



# Journal of Environmental Stewardship Best Practices

*Environmental Stewardship Program*

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*January 2016*

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## The Ascension Mission

Rooted in the loving ministry of Jesus as healer, we commit ourselves to serving all persons with special attention to those who are poor and vulnerable. Our Catholic health ministry is dedicated to spiritually centered, holistic care, which sustains and improves the health of individuals and communities. We are advocates for a compassionate and just society through our actions and our words.

*Cover photo: Dell Children’s Medical Center of Central Texas, Austin Texas – Building Lobby*

## The Ascension Environmental Stewardship Program is designed to prove the value of sustainability in everything we do.

Environmental stewardship fosters a culture where every person – from physician to facility manager, CEO to food and nutrition services associate – understands that being good stewards of our financial and environmental resources, while providing social benefit, is a fundamental responsibility at Ascension.

We have a moral imperative to care for the earth, which involves social and environmental considerations. Sustainability incorporates the Catholic Social Teaching elements of concern for the environment:

1. *Concern for the environment calls us to respect human life and dignity.*
2. *As the world becomes increasingly interdependent, we have a call to promote the common good and the virtue of solidarity.*
3. *In caring for the environment, we have a special responsibility to the poor and vulnerable, who are the most affected and least heard.<sup>1</sup>*

The Ascension Environmental Stewardship Program started in 2008 with energy efficiency. A robust set of architectural, engineering and construction standards is used on both new and renovation projects to ensure the continued path of energy efficiency. Daylighting, lighting controls, fluorescent and LED lamps have dramatically reduced energy use, as has the use of variable-speed motors on mechanical equipment. Facilities use Building Automation Systems and are commissioned (for new construction) and retro-commissioned (for existing buildings) in order to optimize operation of existing heating, ventilation and mechanical equipment.

The Facilities Resource Group tracks energy use at all acute care hospitals and has demonstrated that from 2008 through 2015, Ascension achieved energy use reductions of 16.8 percent, \$47.4 million in cost avoidance and 718,900 tons reduction in carbon dioxide emissions. In 2012, Ascension became a founding partner of the Department of Energy Better Buildings Challenge with a goal to reduce energy use 20 percent by 2020 across our hospitals – and we are currently at 84 percent of the goal.

## Executive Summary

### 2008-2015



**16.8%** energy use reduction



**\$47.4 million** in cost avoidance



**875,000 tons** reduction in carbon dioxide emissions

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# Ascension Environmental Stewardship Program

*The Environmental Stewardship Program challenges us to act as stewards of God's creation and operate at our full potential by identifying and implementing practical solutions to minimize the organization's impact on the natural environment and the communities we serve.*

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## What do we mean by the following terms?

**Environmental Stewardship:** The responsibility for environmental quality shared by all persons whose actions affect the environment.

**Sustainability:** The ability to meet the needs of the present without compromising the ability of future generations to meet their own needs.

**Triple Bottom Line:** The simultaneous pursuit of economic prosperity, environmental quality and social equity. This goal of environmental stewardship is also described as "People, Planet and Profit." This term was coined in the 1990s by John Elkington as an accounting framework for businesses that take into account social and environmental impacts as well as financial performance.

The Triple Bottom Line requires a balance of financial, environmental and social benefit for a project or program to be sustainable.

**Quadruple Aim:** The Triple Aim concept was developed as a framework for healthcare by Don Berwick, Tom Nolan and John Whittington at the Institute for Healthcare Improvement in 2008. The fourth goal of meaning in work was added in 2015 in a paper by Rishi Sikka, Julianne Morath and Lucian Leape.

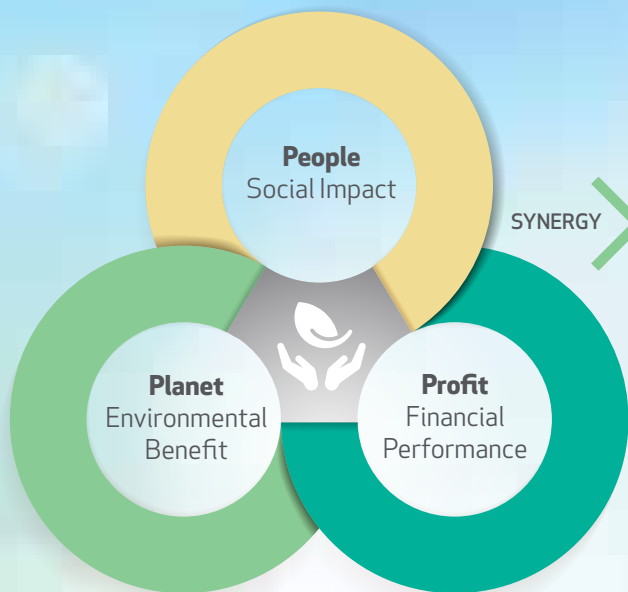
- Provide better patient care
- Improve population health
- Reduce per capita cost
- Improve the work life of clinicians and staff<sup>2,3</sup>

**Value:** Hospitals are constrained by capital budgets and first costs. If a program is financially sustainable, the product or service is considered to have high value. It is important to consider the Triple Bottom Line and Total Cost of Ownership instead of limiting vision only to initial costs. For many medical devices and services, there are embedded costs that are not always reflected in the price and may not be currently considered during procurement decisions. These embedded costs include use and maintenance costs, such as the cost of energy, and end of life costs, or the expense of waste disposal. Energy efficiency and improved waste management practices are two examples that could reduce overall operational costs and minimize environmental impacts if they are incorporated into supply chain equations. Purchasing decisions should include these costs to assess the full costs to an organization.

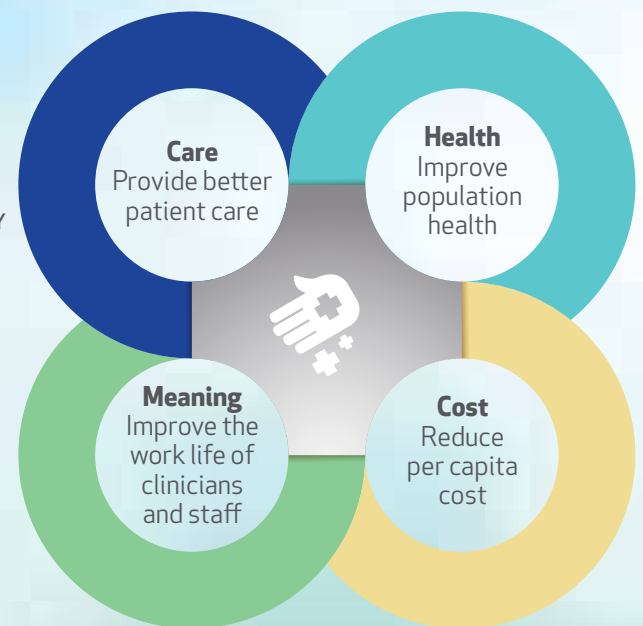
These environmental costs are a part of the **total cost of ownership** of a product or service. Providing a framework that brings these embedded costs to the surface during the procurement process can have a significant impact on reducing the total cost of delivering quality healthcare.<sup>4</sup>

**“** We encourage all hospitals and Health Ministries to actively participate in the Environmental Stewardship Program. We have demonstrated benefits in energy and water efficiency, avoidance of toxic chemicals in cleaning and building materials, access to healthier foods, and improved recycling programs, to list just a few. All Ascension associates should consider stewardship of environmental and financial resources to be part of their daily work. **”**

**– Patricia A. Maryland, Dr.PH,**  
President, Healthcare Operations and  
Chief Operating Officer, Ascension Health



**Triple Bottom Line**  
Specific to Sustainability



**Quadruple Aim**  
Specific to Healthcare



"Ascension is the largest Catholic not-for-profit healthcare system in the nation. That status comes with an imperative to take guidance from the moral and ethical compass provided in Pope Francis' encyclical on the environment, in which he equates environmental stewardship with social justice. Ascension leadership is entrusting us with the tools and the resources to do this work. The task of the Environmental Stewardship Program is to make good use of this trust and to advance our performance to true leadership. We can build on our faith-based values and mission to embrace healthcare that leaves no one behind, including the earth."

