



Hospital Success Stories: Insights from Hospitals Across the EU

Introduction

In 2020, over [32 billion pounds of healthcare plastics were produced globally](#), and is expected to grow to 48 billion pounds by 2025. This continued growth will bring with it increases in healthcare plastic waste.

Most of this hospital waste is being disposed of in landfills or is incinerated. However, [85% of the hospital waste generated is non-hazardous](#), meaning it is free from patient contact and contamination. This combined with the high-quality of the plastic waste results in strong potential for recycling.

The Healthcare Plastics Recycling Council (HPRC) undertook a qualitative study to understand the barriers that exist for recycling plastics within healthcare facilities today, focusing on hospitals in Europe. Four hospitals were selected to take part in the study. The hospitals were based in the Netherlands (Linz, Utrecht), UK (Northampton) and France (Santeon). They are all public hospitals, with capacity varying from 700 to 5000 beds. The majority of hospitals were recycling waste for approximately 2 years, along with one hospital that was only starting to implement a waste management programme.

Interviews with sustainability or waste leaders were conducted between September 2023 and April 2024. The interview process was conducted via a questionnaire with guided interviews afterwards, using predetermined questions. Responses were aggregated to the following categories:

- **Materials and Products**
- **Sorting**
- **Program Implementation**
- **End of Life**
- **Economics**

Insights

After completing the interviews, compiling the results, and analyzing the findings, we summarized the key insights from each category below.

Materials & Products

Healthcare plastics sent for recycling as shown in **Figure 1** include a range of items such as single-use plastics, shrink wrap, sterile barrier, general packaging materials and irrigation bottles. However, the consistency of what is categorized as recyclable varies; for instance, irrigation bottles and plastic films are often disposed of as regular waste. Among these, recycling of sterilization wrap from the operating room is the most prevalent practice.

What Healthcare Plastics Are Your Hospitals Sorting for Recycling?

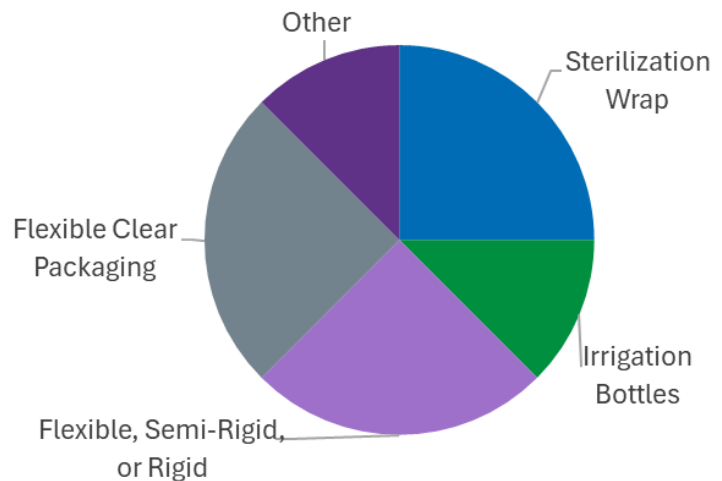


Figure 1: Types of Plastic Materials Being Collected in Hospitals

Sorting

Hospitals are making a concerted effort to encourage staff to sort materials for recycling. This sorting often occurs at the point of use, which involves some of the hospital's most costly staff. The feedback we received stated that this method is considered the most effective for waste separation. In most hospitals, waste segregation takes place primarily in the Operating Room, although some facilities have dedicated waste management rooms.

Primary challenges to effective sorting include physical time constraints and limited personnel availability.

Program Implementation

Starting off with pilot schemes paired with widespread training are the most common approaches to implementing recycling programs. In order to shift mindsets and behaviors towards waste separation, frequent information sharing and continued encouragement during meetings is essential. Successful implementation is particularly noticeable in certain hospital areas, with effective infrastructure and training in the Operating Room being critical. Anesthetists have been identified as key influencers in this process.

The main obstacles to maintaining successful programs include sustaining discipline and participation over time. Improvements such as clearer recycling labels, dedicated waste management spaces, and a new business model for handling small volumes of recyclable waste could enhance success. Hospital staff are mainly driven by the desire to make a positive environmental impact and compliance with regulations, rather than sustainability targets.

Hospitals that were interviewed are open to benchmarking against others, viewing it as a way to improve results through collaborative learning and information sharing.

End of Life

Recycling protocols stipulate that hazardous waste must be completely separated from recyclable waste streams, with no hazardous materials allowed in recyclables.

Barriers to recycling include the presence of multi-material items, low volumes of waste in some cases, complex compliance requirements, and perceptions by waste collection companies that all hospital waste is contaminated, leading to limited recycling services **(Figure 2)**.

