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Background and Importance

- Hospitals are major waste generators. Pharmaceutical waste is **highly variable, hazardous and complex to treat**.
- In Catalonia, medicines are classified as **Group IV hazardous healthcare waste**, requiring specific containers:
 - Cytotoxic: Blue drums,
 - Non-cytotoxic: Red drums.



Aim and Objectives

- To improve environmental sustainability in the Pharmacy Department (PD) by:
 - Creating indicators for **weight, volume and density** of **non-cytotoxic** pharmaceutical waste.
 - Evaluating **efficiency** and **minimization** of waste generation.
 - Ensuring **proper treatment** and **reducing environmental exposure**.

Materials and Methods

Data collected from 2022–2024:

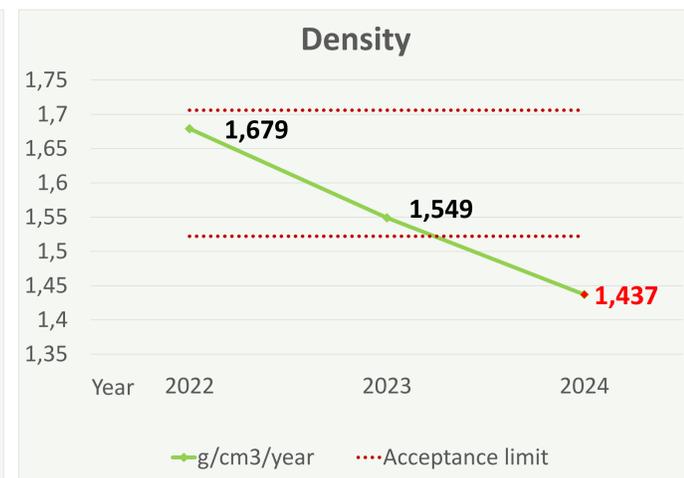
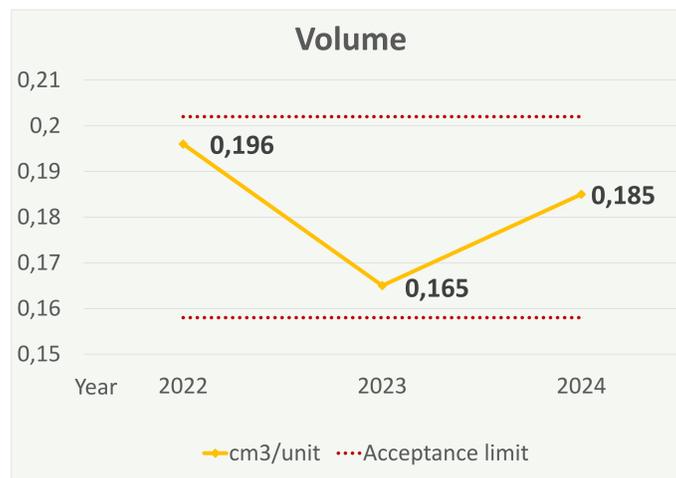
- Weight and volume of waste in red drums.
- Annual number of dispensed medication units.

Indicators calculated:

- Weight** (g/unit dispensed).
- Volume** (cm³/unit dispensed).
- Density** (g/cm³/year).

- Acceptance limits were defined using **2022–2023 average ± standard deviation**.

Results



- Density in 2024 dropped below the acceptance threshold, indicating **improper waste segregation**.

Conclusion and Relevance

- Progressive **increase in volume** and **decrease in density** per unit dispensed suggests **incorrect segregation in non-cytotoxic** waste containers.
- Low density items (e.g., cardboard, plastic blisters, gloves) are being incorrectly discarded as pharmaceutical waste and require **different classification and disposal pathways**.

Actions taken:

- Introduction of **separate paper and plastic containers** in pharmacy areas.
- Training sessions** for PD staff on correct waste handling.
- Infographic** developed to standardize proper disposal practices.