– **Eric Buzzell**, System Green Team co-chair

## How to Participate

Within each **Health Ministry** and each hospital, it is recommended to create Green Teams, comprised of membership from the following departments:

- Executive Champion – COO, CEO, Chief Strategy Officer or Administrator
- VP of Support Services
- Safety/ Security
- Marketing/ Communications
- Medxcel Facilities Management
- Infection Control
- Nursing
- Medical (MDs)
- The Resource Group Implementation Manager or Materials Management
- TouchPoint Environmental Services Director
- TouchPoint Food & Nutrition Services Director
- Mission Integration
- Finance
- Facilities Resource Group – PDC and Real Estate

At the hospital level, **Green Teams** are recommended to report through the Environment of Care (EOC) Committee to achieve the following benefits:

- The EOC reports to the Board of Directors, providing executive communication and a defined reporting structure.
  - Existing EOC reporting can incorporate environmental stewardship reporting.
- EOC scope includes safety, security, hazardous materials and waste, medical equipment and utilities, aligning well with environmental stewardship.
  - Conversations about environmental stewardship can occur naturally.
- Participation in the EOC provides access to an existing multi-disciplinary group without the need to form a new committee with separate meetings.
  - Projects and programs implemented by the EOC will infuse green behavior across the organization.

The Ascension **System Green Team** includes members from each Health Ministry as well as representatives from key One Ascension departments. The System Green Team meets monthly via conference call. Members are expected to share information with their Health Ministries via emails, newsletters and regional conference calls.

Each Health Ministry participates in the Environmental Stewardship Program by setting annual goals, with flexibility in selecting which of the nine reporting categories to emphasize. Goals in Energy Efficiency, Water Conservation and Education and Communication categories are required, as well as a fourth goal from any category.

Each hospital completes an annual reporting template documenting sustainability practices from the previous year.

Full detail for the Environmental Stewardship Program, including reporting structure, yearly dates and resources are provided in a Planning Guide.

For help starting a Green Team at a hospital or Health Ministry level, or to connect with a local team, contact Lois Sechrist, Ascension Environmental Stewardship Program, [Lois.Sechrist@Ascension.org](mailto:Lois.Sechrist@Ascension.org) or 314-733-8071.

## Sustainability @ St. Elizabeth Hospital via Person-Centered Care

- To further the **healing ministry of Jesus**, sustainability helps us look at the built environment to enhance patient experience with a focus on **person-centered care**.

- The campus implemented the **country's first chilled beam system** in Women & Families that resulted in higher patient satisfaction in thermal comfort and HCAHPS scores.

- **15,000 square feet of living roofs** and courtyard access is provided to patients, visitors and associates to connect them to nature which can lower anxiety and raise creativity as proven by research.

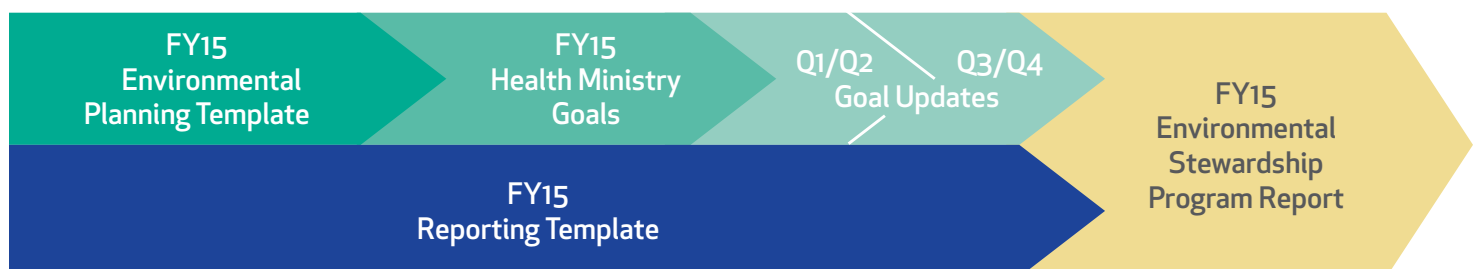
- St. Elizabeth Hospital is **Energy Star rated in the top 14%** of energy efficient hospitals in the country. The low carbon footprint is acknowledged and supported by the community.



  
MINISTRY HEALTH CARE

 ASCENSION

## The Annual Report Process



“ We have to realize that a true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear both the cry of the earth and the cry of the poor.

Each community can take from the bounty of the earth whatever it needs for subsistence, but it also has the duty to protect the earth and to ensure its fruitfulness for coming generations. ”

– Pope Francis, *Laudato Si'*, 2015

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## Pope Francis' Encyclical *Laudato Si'*,

*Published June, 2015*

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In this beautiful and extensive treatment on care for our common home, Pope Francis calls all people to consider our deep and intertwined relationships with God, our brothers and sisters, and the gifts that our Creator has provided for our stewardship. Drawing extensively from the teaching of his predecessors, the Pope teaches that care for the things of the earth is necessarily bound together with our care of one another, especially the poor. This interdependency extends from the deep respect due every human person to all living beings and to the earth where we make our home. **“Each creature has its own purpose...and the entire material universe speaks of God’s love.”** The need for urgent action is clear and he appeals to us to become **“painfully**

**aware”** of what is happening to the world and **“to grow in solidarity, responsibility and compassionate care.”**

Pope Francis urges us to action and honest dialogue about our environment – both social and ecological. **“The human environment and the natural environment deteriorate together,”** both of which disproportionately affect our poorest brothers and sisters. Reflecting on inner-city slums, lack of clean drinking water, and a consumerism mentality, Pope Francis asks **“what kind of world do we want to leave to those who come after us?”** This question is at the heart of this encyclical and rightfully calls us all to work harder against the challenges the human family faces today.<sup>5</sup>





*Ascension participates in several healthcare and sustainability organizations with national memberships and board participation. Five programs are highlighted here, with descriptions of Ascension's involvement:*

- *Health Care Without Harm*
- *Health Care Climate Council*
- *Healthcare Plastics Recycling Council*
- *Practice Greenhealth*
- *Healthier Hospitals Initiative*

In an effort to build a unified voice among hospitals committed to addressing climate change, **Health Care Without Harm** established the **Health Care Climate Council**. The Council's mission is to amplify public and private responses to climate change by:

- *Accelerating investment in renewable energy and energy efficiency;*
- *Scaling the health sector's adoption of climate change mitigation and resiliency programs; and*
- *Advocating for local, state, and national policies that ensure a sustainable and healthy future consistent with our collective vision for healthy individuals and communities.*

Ascension was invited to become a founding member of the Health Care Climate Council in 2014 in recognition of Ascension's energy-efficiency accomplishments, which reduce our system's climate impact.

Bob McCoole, Senior Vice President, Facilities Resource Group, has attended two White House summits in support of President Obama's Climate Action Plan. In December 2014, the Sustainable and Climate Resilient Health Care Facilities Initiative was launched, featuring Our Lady of Lourdes Medical Center's flood wall (Binghamton, New York) on the cover.

Lois Sechrist (Environmental Stewardship Program, System Office) and Iqbal Mian (Lean Leader, Ministry Health Care, Appleton, Wisconsin) continued Ascension's participation in the Health Care Climate Council by attending a CleanMed pre-conference workshop in Portland, Oregon in May 2015 on public health and healthcare collaboration for climate resilience. The workshop

demonstrated the potential for collaboration among local and state public health departments, hospitals and healthcare systems to address climate change. In addition, Ministry Health Care (Appleton, Wisconsin) is testing the Resiliency Toolkit introduced in December to improve the ability of Ascension facilities to withstand extreme climate events.

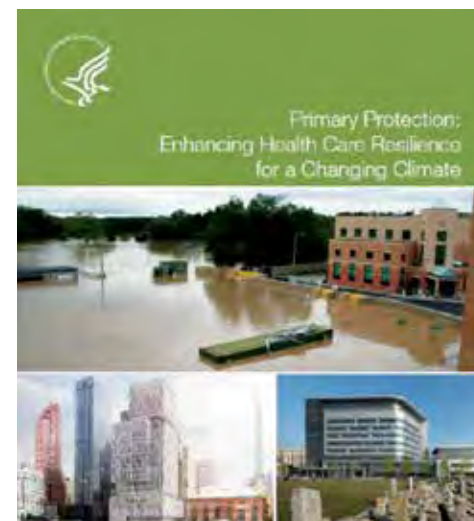
In June 2015, health experts and environmental activists gathered in Washington D.C. for the White House Public Health and Climate Change Summit. The goal of the June summit was to discuss the important role the public health community has in communicating and preventing health-related climate impact and to address how to empower communities with the information and tools they need to protect public health in the face of climate change. The summit occurred days after Pope Francis issued the Catholic Church's first ever encyclical exclusively on the environment. He believes human-caused climate change threatens all, but especially the poor. A video of President Obama aired at the summit, in which he said, "The costs of inaction far outweigh the costs of action."

