

BEYOND THE BIN

How Healthcare Is Responding to the Sustainability Movement

By Deborah Popely

Acting on the ethical imperative “First do no harm,” healthcare organizations throughout the United States are viewing environmental sustainability as an extension of their mission to promote the health and well-being of the community.

“Healthcare hasn’t been at the forefront of the green movement, although there have been some early adopters,” says Bob Eisenman, executive director of the Global Health and Safety Initiative (GHSI), an effort initiated by the nation’s largest health systems to address healthcare’s environmental footprint. “Now healthcare leaders are increasingly asking, ‘What should I do?’ and ‘What will it cost?’”

Hospitals are among the largest users of energy and water and generate tons of solid and medical waste that can expose patients, staff and community residents to toxins and pollution. As large emitters of carbon dioxide (CO₂), hospitals also contribute to global warming, which has been linked to weather-related disasters and outbreaks of disease.



“As a Catholic healthcare institution, we have had a long-standing commitment to environmental stewardship,” says Robert Henkel, FACHE, COO of Ascension Health System, St. Louis. “There is no doubt, however, that media attention, rising public expectations and a new president with a strong environmental agenda (are) helping propel this movement forward.”

According to Bob Jarboe, executive director of the nonprofit advocacy organization Practice Greenhealth, “The hospital, in essence, can situate itself in the broader ecology of its

community and region and act as a healing force.”

Adds Henkel, “For us, it’s about creating healthier communities.”

A Profitable Investment

There is growing evidence that greener facilities improve patient outcomes, decrease lengths of stay and improve the health and performance of staff, while saving money and minimizing liability and compliance risks.



EASY GREEN IDEAS

- Switch from Styrofoam and other disposables to china, drinking glasses and coffee cups in the cafeteria.
- Adopt reusable sharps containers.
- Replace blue wrap with reusable sterilization cases.
- Eliminate plastic bags from health fairs.
- Provide reusable canvas bags for patient belongings.
- Decrease paper use—more PowerPoint and two-sided printing.
- Use rechargeable batteries.
- Eliminate mercury.
- Reprocess single-use devices.
- Recycle paper, aluminum and cardboard.
- Collect old cell phones, computers and components for recycling.
- Retrofit lighting with more energy-efficient bulbs.
- Switch to green cleaners.
- Start a carpooling program.
- Provide bikes for employee errands.

“Sustainability is an extension of our mission to provide the highest level of personalized care,” says Daniel E. Neufelder, FACHE, president and CEO of Affinity Health System, Appleton, Wis. “Our data show the highest patient satisfaction and lowest staff and physician turnover occur in our green facilities.”

Daylight and improved indoor air quality also have an impact on employee health and productivity, yielding a 2 to 16 percent increase in worker and student productivity, according to internal data from the U.S. Green Building Council (USGBC), a leading environmental

training and certification, non-profit organization.

In addition, going green can offer a competitive advantage. Parrish Medical Center, Port St. John, Fla., is a Leadership in Energy and Environmental Design (LEED)-certified diagnostic treatment center on a 33-acre site that includes a four-acre nature preserve to appeal to a younger, more environmentally conscious demographic. “We have captured tremendous market share in this community because we have built a project consistent (with) and reflective of the community in which it is located,” says George

Mikitarian Jr., FACHE, president and CEO of Parrish.

Getting Over the “Cost” Hurdle

“There are some real costs involved in making these changes, but the return on investment can be substantial,” says Ascension Health’s Henkel.

“The conventional wisdom is that green building costs more,” says Julie Schaffner, FACHE, COO of Advocate Lutheran General Hospital, Park Ridge, Ill., which is in the process of building its \$200 million Gold LEED bed tower. “But in reality it is less expensive if you look at the cost over the life of the project.”

Adds David R. Lincoln, FACHE, president and CEO of Covenant Health Systems, Lexington, Mass., “It is important to educate people in your organization. You have to present them with facts and figures and give them the opportunity to raise objections and concerns.”

Skeptics can be convinced, Lincoln says, by “focusing on taking small steps, doing things that objectively work and going after the low-hanging fruit. We try to take a balanced approach, continuing to make advances but being realistic about what we can and cannot do right now. We count pennies and make it work.”

