

2013 Case Study

Via Christi Hospitals Wichita, Inc.

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Wichita, Kansas



Company background

In 1890, the Sisters of the Sorrowful Mother took charge of St. Francis Hospital and in 1925, the Sisters of St. Joseph assumed ownership of Wichita Hospital on East Harry. Via Christi Health was ultimately founded by the Sisters of the Sorrowful Mother and the Sisters of St. Joseph consolidating their healing ministries in 1995. Now Via Christi Health comprises of a variety of healthcare facilities that include hospitals, rehabilitation facilities, senior-care villages, physicians' clinics, immediate-care facilities, and other health service facilities with an employee count of more than 10,000. Via Christi Health is therefore the largest healthcare provider in the state of Kansas. On April 1, 2013, Via Christi joined the Ascension Health System, which is the largest Catholic, non-profit health system in the nation. The ultimate Via Christi mission is inspired by gospel and Catholic tradition to serve as a healing presence with special concern to all neighbors who are vulnerable.

Project background

The main guideline for the project was the "Greening the OR" document found through Practice Greenhealth. Kwaramba's internship consisted of waste reduction, water conservation, and energy-efficiency projects. These included a waste-segregation audit of surgery waste, a lighting audit to investigate lighting use in the surgery area, a sterilizer audit to explore the efficiency of the models of sterilizers currently in use, an HVAC audit to investigate an HVAC setback program, and an OR purchasing and reprocessing audit. Via Christi had participated in the Kansas State University internship program before but this was the first time the focus was on the operating rooms.

Incentives to change

Stewardship is one of Via Christi's core values, which

entails responsibly taking care of the resources that are entrusted to us. Because of this core value, Via Christi Health has always encouraged sustainability endeavors. However, now that Via Christi is under Ascension Health, it is required, as a Catholic institution, to embark in community benefit and environmental stewardship. This project was one of the steps taken to comply with this new Ascension Health requirement.

Projects reviewed for E2/P2 potential

1. Waste-segregation audit

The first project involved auditing the waste-segregation habits implemented in the operating rooms at Via Christi. A 34% diversion rate of municipal solid waste (MSW) to recycling was implemented. Regulated medical waste (RMW) was reduced to 37% properly defined RMW. Projected over a year, 65,260 lbs. of waste will be diverted from the landfills and annual savings of \$3,614 realized due to MSW reductions and proper segregation of RMW.

2. Lighting audit

The second project was a lighting auditing. Constant lighting use was observed in the surgery area, in both operating rooms and low-risk areas like storage rooms, locker rooms, and bathrooms, using the HOBO Data Logger. This lighting use was often associated with low-occupancy statuses. Implementing a "lights-off policy" in operating rooms and installing occupancy sensors in low-risk areas were investigated. These two recommendations will result in 213,558kWh of energy savings and \$11,746 being saved every year, with a return on investment (ROI) of one month.

3. Sterilizers audit

The third project involved auditing the sterilizers used in the surgery area. Six sterilizers are used and constantly running, although they are idle most of the

year. Four of the sterilizers are Amsco Century Small Steam Sterilizers that have an electronic water-savings control that reduces water use during idle times for water conservation. The other two Amsco Eagle Series Small Steam Sterilizers do not have idle settings and use an average of 67 gallons of water per hour while idle. Three options for water conservation were investigated: (1) Disconnecting the Eagle model sterilizer that is used once/twice a month and replacing the second Eagle model sterilizer with a more efficient immediate-use Amsco 400 Small Steam Sterilizer would result in 1,027,416 gallons of water being saved every year, annual cost savings of \$6,920, and uncharacterized energy savings with an ROI of four years. (2) Replacing both Eagle sterilizers with the more efficient Amsco 400 Small Steam Sterilizers would result in annual savings of 903,831 gallons of water and \$6,342 with an ROI of nine years. (3) Installing STERIS Water Conservation Kits on both Eagle models would result in annual savings of 648,240 gallons of water and \$2,910 with an ROI of two years.

4. HVAC audit

The fourth project involved auditing HVAC use in the surgery area. The audit showed the system runs at a

maximum of 15 air changes per hour all the time. Kwaramba investigated implementation of an HVAC setback program in the Via Christi operating rooms. The setback will involve reducing the air changes in the operating rooms from 15 to six during unoccupied hours, a 60% setback. Energy savings of 2,128,383kWh will be realized annually from the implementation of this setback program, saving at least \$117,061 annually and prolonging the lifetime of the air-handling units and motors used. The ROI for this project is six years.

5. OR purchasing and reprocessing audit

The fifth project involved analyzing the purchasing and reprocessing habits being implemented in the operating rooms. The reprocessing program is still young at Via Christi because it only began in March 2013. As a result, analyzing its inventory at the moment and prescribing improvement suggestions would be premature. However, because of current reprocessing participation, 3,525lbs of waste per year will be diverted and annual savings of \$287,433 in disposal and supply costs will be realized.

Summary of 2013 E2/P2 intern recommendations for Via Christi Hospitals Wichita, Inc.

Project description	Annual estimated environmental impact	Annual estimated cost savings	Status
Sterilizers	1,027,416 gal	\$6,920	Recommended
Lighting	213,558 kWh	\$11,746	Recommended
Waste segregation	67,260 lbs	\$3,614	Recommended
HVAC setback	2,128,383 kWh	\$117,061	Recommended
OR purchasing and reprocessing	3,525 lbs	\$287,433	In progress
Total savings *	1,027,416 gal 2,341,941 kWh 67,260 lbs waste	\$139,341	
GHG reductions *	2,414 metric tons CO₂e		

Does not include projects that are “not recommended” or where “further research is needed.”

*OR Purchasing & Reprocessing savings not included in intern’s total

¹EPA GHG Conversion Tool, April 2013 and EPA WARM Model Conversion Tool, February 2, 2012