"I am honored to be a part of this nationwide initiative that affects all of us and those in the communities we serve across the country. Ascension's dedication to environmental stewardship has positioned us as a leader in our field, paving the way for the future sustainability of our own national health ministry and the healthcare industry as a whole," McCoole said. "I look forward to continuing to raise awareness across Ascension about this pressing issue."

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## Health Care Without Harm and the Health Care Climate Council

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Cover: Ascension's Our Lady of Lourdes Memorial Hospital in Binghamton, New York. A flood wall was built in 2011 to keep the hospital operational during times of flooding.



*Ascension hospitals work with multiple recycling waste streams in an effort to minimize trash sent to landfills. David Ramirez and Tina Hickman, TouchPoint Environmental Services, collect cardboard for recycling at the Seton Administration Offices, Austin, Texas.*

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## Health Care Plastics Recycling Council

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The **Healthcare Plastics Recycling Council** (HPRC) is a coalition of ten companies across the healthcare, recycling and waste management industries seeking to inspire and enable sustainable, cost-effective recycling solutions for plastic products and materials used in the delivery of healthcare.

Ascension is a member of the Healthcare Facilities Advisory Board, comprised of four healthcare systems assisting the Council in identifying high value needs and opportunities for action, sharing first-hand perspectives of recycling barriers that exist within their facilities, and

providing access to data, information and resources at the hospital level.

HPRC developed the HospiCycle toolkit to help hospitals successfully integrate recycling practices into a patient care setting and better understand the economic, regulatory, resourcing and infrastructure nuances that come with it. Through a step-by-step approach, the guide is intended to help hospitals navigate the process of activating a plastics recycling program from initial planning and business decisions through program implementation and improvement considerations.



**Practice Greenhealth** is the primary source for environmental solutions for the healthcare sector and lends support to create greener workplaces and communities. Sustainable health care that's good for the environment, good for patients and staff and good for the bottom line requires action plans to eliminate mercury, reduce and recycle solid waste, reduce regulated and chemical waste, reduce energy and water consumption, create healing environments, and establish green purchasing policies. Ascension's Environmental Stewardship Program is closely modeled on the Practice Greenhealth structure. CleanMed is the primary conference each year for healthcare sustainability and is well attended by Ascension associates and vendor partners to gain knowledge and network with healthcare sustainability peers.

The **Healthier Hospitals Initiative** was developed by Health Care Without Harm (HCWH), the Center for Health Design and Practice Greenhealth to create a guide for hospitals to improve sustainability in six key areas: Engaged Leadership; Healthier Foods; Leaner Energy; Less Waste; Safer Chemicals, and Smarter Purchasing.

All Ascension hospitals are enrolled in the Leaner Energy Challenge. TouchPoint Food and Nutrition Services (FNS) and TouchPoint Environmental Services (EVS) use HHI guidelines for data tracking metrics.

Ascension has presented at the CleanMed conference for the past four years and has won multiple Environmental Excellence awards since 2002.

### Presentations

- 2015 Energy Innovations and Lessons Learned from Two Leaders
- 2014 Community Benefit and Environmental Stewardship at Ascension Health
- 2013 Leveraging Sustainability with Waste Contracts
- 2012 Sustaining an Environmental Stewardship Program: A System and Hospital Perspective

### 2015 Awards

Borgess Medical Center in Kalamazoo, Michigan, Partner for Change Award

Dell Children's Medical Center of Central Texas in Austin, Texas, Top 25 Award and Circle of Excellence Awards in the Energy, Water and Green Building categories.

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## Practice Greenhealth and the Healthier Hospitals Initiative

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*The Ascension Environmental Stewardship Program is organized into nine categories of work. The following section describes each category, highlights accomplishments and details best practices from several Health Ministries.*

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# 1 Leadership & Infrastructure

*Integrating sustainability into  
organizational strategy*

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## **FY15 Accomplishments**

### **Catholic Identity Matrix**

**Seton Healthcare Family in Austin, Texas** and **Lourdes Hospital in Binghamton, New York's** efforts were recognized and highly scored in the Catholic Identity Matrix assessment facilitated by Ascension. Action items were created to improve the effectiveness of the Environmental Stewardship Program throughout both organizations.

### **U.S. Environmental Protection Agency (EPA) ENERGY STAR Certifications**

Three Ascension hospitals achieved ENERGY STAR certification in 2015. To be eligible, a building must earn an ENERGY STAR score of 75 or higher, indicating that it performs better than at least 75 percent of similar buildings nationwide.

Columbia St. Mary's - Ozaukee Campus,  
Mequon, Wisconsin

Saint Thomas Midtown Hospital,  
Nashville, Tennessee

St. Vincent's Medical Center Clay County,  
Middleburg, Florida

**Dell Children's Medical Center of Central Texas (Austin)** (DCMCCT) was included in Becker's Hospital Review 50 of the Greenest Hospitals in America 2015.

The extent of Dell Children's sustainability efforts is record-breaking. In 2008, the original building that housed the Dell Children's Medical Center of Central Texas became the world's first LEED Platinum Certified hospital. Then, in 2013, the W.H. and Elaine McCarty South Tower of Dell Children's earned the first-ever LEED Healthcare Platinum designation. The McCarty bed tower also achieved five stars under Austin Energy's commercial rating system and was the fifth project in Austin to do so. In 2015, Practice Greenhealth named DCMCCT a Top 25 Environmental Excellence Award honoree and a member of the organization's Circles of Excellence for energy efficiency, water conservation and green building achievements.<sup>6</sup>



Top: Jeff Korsmo, President and CEO of Via Christi Health, Wichita, Kansas, signs the St. Francis pledge to advocate for care of the earth.



Left: Sylvia Salinas, Vanessa Hanson and Julia Walters received trees during an Earth Day event at the Ministry Service Center, Indianapolis, Indiana.

Lower Right: Eric Buzzell, VP of General Services and Property Management, accepts the Practice Greenhealth Partner for Change award for Borgess Medical Center, Kalamazoo, Michigan.







*Left: St. John Hospital and Medical Center, Detroit, is a sponsor of the Moross Greenway Project, a collaborative effort of volunteers and businesses transforming traffic islands between Interstate 94 and St. John Hospital and Medical Center by creating a sustainable landscape using native trees, shrubs and perennial plants.*

*Right: Patty Kitowski, Marketing Manager, participates in the Earth Day green idea generation activity at St. Elizabeth Hospital, Appleton, Wisconsin.*



## 2 Education & Communication

*Creating awareness; improving adoption and practices and sharing success stories*

### **Education is Focus of St. John Tulsa Green Team**

If you ask one of the approximately two-dozen members of the Green Team at St. John Health System in Tulsa, Oklahoma, the purpose of their group, the word you are most likely to hear is “education.” The team’s goal is to help associates, patients and visitors learn ways to improve their environment, both at St. John and in their communities.

“We are trying to focus on nine different areas that Ascension would like us to pay attention to,” said John Holderman II, CHFM, CHC, St. John Health System Facilities Director, who leads the Green Team. “But whether we’re focusing on reducing water consumption or encouraging recycling, we always maintain the goal of education.”

One of the biggest environmental education programs at St. John was

during Earth Week in April, when the Health Ministry held its annual Green Fest. Local vendors, along with city officials and the Green Team, shared information about a variety of green-living initiatives at the Health Plaza on the St. John Medical Center campus.

Budding gardeners received flower bulbs or starter tomato or pepper plants, which the Green Team provided. Local organizations shared conservation tips, provided recycling advice and offered volunteer opportunities, such as with a local program that works with lower-income students at area elementary schools to teach gardening, cooking and good nutrition.

