

By Bill Gregory

# Healthy and Safe

{ Green Healthcare Moves  
From Myth to Reality }

Sustainability requires more than recycling. Sustainable principles encourage a balance of concern for people, the environment and financial stability. For those involved with healthcare facilities, there is a growing awareness that designing and managing green build-ings includes the needs of many people—patients, physicians, staff, visitors and community. Providing safe and healing surroundings serves everyone.

A slow-to-change misconception is that developing and running a green facility costs more than traditional healthcare buildings. In fact, conservation of energy and water alone may save a typical hospital between \$100,000 and \$200,000 annually in operating expenses. This type of green benefit—whether realized as a cost or resource saving—is spurring the rise of sustainable buildings.

If not tipping, the healthcare industry is now leaning forward. Here are a few indicators:

- During CleanMed, Hospitals for a Healthy Environment (H2E) recognized almost 200 hospitals, health systems and healthcare organizations for their outstanding efforts to reduce medical waste, eliminate mercury and improve environmental performance.
- The Green Guide for Health Care Pilot program continues to grow rapidly.
- Medical associations across the country are exploring alternatives to disposable PVC products.



To encourage green, let's take a look at available resources, purchasing, buildings and interiors, efficiencies, maintenance and benefits.

## Resources

Whatever your level of expertise, here are a few sites specific to healthcare:

- Green Guide for Health Care, [www.gghc.org](http://www.gghc.org)
- Health Care Without Harm, [www.noharm.org](http://www.noharm.org)



- Hospitals for a Healthy Environment, [www.h2e-online.org](http://www.h2e-online.org)
- U.S. Environmental Protection Agency, [www.epa.gov](http://www.epa.gov)

In addition, professional and trade organizations are increasingly developing committees focused on healthcare issues as part of continuing education and conference planning. U.S. Green Building Council is the resource for LEED. The Alliance for Sustainable Built Environments, [www.greenerfacilities.org](http://www.greenerfacilities.org), educates the marketplace on the benefits of reducing facilities' impacts on the natural environment and on building occupants.

Local and state incentives for green construction, as well as traditional tax and subsidy programs, may give your budget the boost needed to make sustainable options feasible.

In addition, involving internal and external stakeholders in the process may open discussions to conserva-



**More and more healthcare facilities—like Baptist Medical Center South in Montgomery, Ala.—have taken a proactive stance to create healthy green facilities by banning the use of hazardous chemicals like PVCs in products, and using only products with low or zero VOCs.**

tion, waste management and design modifications to improve the overall safety and well-being of staff, patients and visitors.

### Purchasing

Purchasing procedures are sometimes cited as a challenge to the greening of healthcare. However, suppliers and contractors within your buying group or network are often reservoirs of experience with helpful insights. Advocates, media and public health officials also have increased awareness over the use of PVC, mercury and other commonly used medical materials, leading to new solutions and regulations.

Kaiser Permanente, the country's largest nonprofit healthcare provider, has a green team that works with manufacturers on selected products. Further, the company has taken a proactive stance to create healthy green facilities by banning the use of hazardous chemicals like PVCs in products. Spectrum Health's Butterworth Campus in Grand Rapids, Mich., established a purchasing policy stating that whenever possible, the hospital must buy mercury-free products. It replaced blood-pressure gauges with those containing a mercury-

free alternative, and it stopped sending traditional thermometers home with new mothers.

A growing number of local governments, including municipalities in California, Minnesota, New Jersey, New York and Washington, have adopted policies to reduce or eliminate PVCs. Some regulations address end-of-life actions, banning PVCs from landfills and providing encouragement to revise healthcare purchasing guidelines.

When talking with suppliers, some questions to consider include:

- Does the product contain chemistries that may adversely affect indoor air quality or the safety of those in the building?
- What warranties are provided?
- What is the anticipated downtime for installation?
- If LEED points are an issue, have we made a thorough comparison?
- Do performance and antimicrobial standards meet healthcare requirements?
- Green products come from green companies—is the manufacturer a sustainable organization?
- What are the end-of-life options with this product?

