

UNITYPOINT HEALTH - DES MOINES

DES MOINES



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COMPANY BACKGROUND

UnityPoint Health is an integrated healthcare system that encompasses 15 hospitals and more than 280 clinics throughout Iowa and western Illinois. UnityPoint Health - Des Moines is part of that network and includes Iowa Methodist Medical Center, Blank Children's Hospital, Iowa Lutheran Hospital, and Methodist West Hospital. UnityPoint Health - Des Moines prides itself on the treatment it provides in the areas of cancer, cardiology, trauma and emergency, physical rehabilitation, maternity care, behavioral health, orthopedics, weight loss, pediatrics, sports medicine, and radiology.

PROJECT BACKGROUND

The objective of the project was to reduce the amount of hazardous waste generated and lessen the environmental impacts resulting from incineration of the waste. Two of the largest sectors of the hazardous waste stream are pharmaceutical waste and aerosol waste. The intern examined both of these components for reductions and also identified opportunities to impact the solid waste stream at the facility.

INCENTIVES TO CHANGE

UnityPoint Health - Des Moines strives to be an environmentally friendly institution and has implemented several waste-reduction and green initiatives. The pharmaceutical waste program is relatively new and has not been examined for improvement. There are both economic and environmental benefits to improving waste segregation and reducing the volume of the waste stream. Hazardous waste disposal costs approximately 77 times more than regular trash and is incinerated instead of being landfilled.



RESULTS

Liners in Hazardous Waste Containers: In the pharmacies at UnityPoint Health - Des Moines, 18-gallon bins are used to collect pharmaceutical waste including half-used vials of drugs. These bins are incinerated along with the waste after only a single use. By using liners and then re-using the bins, UnityPoint Health - Des Moines could save \$5,303 and 0.33 tons of pharmaceutical waste each year.

Education Campaign: Clear signage in waste segregation areas could help clarify segregation procedures of the hazardous and non-hazardous waste streams. Keeping non-hazardous materials from the hazardous waste collection containers could save the facility \$8,676 annually in disposal fees.

Pyxis Drug Relocation: Pyxis machines are located on nursing floors and automatically dispense the correct drug when a nurse keys in their credentials and selects the patient. Expiration of drugs is a significant problem in these machines, resulting in drugs being disposed of before use. The intern recommended a system for relocating 18 high-cost and high-expiration-rate drugs to floors with frequent use. This could save Iowa Methodist Medical Center \$39,842 each year in pharmaceutical costs. Cost of disposal adds an additional \$3,785.

Aerosol Recycling: Throughout the facilities at UnityPoint Health - Des Moines there are several thousand wall-mounted aerosol hand sanitizers. When empty, these are disposed of through the solid waste stream. The intern recommended these sanitizers be recycled. This would have negligible economic savings, but would save 0.8 tons of solid waste each year from the landfill.

PVC-Free IV bags : PVC production, use, and destruction can present several health and environmental risks. Changing just 6 types of IV bags at the facilities over to PVC-free alternatives would greatly reduce these risks and cut the solid waste stream by 7.05 tons each year. While there is no tangible economic benefit to this change, there are substantial intangible benefits that make this project worth pursuing.



CONVENTIONAL AIR POLLUTANTS AND GREENHOUSE GASES DIVERTED IN METRIC TONS

TOTAL FOR ALL SECTORS							
CO ₂	SO ₂	CH ₄	N ₂ O	CFC	NO _x	VOC	PM ₁₀
32.10	0.04	2.02	0.78	0.69	0.04	0.03	0.01

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
LINERS IN HAZARDOUS WASTE CONTAINERS	\$5,860	0.33 TONS	IN PROGRESS
EDUCATION CAMPAIGN	\$8,676	1.11 TONS	IN PROGRESS
PYXIS DRUG RELOCATION	\$43,627	0.55 TONS	RECOMMENDED
AEROSOL RECYCLING	NEGLIGIBLE	0.8 TONS	RECOMMENDED
PVC-FREE IV BAGS	—	7.05 TONS	RECOMMENDED

