They may not yet be treading lightly, but hospitals are starting to move a bit faster in efforts to reduce their carbon footprints. The improvements aren’t all about saving the Earth. More health care organizations are finding measurable ways to reap savings from sustainable operations initiatives as, after years of green talk, they start to walk the green walk.

While some recommended practices are proving slow to take root nationwide, a Health Facilities Management survey conducted in cooperation with the American Society for Healthcare Engineering (ASHE) and the American Society for Healthcare Environmental Services (ASHES) found that hospitals generally are starting to embrace sustainability for its bottom-line benefits as well as the obvious pluses for the environment and community.

In a still-rocky economy, hospitals feel they have no choice but to make it about the money. Cost savings was the No. 1 factor cited by the 960 ASHE and ASHES members who participated in the survey in terms of influencing whether their facility opts for environmentally sustainable operations.

Yet it’s clear that a return on investment is being found more often. The survey showed that organizations are incorporating greener ways of thinking into core areas of operations—energy, water, waste and cleaning—and achieving measurable results from various initiatives.

Some of the greatest progress has come in energy cost savings, critically needed since the nation’s hospitals tend to be energy intensive. Beyond energy conservation, though, organizations also are seeing steps in recycling, waste management, waste reduction and innovative cleaning methods pay off. The category selected most often by respondents when asked to describe their facility’s single greatest success in a sustainable operations.
The increased interest and commitment to sustainability among hospital executives is reflected in the results of the HFM/ASHE/ASHES Sustainable Operations Survey. Nearly 70 percent of those responding said their facility had a documented sustainable energy management plan. But the survey results underscore the fact that sustainability goals can be challenging to achieve, especially when missions and priorities are not clear. "Health care is a mission-driven organization," says Charles A. "Skip" Smith, CHFM, FAHCA, director of facilities for Catholic Health Initiatives. "A lot of the early challenges were because of the lack of understanding or acceptance of the mission of the hospital, the mission of the organization, for sustainability efforts. That number is likely to increase as organizations see more results, according to Smith."

"Hospitals are seeing that energy efficiency is a point of a conversation," says Clark Reed, director of energy management and sustainability at Providence Health & Services in Renton, Wash. "The health care community is very much coming together around sustainability," he says. "It is really resounding as a topic right now."

That is a far cry from the prevailing skepticism of just a few years ago, Charles A. "Skip" Smith, CHFM, FAHCA, executive director of facilities for Catholic Health Initiatives and president-elect of ASHE, recalls. "I remember sitting at conference tables and hearing comments such as 'It’s not going to happen,' 'Costs are just too high' and 'Leadership is not committed.' That is not the case anymore," Reed says. "Leadership is committed to sustainability efforts. That number is likely to increase as organizations see more results, according to Smith."

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ciency is a good place to start,” says Reed. “The savings are tangible, and they can then be used to increase further energy efficiency upgrades or fund other green initiatives going on at their hospital.”

Energy savings can prove substantial. Three hospitals awarded ASHE’s 2009 Energy Efficiency Commitment (E2C) designation achieved double-digit percentage reductions in energy costs: Mercy Medical Center in Dubuque, Iowa (29 percent); St. John Medical Center in Longview, Wash. (20 percent); and Methodist Hospital in Houston (11 percent).

No single energy performance monitoring tool or energy management activity was cited by a majority of poll respondents. Hall said they conduct energy audits, 45 percent set energy budget and performance targets, and monitor them annually, and just 35 percent participate in ENERGY STAR. Because the federal program is free for hospitals, such a relatively low level of participation represents a big opportunity for the industry to improve its energy performance record once more are persuaded to join, says Janet Brown, director of facility engagement for survey co-sponsor Practice GreenHealth (formerly Hospitals for a Healthy Environment) in Amherst, Mass.

Organizations are using a variety of energy management initiatives to reduce energy costs. A majority of those surveyed said they had implemented at least one of the following in the last two years: preventive maintenance plans, transition to electronic ballast and energy-efficient lamps, light-emitting diode (LED) exit signs, occupancy sensors or timers to reduce lighting, technology upgrades for plant equipment and upgrades to building control systems.

Reaffirmable energy practices are less in favor with hospitals. The three initiatives that most organizations said they have no plans to undertake are purchasing off-site renewable energy sources; upgrading conventional systems with hybrid plants using fuel cells, photovoltaic systems or solar thermal systems; and photovoltaic harvesting systems for low-power indoor devices. Photovoltaic systems don’t yet have a very attractive return on investment, says Gail Vittori, co-coordinator of Source: Health Facilities Management/ASHA/ASHES 2010 Health Care Facilities Sustainable Operations Survey.

**HOSPITAL SUSTAINABILITY PROJECTS run the gamut**

Health care systems across the country have launched a wide variety of initiatives designed to make both environmental and economic sense. But have these efforts really gone green from top to bottom, which makes for sustainability multitasking but with more chances for success? For instance, Gundersen Lutheran Health System in La Crosse, Wis., has a lot of green on its plate: initiatives in renewable energy and energy conservation; engineering work on a new Leadership in Energy and Environmental Design (LEED) hospital; and projects in waste management, waste reduction and recycling.

