Healthier Hospitals

A PRACTICE GREENHEALTH PROGRAM

BRONSON

Case Study: Engaged Leadership- Bringing Sustainability Programming to the Next Level

Summary

Over the past 20 years Bronson Methodist Hospital has put considerable effort toward creating a solid sustainability program through initiatives such as recycling programs, local food sourcing efforts, and hazardous chemical reduction strategies. However the hospital reached a point where if it were to continue to expand and improve its sustainability program, it needed to grow beyond the more easily-captured efforts and focus on initiatives that would require considerably more time and effort to achieve.

Traditionally, most of the sustainability initiatives within the hospital had been employee-driven and localized to individual departments. Overall Bronson lacked a centralized department and staff to coordinate existing efforts, provide assistance to employees, create community partnerships, and have the time to drive new program implementation. To address this issue Bronson Methodist Hospital partnered with a local college to create an internship position to evaluate the advantages of a full-time position focused solely on sustainability efforts. Through calculating a return on investment, the intern was able to successfully demonstrate the value for a full-time sustainability coordinator position (refer to the "Benefits" list for identified cost savings examples) and further investment in healthier environments. The HHI Engaged Leadership Challenge provided the steps to take a good sustainability program to the next level.

PRACTICE Greenhealth

Bronson Methodist Hospital, Kalamazoo, Michigan

The Problem

While Bronson Methodist Hospital had accomplished numerous sustainability successes in the past, the more easily achieved efforts had been implemented and next level strategies would require a much greater cost commitment of time and effort to achieve. As a result, old successes were maintained but new initiatives were slow in development, even when significant cost-reduction opportunities were identified. In order for Bronson to maintain its reputation as a leader in environmental stewardship in the sector, a method for increasing focus and attention solely on sustainability would have to be developed.

The Strategy Selected

Bronson Methodist Hospital's environment of care and sustainability manager, Lisa Hardesty, partnered with local college Aquinas to create an internship for a student in the sustainable business program, a program made possible by Steelcase, Herman Miller and other regional businesses. The focus of the internship would be to produce a return of investment analysis for the creation of a position focusing on hospital reduction of resource use and capturing of sustainability financial incentives, such as ENERGY STAR rebates.

Bronson brought in intern Brendan Molony in June of 2014. He used the Green Guide for Health Care LEED O + M (operations and maintenance) Program as a template to assess the state of the current program and to begin to roadmap future sustainability activities. A final ROI assessment was completed in the fall of 2014 and successfully demonstrated beneficial financial and environmental outcomes associated with a full-time sustainability position. Using the ROI, the environmental safety and sustainability manager was able to present a case for budgeting resources from recently vacated positions to develop the new role around sustainability programming (*see the "Return on Investment" document at the end of the case study for the list of activities and the return on the investment analysis*). The new position of sustainability coordinator was created in the fall of 2014, and would have the resources to explore potential opportunities that would lower operations costs, reduce resource utilization within the hospital, and capture financial incentives.

About Bronson Methodist Hospital

Bronson Methodist Hospital, located in heart of the downtown area Kalamazoo, Mich., is the flagship of Bronson Healthcare, a not-for-profit healthcare system serving all of southwest Michigan and northern Indiana. With 434 licensed beds and all-private rooms, Bronson Methodist Hospital provides care in virtually every specialty—cardiology, orthopedics, surgery, emergency medicine, neurology, oncology —with advanced capabilities in critical care as a Level I Trauma Center; in neurological care as a Joint Commission certified Primary Stroke Center; in cardiac care as the region's first accredited Chest Pain Emergency Center; in obstetrics as the leading BirthPlace and only high-risk pregnancy center in southwest Michigan, and in pediatrics as one of only six children's hospitals in the state.

Bronson serves the largest percentage of Medicaid patients in the area and provides a substantial benefit to the community through outreach and charitable care. It is the recipient of the 2005 Malcolm Baldrige National Quality Award, the nation's highest presidential honor for quality and organizational performance excellence. In 2009, the hospital received the AHA McKesson Quest for Quality Prize awarded annually to only one U.S. hospital and joined the top five percent of hospitals in the nation to be designated a Magnet Hospital for Nursing Excellence.

Implementation Process

The HHI Engaged Leadership Challenge was used to elevate the established hospital sustainability program to the next level. Bronson Methodist Hospital performed a gap analysis of the Challenge to establish a list of objectives that would further embed sustainability into the core operations of the health care environment.

One baseline requirement of the challenge was to create an executive commitment statement. The intern was tasked with developing the documentation while leadership was engaged for review and approval. Having an intern to evaluate the qualitative measures, as well as the support of the environmental safety and sustainability manager to drive engagement of upper management, was a very important aspect which attributed to the success of this Challenge.

