

# Waste Gets a Face From Article to Waste

## INITIATIVE „Waste Prevention in Vienna“

The project „Sustainable Waste Prevention in Viennese Hospitals and Nursing Homes“ (Project NABKA) concerns the waste management optimisation in hospitals. The Lainz Hospital, the Socio-medical Centre at Baumgartner Höhe and the Gottfried von Preyer's Children Hospital participated in the project. Supervision was provided by the Vienna Hospital Association. Being one of the 23 approved projects out of 61 submissions, the project was funded in 2003 within the framework of the Waste Prevention Initiative.

## Waste Management in the Hospital

Compared to other service providers, hospitals prove a high and very differentiated waste generation. Therefore, both a qualitative and a quantitative waste management is required. Knowledge of the interrelations between purchased articles and generated waste is an interesting issue for hospitals, since it outlines existing action potentials in the waste management and resulting options for financial saving.

## Goal

The goal of this project is to develop the base for selection and implementation of waste prevention measures in the Vienna Hospital Association at the example and by the support of 3 hospitals, as well as to take first practical action towards the preparation of waste prevention concepts. For this, a database is built up serving as a foundation for efficiency evaluation of possible prevention measures.

## Approach

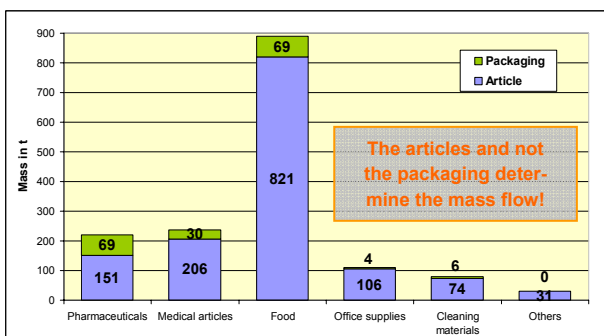
The three investigated hospitals have an annual turnover between 2,500 and 10,000 articles. An ABC analysis of these articles reveals however that only approximately 20 % of the articles are responsible for 80 - 90 % of the input mass flow.

The input-output analysis is built by considering the consumption (pieces) from the cost control and linking it with the analysis of the most relevant articles in a database: weight, composition and change during consumption are determined. This software tool „The CONNECTOR“ allows for a manifold data assessment related to: 1. qualitative or quantitative composition, 2. article, product or waste categories, 3. origin, in terms of input or output. This way, the path of an article can be described through the hospital, from the purchase till the discharge as waste, and potential weak spots can be identified.

## Where to Steer – Article or Packaging?

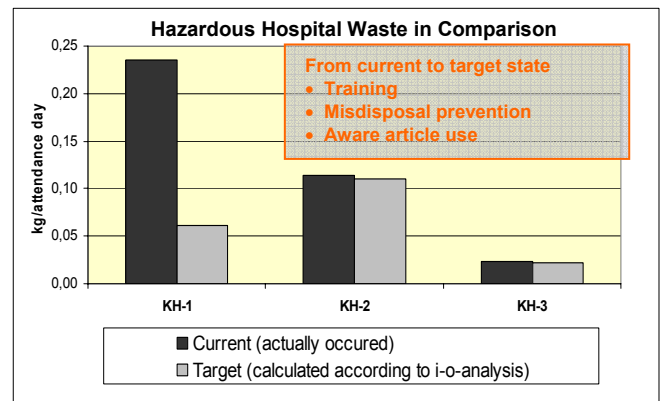
Mass and composition of the purchased articles determine the generated waste. The packaging ratio amounts to approximately 13 % and is not of relevance concerning the mass flow of the hospital. This means that not the packaging but the articles themselves determine the mass flow. Thus, an aware article selection is crucial in terms of efficiently steering the input and output flows. To this, cooperation among purchase, care, hygiene and disposal is inevitable.

Since purchase costs exceed disposal costs by a severalfold, input-related measures result also in greater financial savings. A comparison shows that food holds by far the largest share within the goods flow of the hospital, followed by articles from the medical sector (medical goods, pharmaceuticals). Measures in the administrative sector (stationery, cleaning materials, others) could hardly have any influence on the goods flow.



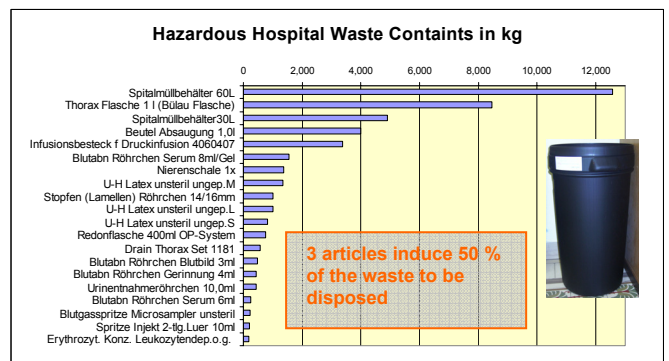
## Is the Waste Management Concept Implemented?

A comparison of the actually generated waste (current) with the theoretical amount to be disposed of (target) according to the waste management concept shows if optimisation potentials exist within article purchase, use or disposal.



## From Waste Fraction to Article

Results show which articles are crucial for the contents of the single waste fractions. Waste gets thus a face, i.e. now that the contribution of each article to the total amount is known, steering measures can be derived and implemented. This way, the base is created for an efficient waste management.



## Phasing Out PVC

Phasing out PVC containing medical articles is a target defined by the Vienna Hospital Association (KAV) due to the health risk induced by PVC. The results of the PVC balance allow for prioritising towards an efficient phasing out. By replacing only 5 articles, the total PVC flow can be crucially reduced.

- 50 % infusion set
- 13% examination gloves
- 7% oxygen mask
- 4% urine drainage system
- 4% suction catheter
- 78% reduction capability



## Benefits for the Hospital

- Material flow analysis enables the identification and quantification of **weak spots** and **waste prevention potentials** in hospitals.
- **Opportunity for success control.** As long as the database is being continuously updated, annual changes become detectable, and success resulting from implemented measures can be quantified.
- **Identification of specific environmental projects.** Within the NABKA project, specific environmental projects were identified and initiated for each hospital. The projects were developed together with the personnel.
- The **innovation** of this project is defined by the direct linking and balancing of purchase data with disposal data in the hospitals.

## INITIATIVE on Waste Prevention in Vienna