



# M Health Fairview



**Fanuel Akakpo Ayewanou**  
Public Health  
University of Iowa

## Organization Background

M Health Fairview University of Minnesota Medical Center – East Bank is located in Minneapolis and is the state’s only university-affiliated academic medical center. The facility is owned and operated by Fairview and supports medical education, research, and advanced clinical cases. In recent years, sustainability—especially reducing the environmental impact of operating rooms (ORs)—has become an important institutional priority.



*“During my internship, I enjoyed exploring the environmental challenges within hospital operations and learning how to integrate sustainability into healthcare. This experience strengthened my knowledge of sustainable practices in clinical settings and prepared me to drive impactful changes in future healthcare environments. I’m deeply thankful to MnTAP and M Health Fairview Hospital for the opportunity to contribute and grow.” FAA*

## Project Background

ORs are one of the most resource-intensive areas in healthcare and generate significant amounts of medical waste, stemming from surgical kits, drapes, packaging, and anesthetic gases. M Health Fairview – East Bank partnered with MnTAP to investigate opportunities to reduce OR waste and improve efficiency. MnTAP chose Coronary Artery Bypass Graft and Robot-Assisted Hysterectomy procedures as representative cases to evaluate waste generation, identify recyclable materials, and assess resource optimization and waste management strategies.

*“The focus for our MnTAP intern, Fanuel, was one of great complexity within our organization. Her ability to collaborate across teams, document current practices, and evaluate both the resources required and the potential benefits provided valuable insights to guide our priorities for sustainable waste and energy reduction. This was the second MnTAP intern our organization has hosted, and we continue to be highly impressed with the quality of the program and the guidance provided by MnTAP advisors.”*

*Sandy Laffan, MBA, Vice President,  
Fairview System Facility Services*

## SOLUTIONS

### Replace Disposable Gowns and Drapes with Reusables

Disposable surgical gowns and drapes make up a significant share of OR solid waste. Over 4,100 pounds of waste, including from gowns and three types of drapes alone, were estimated based on visual observations of procedures, weighing of total waste volume, physical sorting of waste streams, and analysis of supply chain purchasing records to estimate annual usage volumes. In collaboration with the Health Service Cooperative Laundries (HSCL), reusable alternatives were evaluated, and a cost analysis revealed higher expenses from laundering and replacement costs being factored in. Staff also expressed concerns over infection control and workflow changes. To address these, a phased pilot project focused on specific procedures is recommended to test feasibility, collect staff feedback, and monitor environmental impact before broader adoption. In general, greater adoption of reusable alternatives could lower HSCL costs through economies of scale. If implemented, this could save 4,100 pounds of waste per year.

# Solutions

## Promote Better Separation and Recycling of Soft Plastics

A waste audit revealed that clean, non-contaminated plastics (e.g., irrigation bottles, trays, and medical packaging film) are often discarded as trash even though they are recyclable. After systematically sorting plastics, it was estimated that approximately 65,400 pounds could be recycled annually. Expanding the hospital's existing partnership with Merrick, Inc. could divert these plastics at no added cost as Merrick can process soft plastics. Fostering staff engagement through creating clear sorting guides and pre-operative reminders will be key to success. The program has the potential to divert 65,400 pounds of waste from the landfill and save \$3,300 per year.

## Optimize Air Exchanges in the ORs

ORs must always maintain high ventilation rates to meet infection control standards, but this results in significant wasted energy in unoccupied spaces. Three optimization scenarios that reduced air changes per hour (ACH) during unoccupied periods were evaluated. Of the three, the moderate approach is the most ideal due to balancing significant energy savings with operational feasibility and safety. Motion-sensor controls would detect room occupancy and automatically restore full ventilation when staff or patients enter, ensuring infection prevention requirements stay intact. This moderate strategy would save 550,000 kWh of electricity, 33,500 therms of natural gas, and \$113,000 annually.



Recommendation	Annual Reduction	Annual Savings	Status
Replace disposable gowns and drapes with reusables	4,100 lbs. waste	NA	Recommended
Promote better separation and recycling of soft plastics	65,400 lbs. waste	\$3,300	Recommended
Optimize air exchanges in ORs	550,000 kWh 33,500 therms	\$113,000	Recommended

**MnTAP Advisor:** Logan Wikstrom, Associate Engineer