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Resource Management:

The hauler and generator work together to reduce overall waste generated, increase reuse, diversion and recycling. Costs and benefits are shared which aligns the incentives of the hauler and the generator, enabling both to benefit from increased waste reduction and recycling.

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Hospital Case Study - Resource Management

The Lemuel Shattuck Hospital, Jamaica Plain, MA

Summary: *The Lemuel Shattuck Hospital in Jamaica Plain entered into a Resource Management plan with Save That Stuff in 2003. They have since renewed their contract and commitment to waste reduction, recycling and food waste diversion. Using space wisely and instilling recycling expectations with the staff have been their keys to success.*

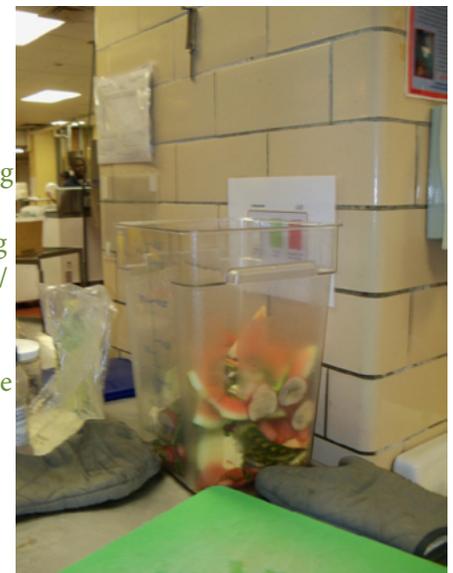
Business Profile: The Lemuel Shattuck Hospital (Shattuck) is the primary provider of outpatient and inpatient services for the MA Department of Public Health in the Metropolitan Boston area. Shattuck is a fully accredited teaching facility, providing a wide array of mental health, substance abuse, and human services, with 278 inpatient beds.

Program Evaluation: Before Resource Management, the hospital disposed of an estimated 807 tons of material from July 2002 to June 2003. Each operating unit at Shattuck consolidated trash in central areas throughout the hospital. Trash was collected daily by the custodial/environmental staff, and transported to one of the two vendor-leased compactors. The paper recycling program used a system of slotted lock-top bins placed throughout the hospital, which were collected by hospital facilities staff as needed and brought to a secure area before pick-up by the paper vendor. This system accommodated both confidential and general paper recyclables.

Plan Improvements: Shattuck awarded the contract to Save That Stuff (STS), one of the state contract recycling service vendors in June of 2003. STS subcontracted trash disposal for the hospital. Resource Management contracting allows the hospital and hauler to share in the market fluctuations of the recyclable commodities.

Implementation: Improvements made to the waste management program include:

- Replaced 35 yard compactor with 40 yard compactor. Reduced service level from 3x to 2x per week resulting in \$400/month savings.
- Eliminated 40 yard dumpster for bulk debris resulting in savings from dumpster rental (approximately \$100/month), hauling and disposal costs. A temporary dumpster is rented as needed. Reducing the availability of an extra dumpster also increased compliance with the existing recycling program.
- Added recycling programs for cardboard, comingled containers, food waste, scrap metal, pallets and electronics.
- Pre- and Post-consumer food waste is collected and measured in the cafeteria by the food service vendor,



Counter top compost bin



Bottle and Can recycling container

Aramark. Clear plastic counter top bins are emptied into large rolling barrels for easy movement to the loading dock.

Signage: In the cafeteria, there are clearly labeled containers for recycling bottles and cans.

Employee Training: The majority of source separation is performed by hospital staff and transported by facilities staff to the proper locations. Having trained, dedicated staff for these duties reduces contamination. The cross-functional “Green Team” provides a forum for dialogue between STS and staff. The team was formed to identify continuous improvements, follow up on those improvements and ensure accountability.

Communication: STS provides monthly transparent billing broken into individual waste streams documenting waste minimization, recycling progress, performance, costs and shared resource management savings.

They identify fluctuations due to file paper purges, equipment replacements or construction projects. STS assists Shattuck when odd requests arise. Large obsolete pieces of equipment are first placed on the state reuse lists. If necessary they can be recycled as scrap metal and the commodity revenue shared between Shattuck and STS. STS and Shattuck are in periodic contact about current services, revised regulations and new opportunities.

Program Results:

| | 2003 | 2010 | 2011 | 2012 | Notes-Changes |
|----------------------|------|------|------|------|--|
| Trash | 807 | 625 | 622 | 608 | Waste continues to decline |
| Recycling Totals | 14 | 140 | 138 | 167 | Recycling rate has nearly tripled to 19.85% |
| Documents | 13 | 34 | 36 | 43 | On call pickup of secure documents for shredding |
| Cardboard | 0 | 37 | 39 | 53 | Baler on loading dock, bales average 250 pounds each |
| Food Waste | 0 | 25 | 17 | 19 | Sent to local composting facility |
| Wood Pallets | 0 | 16 | 11 | 18 | On call pickup |
| Scrap Metal | 0 | 17 | 20 | 29 | On call pickup or use of temporary dumpster |
| Electronics | 0.7 | 2 | 5 | 3 | On call pickup. Weights have decreased with newer flat screen monitor design |
| Comingled Containers | N/A | 9 | 10 | 3 | Rigid plastics are included with containers |

other items recycled but not included in recycling rates are: Construction/Demolition debris and Vegetable Oil

The food service vendor, Aramark, has undergone their own waste reduction program. Between 2010 and 2011, they dramatically reduced their food waste with improved meal preparation estimation, and use of leftovers in soups or new recipes.

Shattuck is applying resource management to medications through new technology. Pyxis Med Station dispensing machines are loaded daily by the staff pharmacist and delivered to the units, avoiding the need to fill complete prescriptions, maximizing pill distribution efficiency and reducing pill waste.

Evaluation: Shattuck and STS share in the material revenue fluctuations or costs and have saved \$32,000 in solid waste management costs over the last 10 years, and will continue to share in future savings across all of Shattuck’s resource managed materials. Success should not be measured in dollars alone. The volume of cardboard and organics diverted from the trash stream has increased 5-fold since the project began. Resource management is a waste reduction service for managing resources in economically and environmentally responsible ways.

Keys to Success:

- Program success was achieved by controlling costs through better management of recycling and trash systems.
- STS provides transparent billing. Waste and recycling tonnage and costs are broken down by material stream, and quarterly reports are provided which document waste minimization, /recycling progress, performance, and costs/savings .
- Shattuck established a cross-functional “Green Team” that provides a forum for dialogue among STS and staff.
- The Facilities Manager at Shattuck now manages one contractor for recycling and trash, saving time and resources.

Next Steps:

- Increase signage and recycling opportunities in other locations around the hospital.
- Recycle textile clothing from donation room.
- Add leaf and yard waste debris to food waste collection program instead of self-transporting to off site facility.
- Revitalize Green Team meetings with hospital stakeholders and hauler to further reduce disposal and increase diversion.

Tips for Replication:

- Use the Resource Management template available on the MassDEP website
- Initiate a cross functional Green Team and include your hauler representative.
- Monitor your waste, recycling bins and reports. “What gets measured, matters.”