The educational opportunities at St. John continue throughout the year and are not limited to an event during the week of Earth Day. For example, one of the Green Team members provides green tips once a month for St. John’s intranet. The team





also has adopted a local city park and provides park cleanup, including bench painting on a regular basis.

"We are lucky enough to have several Sisters still on the main campus who, along with Auxiliary volunteers, have expressed an interest in a community garden," John said. He suspects this may be the next project for the main campus, he said, especially because Jane Phillips Medical Center in Bartlesville, Oklahoma, which already has a greenhouse, planned to start its community garden in Spring 2015.<sup>7</sup>

### **Ascension System Office Takes on the St. Louis Green Business Challenge**

At the System Office, associates are consistently encouraged to practice environmental stewardship. Many conference rooms and offices have

sensors that turn lights on or off, triggered by movement within the space. For years, associates have been used to use glasses or refillable water bottles, rather than bottled water. Each work space has a trash and recycle bin to encourage as much recycling as possible.

Those practices will expand as Ascension takes part in the St. Louis Green Business Challenge, sponsored by the St. Louis Regional Chamber. Participating organizations set a baseline of current activity around eight scorecard measures, then work throughout the year to implement specific projects that will improve that organization's measurement. The scorecard measures include:

- *Outreach*
- *Energy*
- *Indoor Environmental Quality*
- *Waste*
- *Water*

- *Transportation*
- *High Performance Buildings*
- *Better Business through Biodiversity*

Lois Sechrist, Ascension Environmental Stewardship Program, noted, "Ascension's involvement in the St. Louis Green Business Challenge is tied closely with our Mission, which states that we are dedicated to 'care that sustains and improves the health of individuals and communities.' Our environment is part of our community, so we have a clear directive to protect and conserve the resources around us."

This is the third year that Ascension has participated in the Challenge. In 2013 Ascension was honored with an Award of Achievement for "outstanding commitment to sustainable business practices in the St. Louis region through the completion of the St. Louis Green Business Challenge."<sup>8</sup>



### 3 Food Systems

*Increasing health and safety in food service while decreasing waste and use of non-therapeutic antibiotics in meat and poultry products*

#### Farm-to-Table Collaborations

TouchPoint Food and Nutrition Services (FNS), The Resource Group and two Ascension hospitals have embarked on direct collaborations with local farms. **St. Vincent's Clay County Hospital in Middleburg, Florida** collaborates with Black Hog Farm, a fifth-generation farm. **Saint Thomas West Hospital in Nashville, Tennessee** works with Delvin Farms, an all-organic farm. Both farms supply the hospital campuses with a regular supply of vegetables for cafeteria food production. By doing so, the hospitals have established themselves as a progressive voice in the community, supporting an emerging local food market and helping to create sustainable jobs.







*St. Vincent's HealthCare, Jacksonville, Florida, works directly with Black Hog Farm to supply the health system with a supply of vegetables for cafeteria food production.*

*Glenn Hixson, TouchPoint Director of Food and Nutrition Services, Paul Watkins, Owner of Black Hog Farms, and Tracy Williams, COO of Acute Care for St. Vincent's, inspect the broccoli crop at the farm.*

### **Food Day participation – TouchPoint**

Hospitals across Ascension served by **TouchPoint Support Services** supported Food Day 2015 by serving meals featuring meat poultry raised without routine use of non-therapeutic antibiotics.

The **Food Day** platform focuses on food education, food justice and helping Americans move toward a greener diet. During Food Day, TouchPoint used the opportunity to educate patients, residents, visitors and staff about how they can make better choices to protect their personal well-being and the health of their communities.

**Health Care Without Harm** – an international coalition of hospitals and healthcare systems, medical professionals, community groups, health-affected constituencies, labor unions, environmental health organizations and religious groups – organizes the Food Day event. By partnering with Health Care Without Harm, TouchPoint joined more than 350 hospitals nationwide to raise awareness about eliminating the overuse of antibiotics in animal agriculture and building a healthy, sustainable food supply. If every hospital in the country committed to serving meat raised without routine non-therapeutic antibiotics year-round,

it could result in over 750 million meals served and \$868 million spent on healthy, sustainably raised meat.

TouchPoint and Ascension are committed to serving poultry raised without routine non-therapeutic antibiotics year-round. It is one of the many sustainable initiatives incorporated into the TouchPoint Corporate Social Responsibility platform.

The TouchPoint Food and Nutrition Services department at **Borgess-Lee Hospital in Dowagic, Michigan** reduces food waste by creating frozen meals that are either sold or donated to people in need. The recipients may be patients and families identified by nursing staff.

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## 4 Energy Efficiency

*Helping hospitals reduce costs and protect scarce resources*

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Michele Van Hyfte, Manager of Environmental Stewardship at **Seton Healthcare Family** and Lois Sechrist, **Ascension Environmental Stewardship Program**, presented Energy Innovations and Lessons Learned from Two Leaders at the CleanMed 2015 conference to share challenges common to deploying an energy management program and renewable energy projects in the health care sector.

The Ascension Health Environmental Stewardship Program is one way the national health ministry expresses its commitment to responsible stewardship of the earth's resources. The 11 hospitals in **Seton Healthcare Family in Austin** demonstrate how Energy Master Plans are employed by Preferred Engineering Firms, using specific retrocommissioning steps defined by Ascension Health. The 11 hospitals range from small, semi-rural, critical-access hospitals to large, urban, acute-care hospitals, thus providing examples from many types of facilities that experience the hot, humid environmental conditions of central Texas.

The Energy Master Plans developed by three Preferred Engineering Firms hired systemwide by Ascension Health are used to develop specific capital projects such as replacing chillers, boilers, air handling units and equipment motors. Building

Automation Systems and fault detection alarms are employed in order to obtain detailed data on a daily basis. The energy-efficiency program is heavily data driven and closely monitored.

The energy-efficiency program at Seton Healthcare Family has broad support from the facility managers who work with Preferred Engineering Firms to implement major-capital projects as well as carry out the daily activities such as weather-related temperature and humidity adjustments to maximize efficiency of existing equipment. In addition, executives from Finance and Operations provide project and financial approval for energy-efficiency projects. Major projects are funded from the Ascension Health Facilities Infrastructure Pool, which is a dedicated capital fund for projects that incorporate energy-efficiency improvements.

Seton Healthcare Family plans to participate in the City of Austin Climate Program to achieve net-zero community-wide greenhouse gas emissions by 2050. The Ascension Health energy-efficiency program is a key factor in reducing greenhouse gas emissions and improving health outcomes for patients, visitors, staff and the Austin community by reducing carbon consumption and emitting fewer toxins into the environment.





*Top and Lower Right: This installation upgrades the heating, ventilation, air conditioning (HVAC) system at Saint Thomas West Hospital, Nashville, Tennessee, with a 100 percent outdoor air system with heat recovery to improve indoor air quality and save energy.*

*Lower Left: Heat pump chiller equipment for Sacred Heart Hospital on the Emerald Coast, Miramar Beach, Florida.*







Top: Stained-glass windows in the chapel represent the Holy Family at St. Vincent Fishers Hospital, Fishers, Indiana.

Bottom: A private patient room at St. Vincent Fishers Hospital, Fishers, Indiana.



## St. Vincent Fishers Hospital awarded LEED® Green Building Certification for Healthcare

St. Vincent Fishers Hospital Inpatient Expansion was Indiana's first hospital to be awarded LEED for Healthcare certification. Developed by the U.S. Green Building Council (USGBC), the LEED rating system is the foremost program for buildings, homes and communities that are designed, constructed, maintained and operated for improved environmental and human health performance. The LEED for Healthcare (LEED-HC) rating system was created in order to address the unique challenges of healthcare facilities, including: 24/7 operations, energy and water use intensity, infection control requirements, chemical use, and patient privacy needs.

