



THE HEALTH CARE IMPROVEMENT FOUNDATION
Building Partnerships For Better Health Care

HOLY REDEEMER HEALTH SYSTEM

Waste Minimization Program

Holy Redeemer Health System implemented a waste minimization program to decrease waste volume and disposal cost. The waste minimization program targeted red bag waste (RMW), municipal solid waste (MSW) and recycled material (RCY). Program objectives were to reduce waste volume and disposal expenses while increasing the volume of recycled material. An initial waste stream assessment was conducted, including:

- Hospital policy and regulatory review -- alignment of hospital waste disposal policies with governing regulations.
- Material waste audits determined percentage of appropriate/inappropriate material within each waste stream.
- Reviewed size, placement and service frequency of internal waste collection receptacles for RMW, MSW and RCY.
- Established base volume and disposal cost for RMW, MSW and RCY.
- Reviewed waste disposal service agreements to determine opportunities to lower disposal fees and to reduce cost through increased logistical efficiencies. Through a competitive bid process and switching haulers, RMW disposal cost per pound was reduced.
- Analysis of MSW volume determined opportunity to increase weight per pull from 6-tons to 10-tons which decreased the number of pulls per week from five to three. Reducing pick-ups saved fuel, pollution and, at \$140 per pull, \$14,000 per year.
- The table below compares *base* volume and cost with current volume and cost in each waste category:

	Base 2005		2008 Dec-Nov	
	<u>Tons</u>	<u>Cost</u>	<u>Tons</u>	<u>Cost</u>
RMW	187	\$111,456	46	\$ 28,702
RCY	78	\$ 43,239	276	\$ -
MSW	1765	\$153,455	1596	\$143,675

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Program implementation included the following key elements:

- Leadership Support was important to program success. Equally critical to program success was to clearly communicate opportunities and objectives and to solicit input and support for the proposed implementation plan. To this end, preliminary meetings were conducted with Senior Leadership as well as Infection Control and Safety Committees. Additionally, program opportunities were presented at clinical and administrative department head meetings. Follow-up meetings were held with each department head to review department-specific waste stream assessments with opportunities and objectives and develop implementation plans.
- Initial staff training was conducted for all staff on all shifts. Depending on results, supplemental staff training was provided as necessary.
- All internal waste streams were reengineered. Receptacles for RMW, MSW and RCY were sized, placed and labeled with instructions so as to maximize appropriate source separation of RMW, MSW and RCY material.
- Visual aids, including receptacle labels and posters, provided program reinforcement.
- Articles in employee newsletters provided information about the waste minimization program as well as feedback, thanks and encouragement.
- Routine audits of waste streams insured compliance.
- Monthly progress reports monitored base, target and actual volume and cost for RMW, MSW and RCY.
- The Environmental Protection Committee of Redeemer (EPCOR) is comprised of multidisciplinary organizational leaders to provide program oversight and direction. EPCOR initiatives include:
 - Eliminate mercury from clinical products and utilize low-mercury lighting;
 - Lead acid battery recycling;
 - Recycling of motor and cooking oil;
 - Shipping Pallet recycling;
 - Use green products for boiler-room parts cleaning;
 - Recycle alcohol in lab;
 - Replaced B5 fixatives and zinkers with non-mercury substitutes;
 - Replaced glutaraldehyde with OPA;
 - Recycle 80% of compression sleeves used in surgery;
 - Reprocess 40% of all surgical trocars, surgical wands and shavers.
 - Implemented Haz Mat disposal of residual epinephrine.
- Confidential document destruction. Converted from onsite shredding to pulping at a local bonded paper mill that provides certificate of destruction, recycle volume reports and \$43,000 savings. Universal precautions are applied, and all paper is collected in locked totes, increasing the volume of recycled paper. Program savings enabled procurement of additional recycle receptacles for placement in most patient care and administrative areas.

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Housekeeping staff collects recycled material in 95-gallon locked totes and places onto a 50-foot trailer which is located at the trash dock. The trailer is filled and exchanged weekly by the local paper mill.

- Implemented food waste composting.
- Re-engineered trash dock -- moved a 40-cubic yard container for RMW away from the dock, replacing it with a 50-foot trailer for collection of baled cardboard confidential documents.
- Some of the program savings were used to procure and install trash compactors in trash rooms throughout the hospital, increasing internal storage capacity and collection efficiency.
- RMW receptacles were downsized and/or eliminated as appropriate.
- Collection of RMW, MSW and RCY is accomplished without staffing additions. RMW volume decreased as RCY volume increased.

Program objectives and progress were shared with the community through television interviews and local newspaper articles. Facility tours and program review were hosted for clinical and support staff from other hospitals and encouraged their implementation of similar programs.