The Engaged Leadership Challenge identified 24 other qualitative activities that can be tackled to further support a long-term, successful initiative integrated into the overall operations of the facility. The measures were identified as key activities which would create a more formal sustainability program that could withstand staffing changes, competing agendas and a 24/7 operation. The full list of opportunities is identified below. Bronson Methodist Hospital achieved the highest recognition of Level 3 by implementing more than the ten required qualitative measures:

The Green Team

Brian DeRoo, Contract Specialist

Carolyn Wyllie, Communications Specialist

Dan Kettenbeil, Director of Facilities

Daphne Johnson, Property Coordinator

Dorinda L Diaz, Manager Materials Management

Grant Fletcher, System Director of Nutrition and Retail Services

Lisa Hardesty, Environment of Care and Sustainability Manager

Mike Way, Senior Vice President

Tiffany Brady, System Director of Environmental Services and Patient Transport

HHI Engaged Leadership Challenge Activities	
Yes	Baseline: Sign and submit an executive commitment statement.
No	Create a strategic sustainability plan.
Yes	Create an environmental mission statement/guiding principles/charter.
No	Formulate a sustainability program budget. (in the works)
Yes	Appoint a sustainability executive owner.
No	Build in sustainability measures as an organizational priority.
Yes	Create a sustainability reporting structure.
Yes	Create sustainability responsibilities within the organization.
Yes	Create an environmental steering committee with routine meetings.
Yes	Conduct a sustainability baseline assessment.
No	Define measurable sustainability objectives
Yes	Identify leader for sustainability efforts.
Yes	Identify the clinical champion.
Yes	Demonstrate progress on at least two HHI challenges.
Yes	Communicate progress on sustainability initiatives to the board.
Yes	Report progress regularly on sustainability initiatives to the leadership team.
No	Communicate sustainability progress from the leadership team to the organization regularly.
No	Create and distribute an annual sustainability report.
No	Provide a feedback mechanism for sustainability initiatives.
Yes	Participate in programs to support employee and community engagement.
Yes	Educate all employees about sustainability including new employee orientation.
No	Share sustainability best practices within the industry.
Yes	Engage organizational leaders to act as spokespeople for the sustainability program.
No	Include sustainability initiatives in the community benefit report.

Factors Included in Bronson Hospital's ROI Analysis:

Financial Benefits (savings or cost avoidance)

- $3,560 Battery Savings
- $912 Lead Recycling
- $50,223.95 PC Management
- $50,839 - SUD Reprocessing
- $17,800 - Energy Rebates

Environmental Benefit (reduced energy, pounds reduced)

- 502,239 kWh PC Management
- 15,756 kWh AHU4 $27,439
- 73,220 kWh Lighting Project $29,288
- 160,017 kWh $17,601.87
- Increased Recycling Rate from 16.9% (2013) to 29.35% (2014)

Other Measurable Outcomes (reduced exposure, increased satisfaction)

- Better understanding of programs and outcomes.
- Increased amount of sustainability programs and employee engagement.
- Continuation of car seat recycling program.

Challenges and Lessons Learned

Hospitals can realize great benefit to a sustainability program through a team approach, and may benefit from considering internships or other low-cost strategies to focus on certain key areas. However in order to maximize the capabilities of a program, an identified team lead is optimal. The case for a full-time sustainability lead can be made by tracking positive outcomes and cost savings, increasing staff engagement, and improving safety.

Return on Investment:

Sustainability Coordinator

Investment

- **One FTE Salary + Benefits**
- **Job Training (One-time cost)**
  - $550 Building Operator Certification ($1,450 **-** $900 rebate)
  - $3,750 Power Logic ($1,400 + $2,350 travel)
  - $4,800 Tridium ($3,200 + $1,600 travel)

$9100 = Total Training Cost

Savings

- $136,550 (Consumers Energy rebates)
- $114,398 (energy reduction)
- $4,909 (water)
- $5,593 (natural gas)
- $2,109 (solid waste)
- $25,000 (can/bottle deposits)
- $48,000 (contractor hours saved)
- $3,062 (batteries)

$339, 621 = Total Savings

Soft Savings

- $50,000 - $100,000 (sustainability report - consultant cost)
- $60,000 (LEED O+M (Existing Building) analysis)

Return on investment (%) = (Net profit / Investment) × 100

Cost	Savings	%ROI	$ROI
Salary = xxx Training = $9,100	$339,621	1 Year	xxx
		5 Year	xxx