Barriers to Recycling Ranked from Biggest Barrier to Lowest Barrier

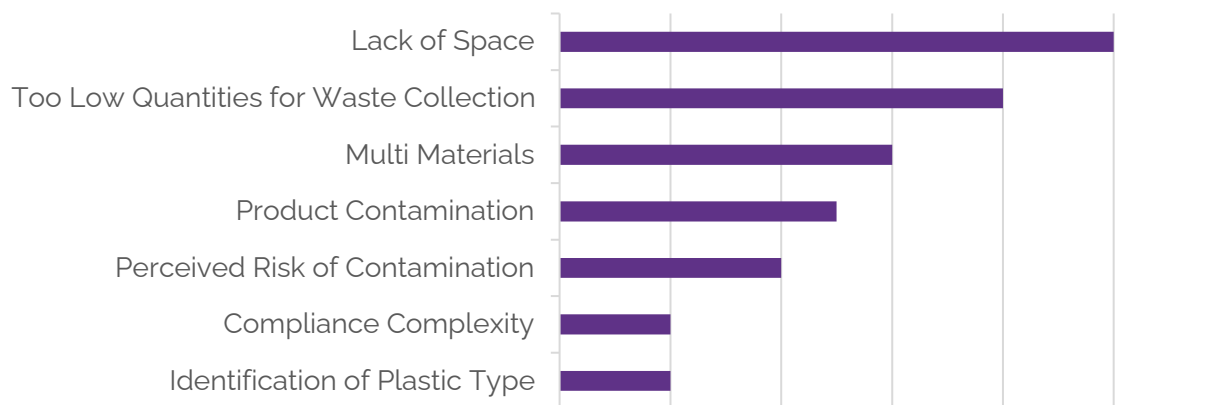


Figure 2: Barriers to Recycling Healthcare Plastics Ranked

Currently, decontamination of hazardous waste is outsourced by hospitals, as they lack in-house methods. However, advances are being explored, such as microwave heating for decontaminating waste to improve recycling rates. Some hospitals have found success recycled sterilization wrap collecting it with Greencycl to make CE certified product from it, signaling a shift from single-use plastics to reusables

Despite successes in recycling blue wrap and behavioral changes, hospitals have not seen notable improvements in the waste management stream.

Economics

The financial dynamics of healthcare plastic waste reveal that in 75% of cases, waste is either given away for free to recyclers or incurs a fee, raising questions about its financial value.

“As it stands today, the primary motivation to increase recycling of healthcare plastics is to make a positive impact, not financial gains.”

-Clare Topping Head of Sustainability Northampton General Hospital

The hospitals interviewed recycle between 50 and 200 tonnes of plastic waste annually, generating a modest income of €20,000 to €80,000.

Annually, over 900 tonnes of clinical waste and 550 tonnes of regular domestic waste are discarded by these hospitals. The calculation of recycling quantities is based on primary data, which includes universally available data and invoices from waste contractors.

Conclusion

All hospitals interviewed recognized the need to increase recycling and improve waste streams, driven by a strong purpose rather than economic incentives (**Figure 3**). There is a clear will and desire to do better. Implementing effective recycling programs involves change management, which requires discipline, training, and crucially, support from hospital management.

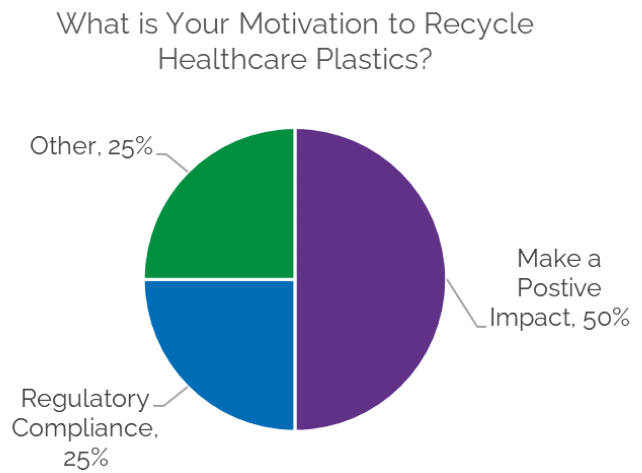


Figure 3: Motivations to Recycle Healthcare Plastics

Separation of waste, the first step in recycling, is occurring at the point of use. However, this often involves the most expensive medical staff and locations, which are space, time and human resource constrained. Simplifying the process and identifying materials more clearly were highlighted as beneficial, along with providing increased space for separation and storage is as a key enabler. If recycling waste offered better financial value for hospitals, it could further help overcome some of these barriers.

The perceived risk and complexity associated with hazardous waste are believed to deter waste collection and recycling, even though such waste can be removed and is present at low levels. Education, proper separation, and in some cases, decontamination, are essential to addressing this issue.

This assessment identified high levels of awareness in hospitals and early progress in developing sustainable solutions. It also pinpointed several key areas requiring change to enable more widespread and effective recycling in hospitals.

HPRC extends its gratitude to the hospitals that contributed their insights.

ABOUT HPRC

HPRC is a private technical coalition of industry peers across healthcare, recycling, and waste management industries seeking to improve the recyclability of plastic products within healthcare. Made up of brand-leading and globally recognized members, HPRC explores ways to enhance the economics, efficiency, and ultimately the quality and quantity of healthcare plastics collected for recycling. HPRC is active across the United States and Europe working with key stakeholders, identifying opportunities for collaboration, and participating in industry events and forums.

For more information, visit www.hprc.org and follow HPRC on LinkedIn.