Eliminating bottled water is an example of this type of change. “Two or three years ago, we replaced bottled water with pitchers and tap water



at all our meetings,” says Ascension Health’s Henkel. “Not only does it conserve water and reduce the demand for plastic, it actually saves us a lot of money each year.”

Many Routes to Sustainability

Sustainability is defined as “meeting present needs without compromising the ability of future generations to meet their needs,” according to the World Commission on Environment and Development (WCED), which was convened by the United Nations in the 1980s. How healthcare organizations go about achieving that goal varies, but much of the current activity falls into the following areas:

Green Building and Renovation

Green building is one of the most visible manifestations of the green healthcare movement, particularly as hospitals replace or rebuild decaying facilities to accommodate the needs of aging baby boomers. Eileen Secrest, director of communication for Practice Greenhealth, says the building boom has slowed in response to the recent economic downturn, “but there are many projects planned—many of them with sustainable features—that are waiting on funding.”

The Green Guide for Health Care (GGHC), a project of the nonprofit Center for Maximum Potential Building Systems (CMPBS) and Health Care Without Harm, is generally viewed as the green building and operations Bible for the healthcare

sector. According to CMPBS Chair Gail Vittori, the *GGHC* was initiated in 2002 to “help jumpstart the process of establishing a green standard for healthcare at a time when there was a void in the marketplace.” To date, more than 160 U.S. projects have self-certified with the *GGHC*. In addition, more than 22,000 individuals subscribe to the *GGHC* Web site for updates and guidance on green building and operations.

According to Vittori, some healthcare green building initiatives seek certification with the USGBC’s LEED Rating System, often in addition to self-certification through the *GGHC*,

in order to obtain independent third-party validation. Each of the healthcare providers interviewed for this article has one or more green building projects under way and most involve LEED certification. The USGBC is in the process of developing a new standard to meet the specific needs of the healthcare market and expects to release it in 2009.

Recycling and Waste Reduction

“Cleveland Clinic has a responsibility to create and maintain programs that contribute to improvements in our environment,” says Delos (Toby) M. Cosgrove, MD, FACHE, president and CEO of Cleveland Clinic. “By



Dell Children’s Hospital in Austin, Texas, is the world’s first Platinum LEED hospital. The design conserves water and electricity, improves air quality, reduces pollutants and allows sunlight to reach 80 percent of the available space. A 4.3-megawatt, natural gas-fired power plant produces 100 percent of the hospital’s electricity, heating and cooling.



SNAPSHOT OF GREEN HEALTHCARE PRACTICES

In fall 2008, Practice Greenhealth surveyed its members about current and future green initiatives. More than 50* hospitals and health systems from 22 states and Ontario responded to the survey.

Findings include:

WASTE REDUCTION Sixty-one percent had implemented a waste-reduction plan, and 30 percent were in the planning process.

RECYCLING Thirty-three percent of respondents recycle at least 20 percent of their facility's waste.

ENVIRONMENTALLY PREFERABLE PURCHASING Ninety-three percent have or are in the process of implementing an environmentally preferable purchasing (EPP) program.

ENERGY Ninety-three percent have made efforts to increase energy efficiency. Seven facilities report generating renewable energy on-site. Four facilities report using renewable energy to supply 3 to 17 percent of their overall energy use.

SUSTAINABILITY LEADERSHIP Seventy-nine percent have or are planning to designate an individual to lead sustainable activities. Eighty-nine percent have a green team or use an existing committee.

SAVED MONEY AS A RESULT Sixty-eight percent report saving money as a result of sustainable initiatives. Thirteen respondents reported saving from \$10,000 to \$2 million.

** Total responses varied from 53 to 58 depending on the question. Percentages are based on total responses to particular questions.*

expanding our recycling program and exploring other sustainable efforts, we hope to do our part for future generations." As a result of its efforts, Cleveland Clinic increased waste diversion to 15 percent in 2008, up from 9 percent in 2007, and expects another increase in 2009.

"The first step is to get a handle on your waste and see where you can cull materials from what's typically disposed of," says Christina Ayers, Cleveland Clinic's first director of its new Office for Healthy Environments. "For example, we switched to reusable sharps receptacles, which are

processed and redeployed. We also replaced disposable blue wrap with reusable metal sterilization cases."

