Introduction to HPRC:
A Value Chain Approach to Improving Recycling in Healthcare
March 28 & 29, 2019 | Microplastics in the Urban Environment Conference
Current State of Healthcare Plastics Recycling

- Healthcare facilities in the United States generate approximately 14,000 tons of waste per day, most of which is being disposed of in landfills or by incineration.

- It is estimated that between 20 and 25 percent of that 14,000 tons can be attributed to plastic packaging and plastic products.

- In addition, 85 percent of the hospital waste generated is non-hazardous, meaning free from patient contact and contamination.
About Healthcare Plastics Recycling Council

HPRC is a private, technical coalition of industry peers across healthcare, recycling and waste management industries seeking to...

- Collaborate across the value chain to improve recyclability and market value of plastic products and packaging within healthcare

- Provide resources, tools and shared learnings to manufacturers, hospitals and recyclers, enabling them to implement viable, safe, and cost-effective recycling solutions
HPRC is unique in its focus on identification of plastics recycling barriers and solution development along the entire value chain.

HPRC is seeking to affect plastics recycling from healthcare product design and manufacturing through product use, disposal and recycle.
Key Stakeholders

Healthcare Facility Advisory Board

Established to provide valuable voice of the customer insight to HPRC activities.

Strategic Partners

We recognize that there exists many opportunities for collaboration in the plastics recycling space.

Advocate Health Care
Ascension
Cleveland Clinic
Dartmouth-Hitchcock
Hackensack Meridian Health
Kaiser Permanente
Lehigh Valley Health Network
PLASTICS Industry Association
Greenhealth

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Common Recyclable Healthcare Plastics

Rigid Plastics

Flexible Plastics

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Our Work: Inspiring & Enabling Recycling

Completed

• Value Chain Mapping
• Product and Packaging Design Guidelines
• Hospicycle Toolkit
• Environmental Impacts of Recycling (LCA)
• Hospital Benchmark Survey
• Resin Identification Code Position Statement
• Materials Testing
• Regional Recycling Pilot
• Case Studies

Find more info at www.hprc.org

In Progress…

• Recycler Guidance for Healthcare Plastics
• Mixed Flexibles Recyclability Assessment
• Recycler Vendor Directory
• Circular Healthcare Plastics White Paper

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The Challenge with Flexible Plastics

• Up to 60% of plastic waste generated by healthcare facilities is flexible material, often composed of multi-material laminates.

• Hospital Perspective
  – “There is A LOT of this stuff and no one will take it!”

• Recycler Perspective
  – “We are not sure what these materials are, how to process them or who will buy them!”

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The Project with UMass-Lowell

A Mixed Flexibles Recyclability Assessment

• Determine viable strategies for recycling multi-material flexible plastic
• Test whether commercially available compatibilizers improve blend properties
• Identify potential end market applications for the recycled product
The Process in Photos
Key Learnings

Successes

• **Material Collection:** Effective sorting processes exist (but requires diligence)
• **Pre-Processing:** Technology is effective at removing non-conforming material (the quality and consistency of pellets exceeded expectations)
• **Testing:** Conclusions suggest potential applications (and compatibilizers help!)

Current packaging materials don’t pose any significant recycling challenges.

Challenges

• **Material Collection:** With the wide range of materials, sorting process can be labor intensive
• **Pre-Processing:** Contamination remains an occupational concern when dealing with healthcare waste streams
• **Testing:** Results show potential uses for PE and PP streams, but stream consistency to attract buyers is a challenge

Assuming we can resolve consistency issue, we still need to meet volume/supply expectations.