BMC Health System + Takeda: A First-of-its-Kind Collaboration

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Boston Medical Center **HEALTH SYSTEM**

The patients we serve are disproportionately minority and low-income



~70% identify as people of color

36% African American

28% Hispanic or Latino

> 50% have an annual household income below \$20,400 (close to the federal poverty line for a family of three)

~30% use a primary language other than English

Sustainability is Core to Our Mission

SUSTAINABILITY IS NOT HEALTHCARE

REWRITINGHEALTHCARE

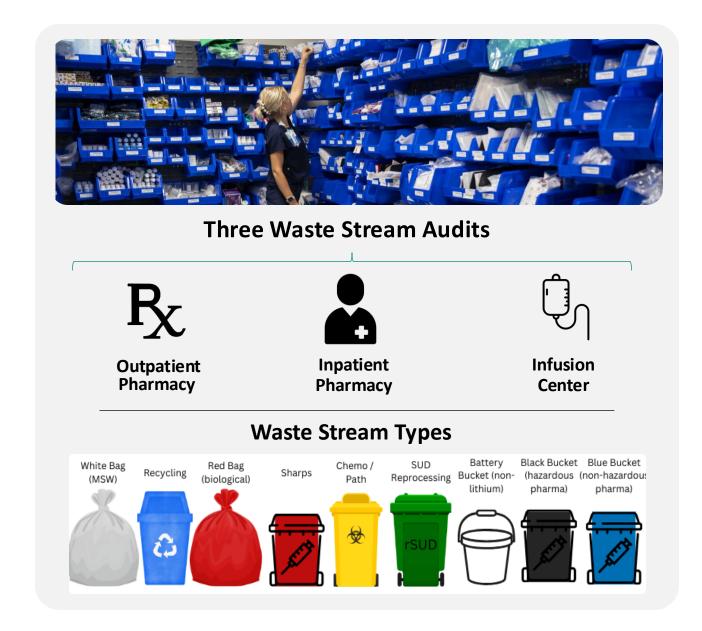


BMC + Takeda: Collaboration Objectives

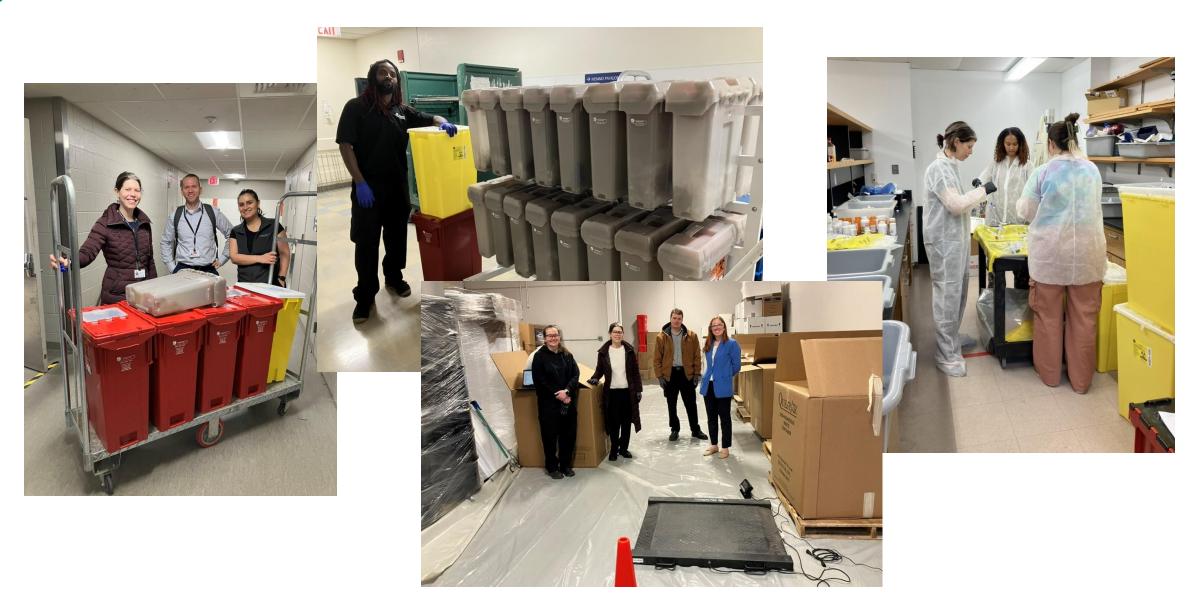
- **1. Tackle Carbon Emissions** from Regulated Medical Waste, including pharmaceutical packaging.
- **2. Develop pilots** at BMC to implement sustainable practices and measure impact.
- 3. Develop scalable models that can be shared broadly across the healthcare sector—accelerating progress toward decarbonization across the healthcare industry.



Year 1: Waste Audits



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Waste Audit Findings: Inpatient Pharmacy Preliminary Opportunities

Reduce



Opportunity to Reduce and Reuse

- **72% of IV bags** were discarded unused—an opportunity to streamline workflows for greater efficiency.
- 14 kg of plastic bags are discarded in the inpatient pharmacy each day, presenting an opportunity substitute reusable or compostable options.

Recovery



Enhance Recovery

- Advanced recycling techniques can be engaged to handle complex multimaterials items such as glass vials.
- Syringes, particularly those without needles, can be recycled separately to recover medical-grade plastic, which can be repurposed into new medical grade plastic products.

Sorting



Improve Sorting of Red Bag Waste/Sharps

- Red bag waste causes higher greenhouse gas emissions, requiring transport to a sterilization facility before being shipped again to a final waste facility.
- Only 15% of items in the red bag waste stream were correctly sorted. The most
 common missorted item was intact glass vials, which should not be classified as
 red bag waste and could instead be recycled.

Redesign



Innovate Blister Pack Materials

- Accounting for 25% of pharmaceutical packaging waste, blister packs are produced from a mix of foils and plastics, making recycling extremely difficult.
- Innovation is needed to redesign blister packs with circularity in mind.

Mapping Emissions Reduction Opportunities

Redesign