Cleveland Clinic also has worked out a take-back arrangement with its IT vendor to reduce e-waste and has initiated a program for reusing furniture within its system, "which saves us a significant amount of money," says Ayers.

Purchasing and Supply Chain

Most green healthcare initiatives include efforts to purchase environmentally preferable equipment, medical supplies and chemicals that minimize patient risk, protect employee health and limit any negative impacts on the surrounding community. For example, Advocate recently switched to DEHP-free tubing to protect male newborns in the intensive care unit. "We try to influence our vendors to develop products that meet higher standards of sustainability," says Advocate's Schaffner.

Mercury Free

Sustainability leader Kaiser Permanente pioneered the use of mercury-free thermometers, and now dozens of healthcare institutions are partially or fully mercury free. Affinity Health System is among more than 20 healthcare organizations recognized by Practice Greenhealth with its Making Medicine Mercury Free and Environmental Leadership Awards. "It took us a couple of years to work our way through the process. We had



Advocate Lutheran General Hospital's Bed Tower in Park Ridge, Ill., will be the state's first healthcare facility to achieve Gold LEED certification. Sustainable features include a special meditation garden (pictured above) along with a green roof; rain gardens; ultra-energy-efficient mechanical and electrical systems; recycled, locally produced and rapidly renewable materials; and a green building visitor center.

to switch out blood pressure devices, look at the central plant and rebalast lamps, among other efforts," says Gary Kusnierz, vice president, performance excellence, for Affinity.

Healthy Food

Healthcare providers serve thousands of meals each day to patients, staff and visitors. Cleveland Clinic has taken a unique approach to reducing the impact on the food system by establishing several "micro-farms" on 1.8 acres of vacant property. It then launched a farmer's market, which provides an outlet for these growers along with 30 to 40 other local farmers. "In addition to increasing the amount of locally

grown food served in our cafeterias, the program benefits employees, patients, community residents and the local economy," says Cleveland Clinic's Ayers. "We have an agreement to buy any leftover food for our cafeterias, but most of the time there is nothing left to buy."

Energy Efficiency

According to the U.S. Environmental Protection Agency's Energy Star program, healthcare organizations spend more than \$8.3 billion on energy each year to meet patient needs. More than 6,000 buildings in the United States have earned the Energy Star certification, of which 80 are healthcare facilities. Energy Star buildings on average use 40 percent less energy and produce 35 percent less carbon dioxide. Ascension Health's Henkel has documented an annual savings of \$900,000 across the system as a result of participation by 66 of the organization's 70 facilities in the Energy Star program.

Other health organizations are exploring the use of wind, biomass, natural gas and other alternative energy sources. Covenant Health Systems was one of the first healthcare organizations to participate in the Healthcare Clean Energy Exchange, a reverse auction program recently initiated by Practice Greenhealth and Premier Inc. Through this program, energy providers compete to supply

RESOURCES Practice Greenhealth: www.practicegreenhealth.org
Global Health and Safety Initiative: www.globalhealthsafety.org
The Green Guide for Health Care: www.gghc.com
Healthcare Without Harm: www.noharm.org
U.S. Green Building Council: www.usgbc.org
Green Seal: www.greenseal.org
Energy Star: www.energystar.gov
Center for Healthcare Design: www.healthdesign.org

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Christina Vernon Ayers, AIA, LEED AP, Director, Office for a Healthy Environment, Cleveland Clinic.



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Measuring and Mitigating Carbon

One of the biggest challenges is accurately measuring greenhouse gas emissions and creating a portfolio for systematically reducing CO₂. Part of the impetus behind GHSI is "working with the new administration and green healthcare groups to create a common template and framework for quantifying environmental impact and savings," says Ascension Health's Henkel, who is also GHSI's chairman.

This year, Practice Greenhealth launched a new Web-based tool to calculate the public health impact and costs of electricity consumed by U.S. health facilities generated from nonrenewable fossil fuel. The Healthcare Clean Energy Exchange Energy Impact Calculator calculates sulfur dioxide, nitrogen oxide, CO₂ and mercury emissions based on kilowatt use by the facility and the fuel mix of the relevant power grid.

These efforts are just the tip of the iceberg. Healthcare organizations also are working on issues such as water conservation, reduction of hazardous medical waste and donation of unused medical supplies to needy communities. All are helping healthcare move beyond the bin to a more sustainable future.

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