Completed in 2013, the inpatient expansion increased hospital space by 125,000 square feet and added 48 inpatient beds. Specific design elements that supported the St. Vincent's LEED-HC score included:

- Employee bicycle storage and changing facilities
- Preferred parking spaces for low-emitting and fuel efficient vehicles
- Best management practices to clean stormwater runoff
- Water-efficient landscaping in conjunction with a drip irrigation system and climate control sensors to reduce water use for irrigation
- Roofing materials with a high solar reflectance index (SRI)

- 30 percent reduction in total water usage for the building compared to typical building estimates
- Efficient electrical and HVAC systems to optimize energy performance and estimated to use 14 percent less energy per ASHRAE standards
- Maximized use of regional materials and materials with recycled content
- Diverted 75 percent of construction waste from the landfill
- Used low-emitting materials for paints, adhesives and flooring for improved indoor air quality
- Increased ventilation and installation of permanent monitoring systems
- Thermal comfort design and commissioning of HVAC systems

### **Dell Children's Medical Center of Central Texas – First LEED-HC Platinum Hospital**

Dell Children's Medical Center of Central Texas is the first hospital in the world to be certified LEED Platinum under the LEED for Healthcare (LEED-HC) rating system. It serves as a valuable resource for medical professionals, architects, urban planners, environmentalists and other officials interested in learning what it takes to turn a hospital into a 32-acre "living" campus.

And what it takes is smart design. Principal among the energy-saving strategies employed at Dell are: independent lighting and temperature controls in each patient room; reflective roof materials and light-colored sidewalks that reflect the hot Texas sun, thereby decreasing the urban "heat island" effect and the amount of energy required for

air conditioning; high-efficiency lights; air conditioning with automatic on/off switches; and a specialized ventilation system that recovers energy from building exhaust air. Other features include green roofs, a stormwater retention pond, and rapidly renewable construction materials. Additionally, 20 percent of the hospital's land has been devoted to open vegetated space planted with drought-tolerant native species and irrigated with recycled, non-potable water, which means 1.4 million gallons of water are saved each year. Exterior lighting was designed to minimize light pollution; numerous recycling stations are found through the campus; and low-VOC carpeting, adhesives, and paints were used for finishes. Furthermore, the hospital encourages the use of alternative transportation by providing bike racks and giving parking priority to hybrid and alternative-fuel vehicles, as well as to employees who carpool.

Visitors (and patients) can find out about this very special environment by reading the 21 signs describing its features located throughout the hospital. The Dell campus is at once a place for healing and learning.<sup>9</sup>

**Seton Healthcare Family** is participating in the City of Austin regional transportation planning to reduce the use of single-occupancy cars for commuting.

Additional Ascension hospitals provide vouchers for public transportation; bike racks and shower facilities for bike commuters and electric vehicle charging stations.

## **5 Sustainable Site & Transportation**

*Utilizing the Leadership in Energy and Environmental Design (LEED) certification process on new construction and renovation projects*



The Environmental Services (EVS) team at Seton Medical Center Williamson, Round Rock, Texas, was named the EVS Department of the Year by the Association for the Healthcare Environment.



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## 6 Chemical Management

*Reducing exposure to chemicals in order to “first do no harm”*

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TouchPoint Environmental Services (EVS) is working with the GREENGUARD Indoor Air Quality Certified® Program, which is a third-party testing program for low-emitting cleaning products and materials. The Healthy High Performance Cleaning program has been certified at **Seton Healthcare Family hospitals in Austin, Texas**. TouchPoint EVS is developing a plan to roll the certification program out across all Ascension hospitals.

**Borgess-Lee Hospital in Dowagic, Michigan** switched to microfiber mops and wipes that require less chemicals and water for cleaning than conventional rag mops. A dilution-control system is used for dispensing cleaning chemicals to better control desired concentrations.

**Borgess Medical Center in Kalamazoo, Michigan** installed an aqueous-ozone system to reduce the chemical footprint within the facility. Glass cleaners, general purpose cleaners and stainless steel cleaners will be reduced by using ozonized water. In addition, Borgess Medical Center eliminated the use of quaternary disinfectants in certain high-patient-turnover areas and replaced them with hydrogen peroxide-based disinfectants.



*Iqbal Mian, Lean Leader, and Zach Eichhorst, Intern, examine the green roof at St. Elizabeth Hospital, Appleton, Wisconsin.*



### **Green Roof at St. Elizabeth Hospital**

A new five-story bed tower at St. Elizabeth Hospital in Appleton, Wisconsin – part of Ascension’s Ministry Health Care – demonstrates the Ascension Value of Wisdom, integrating excellence and stewardship, by incorporating many sustainable features.

The Fremont Tower opened in January 2015 and includes 90 patient rooms, which provide a peaceful place for healing.

Among the building’s sustainable features are efficient mechanical systems and use of natural light. The rectangular building was deliberately positioned at an east-west angle, which makes the best use of passive solar energy. Large windows throughout the building, including in patient rooms, hallways and the cafeteria, provide natural light.

“When we planned the new building, our goal was to create a restful place for patients to heal and a great place for associates to work,” said Iqbal Mian, a Lean leader who focuses on sustainability efforts at Ministry Health Care. “We also wanted the building to be sustainable, so we deliberately planned and constructed the building in this way. For example, water is a precious resource, so we installed low-flow faucets, toilets and showers throughout the building. Because of these water-conservation practices, the building uses 275,000 fewer gallons of water each year.”

The new building has ground-floor and rooftop gardens, which benefit both patients and the environment. Instead of being covered with rubber roofing or metal panels, some are covered with plants. These “living roofs” help with sound and provide a more appealing view for patients. Research shows that patients who view natural scenes heal more quickly and need less pain medication.

In addition to benefiting patients, rooftop gardens absorb rain runoff, improve air quality and offer thermal insulation. By moderating temperatures, buildings that boast “living roofs” stay warmer in the winter and cooler in the summer.

“While a traditional roof can heat up to 90 degrees above air temperature, living roofs usually don’t rise above air temperature in the summer,” Iqbal said. “If you looked at two buildings standing a block apart on a warm, sunny day, the traditional roof could reach 160 degrees while the green roof wouldn’t get above 70 degrees. A living roof helps the whole neighborhood stay cooler. This moderating effect is especially noticeable with large structures, such as hospital buildings.”

Living roofs are just one example of the sustainable approach evident in the new building at St. Elizabeth Hospital. With these environmental considerations in place, hospital leaders are working toward recognition through the Leadership in Energy and Environmental Design (LEED) program.<sup>10</sup>

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## **7 Water Conservation**

*Decreasing the strain on municipal water supplies and reducing energy needed to treat and deliver water*

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### **Water Conservation at Ascension Hospitals**

Ascension hospitals, including AMITA Health Alexian Brothers Health System, Chicago; Ministry Health Care, Appleton, Wisconsin; Seton Healthcare Family, Austin, Texas; and Via Christi Health, Wichita, Kansas, conducted water audits to establish a baseline of water use in order to set goals and create future plans for conservation and water use reduction.

Saint Thomas Rutherford Hospital, Murfreesboro, Tennessee, employed greywater systems and installed two native grass areas to reduce the use of potable water for irrigation. St. Elizabeth Hospital, Appleton, Wisconsin assessed municipal reclaimed water and greywater systems to determine applicability for irrigation, cooling towers and building maintenance.



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## 8 Environmentally Preferred Purchasing

*Purchasing products that are durable, efficient and cost-effective, while reducing the hospital's environmental impact*

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**The Resource Group**, the purchasing organization for Ascension, added a Sustainability and Diversity Manager position in early 2015, signaling a commitment to establish Ascension as a leader in healthcare sustainable purchasing practices. The Environmental Stewardship Program is actively collaborating with The Resource Group to measure baselines, set goals, implement improvements, track sustainability performance with vendors over time and celebrate success. Sustainability language is being added to Requests for Information (RFIs), Requests for Proposals, (RFPs) and quarterly business reviews with current vendor partners with the intent to foster innovation while maintaining cost-saving opportunities as a top priority. A future goal is to develop vendor scorecards for specific product types to evaluate sustainability criteria.

Ascension is aggregating its purchasing power with other healthcare systems and the K-12 and higher education markets through participation in the Practice Greenhealth Market Transformation Group to effect change and create demand for greener products. TouchPoint, FoodBuy and Ascension are actively involved in the current focus to reduce the use of routine, non-therapeutic antibiotics to raise poultry, beef and pork.

