

CASE STUDY

Metro Health Hospital, Wyoming, MI: Medical Device Reprocessing



Demographic Information:

Metro Health Hospital is a 208-bed hospital located in Wyoming, Michigan. It serves the Grand Rapids region and surrounding areas. Metro Health offers a broad range of services and specialty services at its facility.¹ Metro Health Hospital has 10 operating rooms for a total OR suite footprint of 8,890 square feet, and performed 12,740 surgeries in 2010.

Executive Summary Statement:

Metro Health has a robust sustainability program and was the first hospital in Michigan to hire a Sustainable Business Officer, in 2006. The hospital is housed in a brand new LEED Certified building that came online in 2008, and was a leader in advancing green building principles in healthcare. Metro Health is also one of a small group of hospitals nationwide inducted into Practice Greenhealth's Environmental Leadership Circle—in 2009. Metro Health had been evaluating a myriad of ways to reduce the environmental impact of its operating rooms (ORs), and reprocessing of single-use devices was seen as a vital part of that focus. Reprocessing allowed the hospital to not only reduce its waste, but also reduce its supply costs for single-use medical devices. The project team consisted of the materials management, the central processing department, OR and Metro's sustainability officer. The initial program, rolled out in 2008 utilized two vendors, one for reprocessing invasive single use devices and the other for reprocessing non-invasive single-use devices. One of the biggest complaints with staff was not knowing which single-use device item went to which vendor. The hospital switched to one vendor in 2010, hoping to increase staff compliance and savings with the new vendor, and increase the amount of material reprocessed. Metro Health realized cost savings of \$75,978 in 2008, \$84,825 in 2009, and \$75,000 in 2010 due to reprocessing of single-use medical devices.

SAVINGS FROM REPROCESSING SUDS

Includes: harmonic scalpels, orthopedic burrs, and orthopedic cannulas/trocars

- | | |
|------------------|-------------------------|
| ■ 2008: \$75,978 | ■ 2010: \$75,000 |
| ■ 2009: \$84,825 | Total: \$235,803 |

The Problem:

Large portions of the waste disposed of by the OR are comprised of disposable medical devices. The OR utilizes some of the most expensive devices across the hospital, with some studies estimating that more than 50% of the OR's budget is spent on supplies.² ORs have increased their use of single-use medical products due to concerns over infection prevention, sterility, and ease of use. It is estimated that single-use devices will grow steadily at 4.6 percent annually reaching \$59 billion dollars in 2013.³ Staff witnessed how these expensive devices were opened, used once and were also aware of the huge volumes of waste leaving the OR. If not reprocessed, many of these devices would have left the hospital as regulated medical waste, which can average \$963 per ton⁴ and have a range of negative environmental and public health impacts through the treatment and disposal process.

Strategy & Implementation:

Metro Health is committed to sustainability and has implemented a variety of efforts since 2000. Tracy Humphreys, Central Processing Department Manager and Jim Jednak, Director of Materials Management, initiated the implementation of reprocessing, and led the team with John Oudshoorn, Director of Surgical Services. The hospital began reprocessing single-use devices in 2008, focusing on sustainability and cost savings. Since then, Metro Health has saved \$235,803 dollars from reprocessing single-use devices. Some of these employees had experience with single-use device reprocessing and were able to lead Metro Health during the implementation phase.

The hospital used the knowledge of Oudshoorn and Humphreys, who collaborated and implemented a medical device reprocessing program at a facility prior to coming to Metro Health, and were the key implementation leaders. Their previous experience was vital in implementing the program at Metro Health. They used the same strategy as in the previous facility and presented to the staff on infection control procedures and the quality assurance process to emphasize the safety of medical device reprocessing. The team eased the transition by arranging for an employee from the reprocessing facility to come to the OR for one week and talk with staff and surgeons. Metro Health held an In-Service to train OR and Central Sterile staff on identifying which materials should be shipped directly for reprocessing, and which required pre-cleaning prior to shipping to the reprocessing facility.

Upfront costs were few when the program rolled out, since Metro Health employees only had to package and ship devices to the reprocessing facility, and Metro Health was not responsible for packaging or shipping fees. The only cost associated with mailing the devices was manual labor, which was minimal. The vendor actually comes onsite to the hospital and collects the devices for reprocessing. Metro trains and educates its staff on identifying which materials should be shipped for reprocessing. Metro Health realized \$75,000 savings in purchasing costs in 2010 by purchasing reprocessed devices. Metro Health estimated that 1.8 tons of waste was diverted from landfills due to reprocessing and realized a \$900 savings from avoiding RMW disposal fees in 2010. The decline in savings in 2010 from years 2008 and 2009 results from items not being reprocessed during the two-month conversion to the new vendor.