Sustainability Coordinator

	Job Duties	Deliverables	Benefits	Cost	Savings
1	**Manage Consumers Energy Smart Building Program for Bronson Healthcare System**	1.1 Assist Facilities Services in completing pre-approval 1.2 Research & Identify Program Criteria 1.3 Track projects from pre-approval through completion 1.4 Operate as a main contact for Consumers Energy 1.5 Research Future Consumers Energy Programs 1.6 Building Operator Certification (BOC) 1.7 Grow the program throughout the Bronson System	❖ Reduce Cost to Capital Projects ❖ Recognition ❖ Reduction in Operation costs ❖ BOC – National Database Shows $16,000yr in energy reduction	1.6 BOC- $1,450 - $900 rebate = $550	Up to $1,000,000 for the system AHU 4 – $87,000 in rebates 2012 estimated loss: $221,400 2013 estimated loss: $220,360 2014 potential gain: $188,300 **2015 potential gain: $136,550**
2	**Monitor and Reduce Energy Consumption**	2.1 Gain a better understanding of energy usage 2.2 Establish energy reduction goals 2.3 Maximize Power Logics 2.4 Develop programs to change behavior related to energy usage 2.5 Target areas to invest in energy efficacy upgrades 2.6 Research innovative energy saving technology and techniques	❖ Energy Reduction ❖ More knowledgeable decision-making on capital projects ❖ Less reliance on venders ❖ LEED Credits	Power Logic Cost- $2,350 training + $1,400 travel $3,750/100 per hr = 37.5hr (by eliminating contractor fees)	**Reduction of Energy Consumption** 1 Year Plan 3% = $114,398 5 Year Plan - 15% = $571,990 Reduce fees to contractors to pull trending reports. Currently 10-30 hours per month ($24,000 yr) **Total Savings of $138,398**
3	**Monitor and Reduce All Utilities of BMH When Possible**	3.1 Add water to Key Green solutions 3.2 Target Water Reduction Areas for Analysis ❖ Outside Sprinkling System ❖ Analyze Chiller Plant and Cooling Towers 3.3 Preform a study on BMH's dependency on City Water 3.4 Certified on Tridium Building Automation System 3.5 Create a baseline for all utilities 3.6 Normalized meaningful data of all Utilities	❖ Better understanding of utilities ❖ Less expensive to operate ❖ Ability to sustain in a disaster ❖ A second opinion of plant operations ❖ LEED Credits	Tridium Cost- $2,200 training costs + $1,600 Travel On-site custom education $1,000 $4,800/$100 per hr =48hr payback (by eliminating contractor fees)	**Reduction of Water Consumption** 1 Year Plan 3% = $4,909 5 Year Plan 15% = $24,547 Reduce fees to contractors to pull trending reports: 10-30 hrs month ($24,000 yr)**Reduction of Natural Gas** 3% = $5,593 **Total savings 34,502.**
4	**Maintain Comprehensive Waste Management System**	4.1 Complete an annual waste audit 4.2 Educate staff on proper waste disposal 4.3 Track all waste streams to promote reduction ❖ Regulated Medical Waste ❖ Construction ❖ Pharm Waste ❖ Hazardous Waste	❖ 5% reduction in municipal waste in 5yrs ❖ Reduce Liability ❖ Reduce Projects cost ❖ Employee Safety ❖ Recognition ❖ LEED Credits	Up to a $50,000 fine per day	**Solid Waste Reduction** 5% = $2,109(Minus Increased Recycling) Regulated Medical Waste reduction: 5% $ $2,550 **Total savings of $ 4,659**
5	**Identify Areas to Improve Recycling Efficacy**	5.1 Research new opportunities to increase recycling 5.2 Create programs that helps facilitate participation in recycling 5.3 Identify opportunities to recycle with local/ regional buyers 5.4 Use annual waste audit to find areas of improvement	❖ Increased recycled material ❖ New partnerships with local and regional buyers	Increased Recycling 5% = $1,574 added cost	Establish rebates for recycling $3,400 **Total Savings of $3,400**
6	**Promote Reduce Reuse Recycle**	6.1 Facilitate a Reduce Reuse Recycle campaign 6.3 Work with all departments to identify opportunities 6.4 Organize Green Leaders throughout BMH	❖ Increased recycling ❖ Connectivity of BMH ❖ Culture Shift		