An concerted effort is underway at Ascension to reduce the use of polystyrene and Styrofoam products in food service. Several cafeterias have eliminated the use of Styrofoam containers entirely and have created “wrapping stations” using paper plates and plastic wrap as an alternative to Styrofoam carryout containers.



Right: Carolyn Koehn, Director of Safety, EVS, & Emergency Management, Via Christi Health, Wichita, Kansas, receives the Pollution Prevention Award from the Kansas Department of Health and Environment.

Bottom: A reusable mug was provided to associates as part of the 'Ugly Mug' polystyrene-reduction contest at Seton Healthcare Family, Austin, Texas.



## EPA Grant for Via Christi Health

The Kansas State University Pollution Prevention Institute (PPI) has received several Environmental Protection Agency (EPA) grants to work with **Via Christi Health** to develop and implement Environmentally Preferred Purchasing (EPP) practices resulting in measurable environmental outputs and enhancing the patient care environment. The current Via Christi engagement is focused on evaluating and reducing toxic, high-risk plastics, packaging and shipping emissions. Several of the grants funded summer interns that studied specific "Greening the OR" projects.

As a result of work with the EPA grant program, The Kansas Department of Health and Environment awarded Via Christi a **2015 Pollution Prevention Award** for its "Greening the OR" initiatives and efforts in energy conservation.

The award recognition stated: "Operating Room teams at Via Christi use hundreds of single-use devices and instruments every week. Instead of discarding the devices, Via Christi Health works with a vendor to reprocess and reuse these devices. Nearly five tons of devices that used to be incinerated or landfilled are now reprocessed annually, at a cost savings of approximately \$159,000. Each of Via Christi Health's 19 surgical rooms has one light fixture that supports two spotlights. By upgrading the OR lights, Via Christi Health saved 84,840 kilowatts per hour (kWh) and experienced savings of \$8,484. Via Christi Health also replaced conventional lighting in underground passageways that connect the hospital to the distribution and energy centers, parking lots, garages and ongoing remodeling projects. The lighting fixtures replacement documented savings of 135,200 kWh/year, representing a 50 percent reduction in energy use."



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## 9 Waste Management & Reduction

*Reducing waste while increasing recycling and donations, safely*

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**Saint Agnes Hospital in Baltimore, Maryland** installed 200 Regulated Medical Waste (red bag) roll dispensers in acute-care patient areas. This best practice is estimated to reduce red bag waste contamination and will result in a 5 percent decrease in overall Regulated Medical Waste (RMW) generated. The smaller bags, installed in patient rooms where minor amounts of RMW are created, will reduce occurrences of solid waste being contaminated with medical waste in patient care areas.

Ascension hospitals participate in the FDA-approved Stryker medical device reprocessing program to capture and reprocess items such as blood pressure cuffs, compression devices and endoscopic trocars. **Lourdes Hospital in Binghamton, New York** reports, "The Stryker reprocessing program has been quite successful here. This accomplishes not only waste avoidance but cost savings recognized by the facility. EVS is responsible for collecting, labeling and shipping out the reusable items that are collected throughout the hospital. For FY15, Lourdes Hospital saved \$103,305 by reprocessing instruments." **St. Vincent's Hospital in Birmingham, Alabama** collected over 36,000 devices which was 150 percent of goal.

**Ministry Saint Clare's Hospital in Weston, Wisconsin** created the ROSE (Rescued Office Supply Exchange) in which office items, including furniture and equipment, are offered to associates for both personal and professional use.

Stericycle is implementing the Integrated Waste Stream Solutions (IWSS) program at many Ascension hospitals, which includes five major waste categories: Solid Waste; Recycling (with multiple sub-categories); Regulated Medical Waste; Hazardous Waste and Pharmaceutical Waste. The program includes "after-care" visits where a Quality Control Manager from Stericycle walks the facility to check waste streams and ensures proper waste-disposal protocols are being followed. Any deficiencies that are found are documented with follow-up to the manager of the unit. Also, education is provided on the spot to individuals so they understand the importance and savings associated with proper waste disposal.

## Lean & Green in the OR

The Ascension Health Environmental Stewardship Program is working with The Resource Group to employ Practice Greenhealth “Greening the OR” tools. Ministry Health Care has developed lean 5S techniques in this effort. These two initiatives have been combined to provide powerful results and are planned to be replicated across Ascension acute-care hospitals.

Walk into the assembly plants at Toyota or Boeing and one can see that there is a place for everything and everything is in its place. Apply this line of thinking to hospitals and you’ll quickly see clinical and non-clinical areas transform. This is what the process improvement tool of 5S (Sort, Straighten, Sweep, Standardize and Sustain) can do. It is widely underutilized in the healthcare industry but with an environmental focus, it becomes a cost-effective way to engage departments and turn functional areas into high performance stations, all while eliminating environmental waste in process and physical form.

**Ministry Health Care** has demonstrated success with this methodology in environmental services (EVS), laboratory services, biomedical services, in-patient rooms and the OR. Participants across Ascension can learn how to conduct their own rapid-improvement events and cover fundamental concepts of 5S through small simulations. Standard work checklists help users assess areas, create teams and address environmental waste that may be hiding in work areas.



*Below: Zach Eichhorst, Intern, participates in the Greening the Operating Room plastics recycling program at St. Elizabeth Hospital, Appleton, Wisconsin.*



The Ascension Environmental Stewardship Program publishes articles and presents at regional and nationwide seminars in order to share sustainability practices across healthcare. This section recaps items published in Greenhealth magazine and presentations at the CleanMed annual healthcare sustainability conference.

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## One Ascension – Collaboration

*In response to a request to demonstrate the success of One Ascension collaboration with Seton Healthcare Family, the authors cited Seton's longstanding involvement with the Environmental Stewardship Program.*

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### **An Ascension-Seton success story**

What does it mean to be a member of a national ministry? We've listed successes and "wins" that resulted from Seton's partnership with Ascension Health. Working with our national ministry allows us to improve operations, offer additional services and reduce costs, all of which enable us to continue providing care with dignity and respect.<sup>11</sup>

Stewardship of natural resources and the environment is a philosophy deeply embedded at Seton. In 2011, Ascension Health established an environmental stewardship program and asked all Health Ministries to create a plan to meet annual goals. But two years before Ascension began its program, Seton started setting goals and crafting its own environmental stewardship plans.

As of 2014 – in partnership with Ascension Health – Seton's hospitals have:

- Adopted the Department of Energy's Better Buildings Challenge. By following a robust set of operations and maintenance standards all Seton hospitals are on track to reduce their energy consumption by 20 percent by 2020.
- Earned a \$75,000 energy rebate at Seton Medical Center Austin from the City of Austin.
- Reduced the number of kilowatt hours consumed through lighting retrofits and the installation of more efficient heating and cooling units and improved indoor air quality with upgraded HEPA filters.
- Established green teams and recycling programs at Dell Children's Medical Center of Central Texas, Seton Southwest, University Medical Center Brackenridge, Seton Northwest, Seton Medical Center Austin, Seton Shoal Creek, Seton Medical Center Williamson, and Seton Medical Center Hays, which diverted more than 20% of each site's waste to recycling.

By Penney Berryman and Laura Brockway



## Ascension Demonstrates Care of the Earth

About 15 years ago, the **Daughters of Charity and the Sisters of St. Joseph** combined their health systems to establish Ascension Health. After remarkable growth, the ministry was recognized as America's largest Catholic healthcare system in 2004. Today, Ascension – the parent organization of Ascension Health – is composed of 24 regional Health Ministries with 131 hospitals in 23 states and Washington, D.C. "Care of the Earth" is the Catholic social teaching tenet of sustainability, so it's no surprise Ascension, its Health Ministries and founding institutions are focused on environmental responsibility. Ascension hospitals began to track energy use in 2007 using Energy Star Portfolio Manager with a goal of reducing energy use by 5 percent. They met that goal in 2011, and that same year hospital representatives asked Ascension to create a central program to track all sustainable initiatives that had been in progress for years at its individual hospitals.

Ascension worked closely with Practice Greenhealth, Health Care Without Harm, the U.S. Green Building Council, the Catholic Health Association and the American Society for Healthcare Engineering to create an Environmental Stewardship Program with nine focus categories.

