waste at HUS Pharmacy?

- A better overview on the whole stock and pharmaceutical waste of the Pharmacy was formed;
- Internal communication was increased;
- Products were moved more actively between different locations of the Pharmacy;
- Unit-specific procedures and instructions were developed;
- Communication and collaboration with HUS departments were increased;
- Published studies were used to reduce cytotoxic waste by prolonging shelf life of drug surplus and prepared doses;
- Personnel's awareness of the topic was increased at the Pharmacy and entire HUS.

Figure 1. Examples of actions taken to avoid pharmaceutical waste especially at HUS Pharmacy.

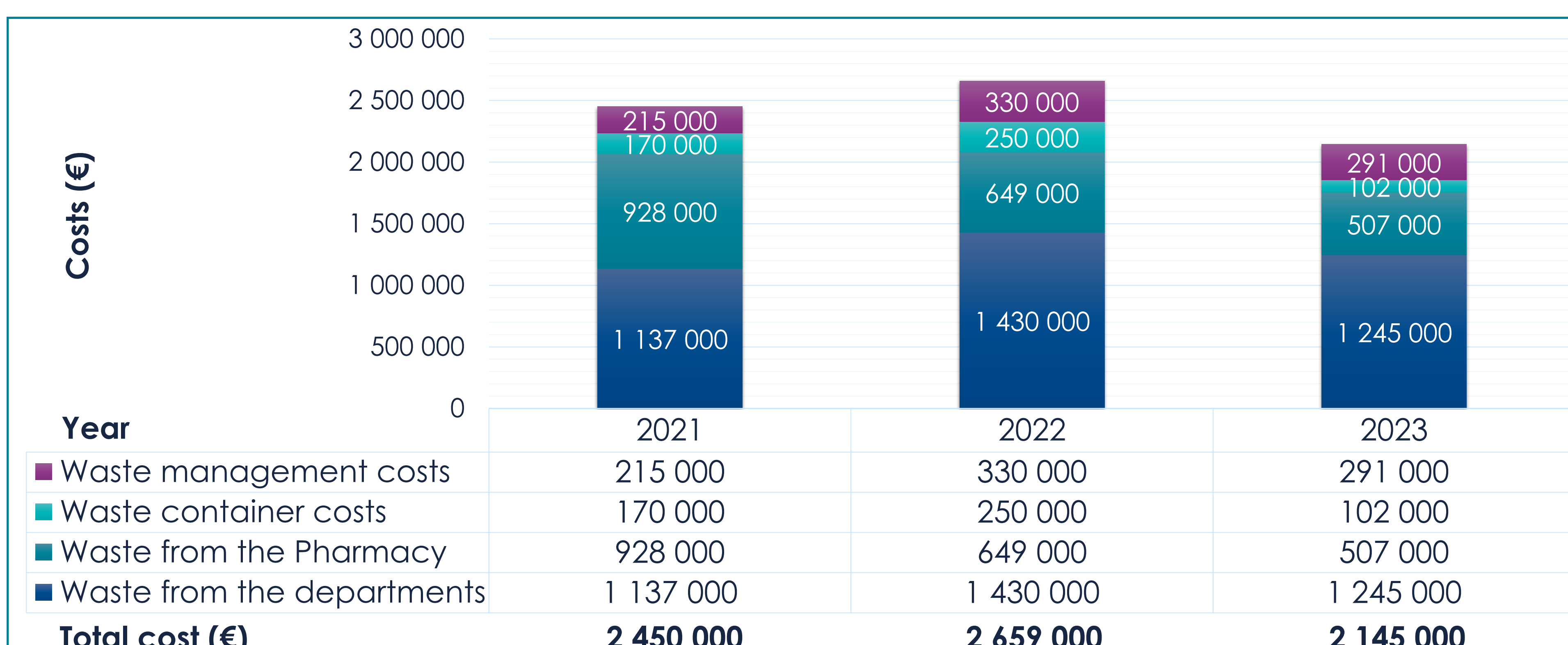


Figure 2. Total cost of pharmaceutical waste at HUS, including the value of wasted pharmaceuticals, cost of pharmaceutical waste containers and cost of pharmaceutical waste management at the HUS Pharmacy and departments in 2021 – 2023.