Benefits:

- Cost savings of \$235,803 from purchasing reprocessed SUDs between 2008 and 2010
- 1.84 tons of waste avoided due to reprocessing in 2010.
- Avoided \$900 in regulated medical waste disposal fees in 2010.
- Corporate goal: 40% recycle rate

	Reprocessed Devices	Rejected Devices	Customer Yield
Materials Management	2111	550	79%
Babcocks	15	11	58%
Harmonic Scalpel-5mm Coag Shears-Ethicon	1	4	20%
Harmonic Scalpel-5mm Shears	78	25	76%
Lap Instruments/Graspers/Dissectors-COLD	6	6	50%
Lap Instruments/Graspers/Forceps-HOT	2	5	29%
Orthopedic Shaver - Blade	96	125	43%
Orthopedic Shaver - Blade Smith&Nephew 7205305	202	51	81%
Orthopedic Shaver - Blade Smith&Nephew 7205306	12	0	100%
Orthopedic Shaver - Blade, Bonecutter Full Radius	103	0	100%
Orthopedic Shaver - Burr	8	13	38%
Saw Blade-Dual Cut	6	0	100%
Scissor/Grasper Tips	672	0	100%
Shaver ENT Gyrus	53	29	65%
Trocar Complete-Bladed	9	5	64%
Trocar Complete-Bladed-Auto Suture 179094F	345	43	89%
Trocar Complete-Bladed-Auto Suture 179095P	4	0	100%
Trocar Complete-Bladed-Auto Suture 179095PF	43	7	86%
Trocar Complete-Bladed-Auto Suture 179096P	37	3	93%
Trocar Complete-Bladed-Auto Suture 179096PF	1	0	100%
Trocar Complete-Non-Bladed	167	13	93%
Trocar Complete-Non-Bladed-Auto Suture 179075P	0	4	0%
Trocar Complete-Non-Bladed-Auto Suture 179775P	51	16	76%
Trocar Complete-Non-Bladed 11MM XCEL	47	15	76%
Trocar Complete-Non-Bladed 5MM XCEL	37	57	39%
Trocar Reposable Sleeve/Cannula	19	7	73%
Trocar Reposable Sleeve/Cannula-Auto Suture 179101	6	0	100%
Trocar/Cannula-Orthopedic	84	40	68%
Vessel Sealer-LS1020	4	18	18%
Vessel Sealer-LS1037	3	9	25%

Metro Health receives a report from its reprocessing vendor each month that highlights the percentage of devices accepted for reprocessing and those rejected

Challenges and Lessons Learned:

Metro Health initially faced some resistance from surgeons. The team received executive approval to implement the program and the Physician's Chief of Staff signed the approval making the use of reprocessed devices mandatory for all physicians. Engagement of the surgeons earlier in the process would likely have resulted in a smoother transition, and eliminated the need for mandates.

Metro Health is pleased with its performance thus far. In addition to its current SUD reprocessing, Metro Health is currently assessing whether they can reprocess selective endoscopic discectomy sleeves and whether SUD reprocessing can be expanded to the endoscopy services. These services are located in a building that is separate from Metro Health Hospital. Metro Health is committed to reducing waste in all areas of its facility and continues to look for new opportunities.



Perioperative staff at Metro Health showcase instruments collected from the OR for reprocessing.

Endnotes

- 1 "Services | Metro Health." *Expert Care. Made Easy.* | Metro Health. Web. 9 Mar. 2011. <http://www.metrohealth.net/locations/hospital/services>.
- 2 Park, KW and Dickerson, C. *Can efficient supply management in the operating room save millions?* Current Opinion in Anaesthesiology. 2009. Vol. 22. Pp:242–248. Accessed on March 21, 2011.
- 3 "Demand for Disposable Medical Supplies to Increase - Specialty Fabrics Review." *Home - Specialty Fabrics Review*. Web. 19 Mar. 2011.
- 4 Practice Greenhealth. *Sustainability Benchmarking Report*. 2010. Available at: www.practicegreenhealth.org

Practice Greenhealth would like to thank intern Ms. Anuja Deo, MBA Candidate in Healthcare Management at George Washington University for her great work in producing this case study.



**PRACTICE
Greenhealth**

Practice Greenhealth • 12355 Sunrise Valley Drive, Suite 680 • Reston, VA 20191 • Ph: 888-688-3332
E-mail: greeningOR@practicegreenhealth.org • www.practicegreenhealth.org



The Greening the OR™ Initiative is defining best practices in the OR to reduce environmental impact, reduce cost, increase efficiency, and improve worker and patient safety. Practice Greenhealth is grateful for the support of a number of sponsors of the Greening the OR™ Initiative. For a complete list, please visit: www.GreeningTheOR.org

© 2011 Practice Greenhealth.