Today, hospitals within Ascension continue to track sustainability in these areas. "We ask each Health Ministry to set four goals every year: one goal in the area of energy efficiency, the second in water conservation, the third goal in education and communication, and then the fourth goal can be from any of our nine categories," said Lois Sechrist, Environmental Stewardship Program manager at Ascension. Flexibility in goal setting and green-team organization is a way for each Health Ministry to evaluate its region's specific needs in environmental stewardship, Sechrist said.

Since tracking its energy use beginning in 2008, Ascension has achieved a 16.8 percent reduction in gas and electric consumption, which translates to \$47.4 million in cost avoidance and 720,000 tons of carbon dioxide emissions reduction. Ascension is ahead of schedule in the Department of Energy's Better Buildings Challenge to reduce energy use by 20 percent across all hospitals in the system by 2020, a goal it set in 2011. These successes are even more remarkable when considering Ascension has only one staff member focused on energy efficiency at the System Office.<sup>12</sup>

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## Demonstrating Care of the Earth

*The Ascension Environmental Stewardship Program was featured in Greenhealth magazine in the Spring 2015 issue*

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# Climate Change Resiliency

*Iqbal Mian, Ministry Health Care in Appleton, Wisconsin, wrote this article as part of Ascension's engagement in the Health Care Climate Council. Contributors were Robin Guenther, Principal at Perkins+Will and Senior Advisor to Health Care Without Harm and Gary Kusnierz, Vice President of Performance Excellence at Ministry Health Care.*

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## Climate Change Resiliency at Ministry Health Care

Across the country, a specific conversation is taking place. Inside the lower level of **St. Elizabeth Hospital (Appleton, WI)**, a cross-functional team consisting of a facility director, environmental services director, emergency preparedness director, a maintenance technician, nurses, safety and security personnel and a sustainability leader gather at an eight-by-ten-foot conference table. The projector overhead displays a robust spreadsheet with multiple tabs. An ice breaker is exercised with smiles and laughter erupting. Shortly after a reflection is read, the team dives into an intimidating question: how resilient is St. Elizabeth Hospital in the short and long term in respect to climate change events?

We've seen the horrific and mesmerizing images from Hurricane Katrina; and the cost of not being prepared is often times beyond economic. "Hospitals that are anchor institutions in the community equate to the viability of that community. In New Orleans, 70% of healthcare capacity was lost and once healthcare professionals left in the aftermath, the talent gap was devastating and it contributed towards a complicated economic recovery," says Robin Guenther, respected author of Sustainable Healthcare Architecture and senior advisor to Health Care without Harm. Guenther, recently empowered the entire healthcare industry by introducing the Five Elements Checklist and supporting documentation of best practices (i.e. Primary Protection: Enhancing Health

Care Resilience for a Changing Climate).

In totality, the Five Elements Checklist encompasses: Climate Risks and Community; Land Use, Building Design and Regulatory Context; Infrastructure Protection and Resilience Planning; Essential Clinical Care Service Delivery Planning; and lastly, Environmental Protection and Ecosystem Adaptations.

With these tools ready for use, the team at St. Elizabeth Hospital dove into humble discussions around the 96-hour window in the hazard-vulnerability assessment as the Five Elements Checklist highlights the problem of duration. "In many cases, disturbances go on longer than people are equipped to handle. The VA in New Orleans is designed for seven days (168 hours) without community aid. Relying on municipal utilities can be questionable for hospitals especially as they can be vulnerable to extreme climate events," says Guenther. The winter storms that battered Michigan and New England to New York in 2013 left half-a-million homes and businesses without power and another half-million in Canada over the holidays.

Thus, the team at St. Elizabeth Hospital asked what happens when fuel and supply trucks can't reach the hospital after the 96 hours if an ice storm makes roads dangerous for travel. The harsh reality is after 96 hours, the hospital is at the mercy of external resources and their ability to arrive onsite. The team discussed the potential hail or wind damages that could befall the exposed cooling towers on the northwest portion of the campus and the staffing implications of clinical care. Because of the rigors and collaborative work with state and local agencies, the

site is prepared in key areas ready to serve the community through unforeseen events. For example, the Green Tier program the hospital participates in, in conjunction to having heavy involvement with the Wisconsin Hospital Emergency Preparedness Program (WHEPP), gives this campus statewide data and resources to apply toward equipment.

The opportunities that resulted in conducting the checklist at St. Elizabeth Hospital include (but not limited to):

- *Better long-term projection of future climate hazards (e.g. 2050 or 2080)*
- *Financial implications of indirect climate risks such as drought or fossil fuel prices*
- *Flooding considerations to elevators below grade*
- *Overheating tolerance of occupants before evacuation*
- *Continued exploration of staffing strategies during surge*
- *Inquiries in high wind and flooding implications*
- *Procurement strategies behind non-medical materials beyond the 96-hour window*
- *Further investigation to contingency waste-management processes during climate-related emergency scenarios.*

After a considerable review, the team takes a brief moment to reflect on the many positive features, plans and policies in place to mitigate risks and harm for the community here in Wisconsin. Just like any continuous improvement organization, the team now embarks on knowledge sharing and additional data gathering to better understand current state in order to prepare the future state for potential climate event.

The exercise proved valuable as cross-functional team members communicated to local departments the crucial need to be conscious of safety, quality and the environment; especially as this was the first full-climate assessment of the campus that took place around these specific elements.

Resiliency is a needed national discussion. "Hospitals leaders need to be at the table and despite the perception of weather being unique to specific regions, there are universal issues of intensity, duration and reliability. Leaders need to be active participants in resiliency conversations in the community and be frank on their hospital's role." This thought is reinforced by leaders at Ministry Health Care in Wisconsin.

"Our focus is on the patient and their families during these turbulent events and responding accordingly requires significant discussion and change management. We are called to our values and must treat people with respect and healthcare leaders must have humility in response to climate change events which can often times be devastating to the communities we serve. Our AIM4Excellence model therefore reiterates cultural enablers at the local site to collaborate with regional resources and with system alignment we can extend knowledge sharing with national resources. Even in an extreme ice storm, at the end of the day the patient will tell the story; their experience through our ability to deliver extraordinary person-centered care can make headlines," says Gary Kusnierz, VP Performance Excellence.<sup>13</sup>





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# A New Way of Thinking

*The Ascension energy efficiency program was featured in Greenhealth magazine in the Summer 2015 issue.*

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**Ascension Health is challenging the status quo with an innovative sustainability program focused on reducing energy use, saving millions of dollars that can be redirected to its core health care mission.**

It's rare when a health system's work pleases both the U.S. Department of Energy and the Vatican.

But facility managers, engineers and other leaders throughout Ascension Health, the nation's largest nonprofit health system and the world's largest Catholic health system, are utilizing data and metrics to meet the expectations of both U.S. Secretary of Energy Ernest Moniz and Pope Francis.

Ascension's roots in stewardship and sustainability can be traced back hundreds of years to the religious principles of its founders. Today, digital dashboards and spreadsheets help Ascension's leaders achieve benchmarks that contribute to a triple bottom line – environmental benefit, financial performance and social impact.

## The Energy Efficiency Expert

Energy efficiency is the backbone of Ascension's Environmental Stewardship Program and was the first area of focus when the program was developed by Ascension's Facilities Resource Group. In 2007, energy use began to be tracked at all acute-care hospitals through the Environmental Protection Agency's Energy Star Portfolio Manager® database. Although an initial goal was set for a 5 percent energy-use reduction, Ascension achieved a 13.8 percent reduction during its first six years (2008–14).

The overall impact of these savings on a hospital's operating cost is substantial. Consider this: Saving \$1 in energy is equal to approximately \$20 in new revenue for a typical nonprofit healthcare organization. That's significant for an organization that last year provided \$1.8 billion in care for persons living in poverty and other community benefit programs.

Although the initial 5 percent goal was not scientific, it's important for facilities embarking on a program to establish a goal so they can know where to go. In Ascension's case, once they met that 5 percent goal the facility set a more ambitious one.

Ascension's new goal is reducing energy use by 20 percent by 2020 throughout its more than 100 acute-care hospitals, which cover 35 million square feet. The annual savings is estimated at \$30 million. As a result of this program, Ascension became a founding partner of the Department of Energy's Better Buildings Challenge, which publishes data on progress made toward energy reduction on the [www.energy.gov](http://www.energy.gov) website.