7	**Sustainability Community Engagement**	7.1 Identify and contact community partnerships ❖ KVCC ❖ Western Michigan University ❖ Southwest Michigan Sustainable Business Forum ❖ West Michigan USGBC 7.2 Create community interest in sustainability	❖ Publicity ❖ Community Engagement ❖ Recognition ❖ Knowledge Sharing ❖ Certifications ❖ Partnerships		Add dollars to the annual community benefit reporting
8	**Establish and Monitor Environmental Goals**	8.8 Set realistic but achievable goals for reduction in waste, recycling, electricity, water, gas, and local food purchasing Note: Goals increase productivity by 50%	❖ Common Goals ❖ Progression of goal areas ❖ Inter hospital partnerships		
9	**Environmental Reporting**	9.1 Create an semiannual sustainability repot 9.2 Create reports internally to help explain energy usage 9.3 Maintain Practice Green Health award application 9.4 Research other opportunities for awards Gain higher recognition from Practice Green Health for the same fee	❖ Engagement of internal and external stakeholders ❖ Recognition ❖ Transparency ❖ Future Opportunities	Professional fee estimate of $50,000 to $100,000 for a sustainability report	
10	**Monitor and Reduce Hazardous Chemicals**	10.1 Maintain an environmental management system that tracks hazardous chemicals 10.2 Research alternatives for existing chemicals	❖ Reduced liability ❖ Increased awareness ❖ Better health and safety		
11	**Foster a Green Cleaning Program**	11.1 Assess new cleaning products 11.2 Research trends to be current with new opportunities	❖ Health and safety ❖ Possible cost reduction ❖ Reduce cost associated with damaging furniture, walls, floors		
12	**Monitor and improve Environmentally Preferable Purchasing**	12.1 Create sustainability standards for new products 12.2 Provide an expertise on environmental issuers for new products	❖ Recognition ❖ Reduced Liability ❖ In house expertise		
13	**Consult With Food Services**	13.1 Monitor the amount of locally/ organic food bought 13.2 Design a waste management system 13.3 Create a comprehensive composting program 13.4 Help build a strong connection with KVCC	❖ Cost Reduction ❖ New Partnerships ❖ Stakeholder Engagement ❖ LEED Credits		Bottled Beverages Deposits- $25,000 in missed deposits **Total Savings $25,000**
14	**Carbon Foot-printing and Reduction**	14.1 Create a relative carbon footprint of BMH 14.2 Use CFP to engage internal and external stakeholders	❖ Stakeholder engagement ❖ Reduced liability		CO-potential carbon tax $35,873 CA-potential carbon tax $174,139
15	**Foster Alternative Transportation**	15.1 Research alternative transportation opportunities 15.2 Provide knowledgeable advice for future projects 15.3 Promote use of alternative transportation Note: Average cost of a yearly parking space downtown $984	❖ In house expertise ❖ Less necessity for parking ❖ Recognition ❖ LEED Credits		
16	**Link Sustainability and Wellness**	16.1 Oversee wellness initiatives to help bring the triple bottom line(people, planet, profit) into the program 16.2 Combine sustainability programs with existing wellness programs	❖ Department Connectivity ❖ Added depth to programs ❖ Shared Costs ❖ Expansion of partnerships		
	Total Return On Investment	**1 Year: 376% or $206,621**		**5 Year: 431% or $1,033,105**	

ENVIRONMENTAL MISSION STATEMENT
GUIDING PRINCIPLES
&
REPORTING STRUCTURE

PHILOSOPHY

Bronson strives to create a healthy healing environment for the health and safety of its patients, employees and the community. The hospital's focus is on four key areas—waste responsibility, green building design, local/sustainable purchasing and community involvement.

GUIDING PRINCIPLES

PEGS

Pollution Prevention: The goal is to reduce waste by focusing on what can be eliminated, reused or recycled, use of less harsh chemicals while maintaining high standards of infection control to create a healthy environment for patients and staff.

Energy Conservation: The goal is to reduce the amount of gas, electricity and water used through facility ugrageds and staff behavioral changes and to reduce the amount of fossil fuels used during transportation by establishing contract with local vendors and suppliers.

Green Building Design. The goal is to design and build using healthier building materials as a means of improving public health and preserving the global environment. Bronson will strive to use natural, environmentally friendly products and low-emitting materials to provide a healthy healing environment.

Sustainable Food: The goal is to offer healthy food options that are locally grown without the use of harmful chemicals to our patients, visitors and staff.

REPORTING STRUCTURE

A number of departments within the hospital have created department specific green teams that report up through the hospital wide Green Team. The Green Team is a subcommittee of the Hazardous Materials and Waste committee. This committee reports to the EOC Oversight Committee that reports up to the Board.

The Green Team is a multidisciplinary group that includes; Director of Facilities Services, Director of Housekeeping, Food Services Manager, Distribution Center Manager, Safety Manager, Process Management Consultant, Corporate Communications Consultant, IT Tech, Surgery Nurse and Labor and Delivery Nurse. The Executive over this group is the VP of Facilities Services.