Green products enter the market at a rapid pace—compare with care. At present, The Sustainable Carpet Assessment Standard represents the first industry-wide green guidelines for a product category. Clarity in labeling will allow easier and time-saving comparisons. There are a number of high-performance flooring options, including carpet tiles with adhesive-free installation, that improve IAQ by eliminating off-gassing and VOCs.

### Buildings & Interiors

Healthcare projects represent less than 3 percent of total projects registered with the USGBC's Leadership in Energy and Environmental Design New Construction program (LEED-NC). LEED considerations include recycling construction waste, using recyclable items to lessen impact on landfills during future demolition, using local materials, and the use of high-efficiency energy and water systems.

The more targeted Green Guide for Health Care (GGHC) guidelines require integrated design and cover both construction and operations, plus specific health policy reasons for each of its credits. However, unlike LEED, it is self-compliant.

New design and renovation bring special considerations—evaluate your current green status to establish a benchmark and determine where you stand with LEED or GGHC. Next, determine attainable goals that are reason-



able within your budget and implementation schedule. Then review options that may require additional consideration. Payback or return on investment may serve as a criterion, although the time periods vary. Make a difference, but do not take actions that cannot be justified.

### Efficiencies

How many times do you hear sustainability is a continuous journey? No one says it's a vacation. To demonstrate results you will need to set realistic annual goals and measure progress. Efficiencies that reduce waste or costs, as well as increase safety or performance, make green more appealing.

The Boulder Community Foothills Hospital in Colorado became the first LEED-certified hospital in the United States, in part by eliminating redundancies to achieve operating cost savings. The hospital used an innovative knowledge-based integration approach in the design and construction of the facility systems. The results include a smoother construction process and dramatically



lower operating, energy and IT costs throughout the building lifecycle.

Daylighting and using efficient lamps and occupancy sensors can improve safety and lower energy costs. Air-handlers with digital controls that adjust for occupancy, and control steam and humidity, are another way to save energy.

Managing waste may generate social benefits. Dominican Hospital in Santa Cruz, Calif., distributes opened but clean supplies to the community rather than throwing them out. Surgical drapes that would have been landfilled become painters' tarps, and small jars become paint canisters in local schools.

### Maintenance

Proper maintenance extends product life and reduces costs of the systems and interiors of healthcare buildings. Facility managers who value a long-term maintenance system as much as they do the cleaning process, understand that there is no single across-the-board solution. Choosing the right long-term preventive maintenance

measures, such as tune-ups and systems calibrations, helps achieve a healthier and safer environment.

### Benefits

Concerns about hospital safety intensified in 1999. The Institute of Medicine reported that medical mistakes were a bigger killer than breast cancer or car accidents—with 44,000 to 98,000 patients dying each year due to errors. Design was enlisted in the battle to reduce hospital errors and insurance rates.

Adherence to green principles reaps financial and safety advantages that may include reductions in infection rates and injuries from falls. Sustainable design that matches the needs of caregivers and patients has the potential to reduce errors.

Health and safety are increased for patients and staff when germs are eliminated. Placing heating vents above the windows reduces the condensation that usually lets germs thrive. Non-slip flooring means fewer accidents and helps with sound absorption.

IAQ improves through the green product choices and building design. While some hospitals recycle their air up to eight times, the University of Michigan Health System opted to reduce the risk of spreading germs by not recycling air at all.

Supporting green initiatives goes beyond building design and materials. A sustainable facility that respects its occupants, as well as the Earth, has the potential for better staff recruitment and retention, greater control over the spread of infection, better patient outcomes, and improved status within the community.

Nonetheless, we must remember that the goal is not green-ness alone. The sustainable journey requires commitment to a holistic approach and stakeholder engagement. Small successes like an energy audit or a move to a greener cleaning protocol may break down obstacles to greater innovations. Our health is too important for a greenwash. ■



**Bill Gregory, director of sustainable strategies for the floor covering division of Milliken & Company ([www.millikencarpet.com/](http://www.millikencarpet.com/) sustainability), has actively participated in establishing sustainable standards for the carpet industry. He is also involved in a new initiative with the Alliance for Sustainable Built Environments and IFMA to increase knowledge of sustainable principles and practices among facility managers, including healthcare.**