## Culture Counts

Several factors contribute to the rapid improvement in energy reduction programs at Ascension. One is the underlying culture dedicated to proper stewardship of resources throughout Ascension's Health Ministries in 23 states and the District of Columbia. An Ascension executive stated: "Sustainability is important. It ties into our mission. We look at environmental stewardship from a financial standpoint and also keep in mind the environmental and social considerations. We need to improve population health, reduce our energy use and reduce our use of coal that puts toxins in the air."

The emphasis on environmental stewardship begins at the top – the Vatican. Pope Francis' focus on the care of other persons and the environment is challenging Ascension's people and organizations to reflect deeply on ecology.

"I would like to ask all those who have positions of responsibility in economic, political and social life, and all men and women of goodwill: Let us be protectors of creation, protectors of God's plan inscribed in nature, protectors of one another and of the environment," Pope Francis said.

Ascension's historical sponsors have also long been advocates for societal change and environmental stewardship, and that legacy helps inform Ascension's efforts.

As representatives from the environmental stewardship program met with Health Ministry leaders throughout Ascension, they learned about many initiatives that align with the founders' approach to environmentalism.

The challenge was that previously no one was tracking all of those across the system. Ascension formalized its program following the model from Practice Greenhealth, which has served as an outstanding resource<sup>14</sup>

## How Ascension Made It Happen

As Ascension developed and executed a plan to reduce energy usage, its number of facilities and the diversity of its acute-care hospitals created unique challenges in an already complex health care environment. As a start, the health system selected four engineering firms as partners and reviewed best practices in energy efficiency throughout the industry. A playbook was created to facilitate consistent adoption of methods and predictable results.

Next, Ascension gathered data on energy utilization throughout its facilities by conducting a supply-side audit. Utility bills and other utility data were collected. Energy consumption was analyzed along with how utilities charged the facilities. Each facility's energy performance was benchmarked against a system average.

With playbook and data in hand, Ascension conducted a system-wide webinar to roll out the program with facility managers and learn what actions needed to be completed at individual facilities.

The Ascension playbook reviews energy utilization and improvement opportunities in two areas: retro-commissioning and infrastructure review and repair.

Ascension requires commissioning for new construction and retro-commissioning for existing buildings. The quality-control processes ensure optimization of operations and proper maintenance of heating, ventilation and air-conditioning systems. The four pillars of Ascension's retro-commissioning are:

- *Identify broken items and systems. Repair or replace them.*
- *Review the facility's occupied and unoccupied scheduling to determine if systems can be shut down or set back when specific areas aren't being utilized.*
- *Ensure the amount and quality of air is being delivered according to current codes and standards.*
- *Establish standards for climate control sequences for optimal performance.*

The infrastructure review and repair includes an analysis of a facility's building control systems. Energy reduction opportunities are limited in buildings with outdated controls, so improving those control systems allows precise regulation of temperature and airflow. It also provides the capability to turn some systems off during unoccupied hours while still ensuring comfortable conditions when occupants arrive.

A common barrier to improving infrastructure in healthcare facilities is a lack of dedicated capital for replacement, renewal or improvement of existing equipment and other building infrastructure. Throughout health care, there's competition for capital dollars between needed infrastructure improvements and clinical equipment.

Ascension committed to invest more than \$50 million in capital expenditures for energy improvement measures in pursuit of its goals. In fiscal year 2014, 20 percent of Ascension hospitals reported leveraging capital dollars by capturing energy conservation rebates from local utilities to pay for retro-commissioning fees, LED lighting retrofits, chiller and cooling tower replacements and photovoltaic renewable energy installations.

Accurate and timely data informs and motivates facility managers and engineers throughout Ascension. Currently, monthly reports – scorecards – are compiled and distributed. The information contributes to accountability and, in some cases, spurs healthy competition. The current method of measurement and verification – collecting all utility bills, entering and analyzing data – is labor intensive. Ascension is developing a system that would collect all utility billing data and create a dashboard for reporting results on a real-time basis, providing high-level information at a glance.

The measurements, metrics and key performance indicators are not only for the facility managers, but can be shared with people in operations, the chief operating officer and the chief executive officer. Facilities should make sure to simplify this data so it can be understood by a wide audience. For example, Energy Star score and energy cost per adjusted patient day are good metrics to include.

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## Summary & Future Plans

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We have myriad ways to care for the earth as Pope Francis calls us to do.

***“Education in environmental responsibility can encourage ways of acting which directly and significantly affect the world around us, such as avoiding the use of plastic and paper, reducing water consumption, separating refuse, cooking only what can reasonably be consumed, showing care for other living beings, using public transport or car-pooling, planting trees, turning off unnecessary lights, or any number of other practices.”***

Laudato Si’, June 2015

The immediacy and urgency of climate change compels us to connect our actions in energy efficiency, waste management, green purchasing and access to healthy food to health outcomes for our patients, visitors, associates and the communities in which our facilities are located. The Environmental Stewardship Program uses Ascension’s voice as a faith-based health system to effect change.

According to a study from the Yale Program on Climate Change Communication, 17 percent of Americans and 35 percent of Catholics say the Pope’s position on climate change influenced their own views of the issue. Aligned with Pope Francis’s message, Americans are more likely to think climate change is a moral issue, a social fairness issue and a religious issue than prior to his U.S. visit in Fall 2015.

The Ascension Environmental Stewardship Program requires active involvement at the Ministry Market, Health Ministry and hospital levels. We

call on executives to endorse the program to allow associates time and funding to participate in Green Teams, Practice Greenhealth and ongoing activities.

The Environmental Stewardship Program was formally established in 2011 after demonstrating the financial and environmental benefit of tracking energy-efficiency initiatives. Facilities Resource Group set the framework and structure for the program based on guidance from Practice Greenhealth and the Catholic Health Association. The next two years were spent researching, listening and learning in the emerging field of healthcare sustainability.

Tremendous change within Ascension continued in 2013, including creating the subsidiary companies Medxcel Facilities Management, The Resource Group and the Ministry Service Center. Partnerships with systemwide vendors such as TouchPoint, Stryker, Stericycle, and Schneider Electric demonstrated the ability to leverage purchasing power to influence green purchasing practices.

An emphasis placed on communications in 2014 helped to tell the Ascension environmental stewardship story within the healthcare community. The One Ascension Ministry Market alignment created a stronger emphasis on regional collaboration.

In 2015, the fifth year of the Environmental Stewardship Program, Ascension is recognized as a leader in healthcare sustainability. Several threads of work are meshing together: the Pope’s encyclical and Mission Integration; the One Ascension organizational structure



and cross-collaboration between work streams; and the facility implications and health impacts of climate change.

2016 plans for the Environmental Stewardship Program include the following:

- *Request stronger executive endorsement at the Ministry Market and Health Ministry levels. Without top-down support, hospital and Health Ministry associates are not empowered to allocate funds and participate in sustainability work.*
- *Maintain partnerships with systemwide vendors to track data. Use Practice Greenhealth and vendor programs to set baselines, implement process improvement activities, measure performance, set goals, make adjustments as necessary and celebrate success.*
- *Reinforce alignment with the Environment of Care (EOC) committees at hospitals in order to streamline Green Team reporting. The EOC is focused on efficiency and improvement, aligning well with environmental stewardship, and provides access to an existing multi-disciplinary group without the need to set up a committee with separate meetings. Conversations about environmental stewardship can occur naturally, helping to infuse green behavior across the organization.*
- *Stay current with issues such as climate change and resiliency. Involvement in NGO and advocacy organizations such as Health Care Without Harm, Catholic Health Association, Practice Greenhealth and Health Care Climate Council inform Ascension's sustainability program development. Our work will remain nimble and adaptable as Ascension continues to grow and evolve.*



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# One Ascension Green Team

*Talk to Green Team members  
for inspiration.*

*To find out what your colleagues  
are doing, contact a member of  
the One Ascension Green Team,  
made up of representatives from  
each Health Ministry and key  
One Ascension departments. The  
members provide leadership for  
the Environmental Stewardship  
Program across Ascension. Each  
Health Ministry and hospital are  
then asked to identify a leadership  
structure at the local level to  
implement the program.*

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## Sources

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