Tom Thompson, Gundersen’s sustainability coordinator, says it’s good—and necessary—to have multiple opportunities because you don’t get off track because you haven’t tried. “Go green to go green. You can try again,” he says.

These are not do-nothing projects; each brings real savings. “I hear for so long that an environmental program would be nice but it costs too much money,” Thompson says. “Well, we’re proving that you can be green and you can make green. You can be economically viable, you can make money and save money by doing the right thing.”

Following is a sampling of health system initiatives under way, based on responses to the Health Facilities Management/American Society for Healthcare Engineering/American Society for Healthcare Environmental Services 2010 Sustainable Operations Survey.

**ENERGY MANAGEMENT** Among the energy management initiatives, Gundersen Lutheran did energy audits of several campuses and used the results to perform retrocommissioning. That two-year process examined heating, ventilation and air conditioning systems, lighting and employee behavior and used low-cost measures to improve efficiency and reduce energy demand. It helped the system achieve a 25 percent improvement in energy efficiency by the end of 2009, reducing its annual energy costs by $1.2 million.

The Nebraska Medical Center in Omaha hopes to save $600,000 annually in energy costs—30 cents per employee per day—by getting each of its 5,000 employees to turn off their computer monitors at the end of the day, turn off lights and adjust thermostats.

Swedish Medical Center in Seattle lowered energy usage at its First Hill campus by 14 percent after building systems engineer Jeff Greif implemented missioned HVAC systems that had not been set up properly at its two-year-old Swedish Orthopedic Institute. Other energy-saving projects at the campuses have included a garage lighting retrofit to change out obsolete lamps and ballasts, optimizing garage ventilation systems and improving the chilled water system that provides cooling to campus facilities.

Other energy initiatives mentioned by respondents include using cold/heat merchandise to operate boilers at a new hospital, using microbubble for cooling and heating, using thermal energy storage tanks to reduce peak electric demand and cut cooling costs, and a three-day “treasure hunt” analyzing a facility’s energy use to develop over 100 energy savings ideas.

**WATER CONSERVATION** In the area of water conservation, a “green linen” program at the Nebraska Medical Center has resulted in $600,000 a year in savings. The program simply limits the linen taken into patient rooms, restricting the amount to what’s needed and avoiding “just in case” extras. Excess linen must be washed because it is considered contaminated once it’s taken to patient rooms, so the program eliminates a lot of clean linen needing to be washed. “Linen management hasn’t been around for a long time and a lot of people don’t know how effective it is,” says Paul Tumer, director of environmental services and housekeeping at the center.

Nathan Littauer Hospital & Nursing Home in Gloversville, N.Y., has cut its municipal wastewater treatment charges by 40 percent in four years by monitoring its solid waste sources and reducing them.

Other water conservation initiatives involve moisture sensors on an irrigation system, use of native plants to lessen the need for watering, and waterless urinals.

**WASTE MANAGEMENT** Among the waste management initiatives, St. Mary’s Regional Medical Center in Russellville, Ark., used bar code tags to reduce its medical waste to 0.9 pounds per patient per day from about 2.5 pounds in two years, saving the 117-bed facility $200,000 a year. Liz Eseuy, director of environmental services, pushed the initiative through persistent follow-up and an education effort with the operating room department, which had put everything from disposable gowns to sterile pack covers into biohazard waste instead of the regular trash.

Providence Sacred Heart Medical Center and Children’s Hospital in Spokane, Wash., recycles or reuses 22 percent of its solid waste. The single largest category of recycled materials is paper, but facilities manager Philip Kercher, FACHE, CHFM, also notes that Habitat for Humanity accepts used building materials and used ceramic tiles often can be recycled through local companies.

Gundersen Lutheran recycled virtually an entire building, achieving a 90 percent recycle rate for construction materials while removing a building built in the late 1800s. It also recycled 38 percent of the system’s measurable waste in 2009.

Other waste initiatives include a pharmaceutical waste management project and recycling of everything from bulbs and furnishings to e-waste, mercury and X-ray film.

**SUSTAINABLE CLEANING** In the “green cleaning” area, Mercy Hospital in Janesville, Wis., saves 40 percent on floor finishing costs in patient rooms and corridors with a more eco-friendly, efficient finish. It also installed door stops in patient rooms that refresh the air through door movement, eliminating the need for aerosol fresheners. Mercy, too, eliminated aerosol cleaning products and is moving away from spray bottles, using flip-top bottles instead.

Other cleaning initiatives feature localized water for floor cleaning, green chemical purchasing and high-temperature steamers.
WASTE WATER? As with energy, hospitals are prodigious users of water. But they have not moved anywhere near as aggressively to put conservation strategies in place. Only 41 percent of survey participants said their facilities measure water savings. Water’s abundance and relatively low cost has made it a low priority among hospital sustainability programs. That may change, given forecasts for growing demand and strained supplies. “We expect demand and strained supplies. ‘We expect may change, given forecasts for growing term, persistent savings,” she says.

The most common water conservation initiatives used by survey participants were flow control fixtures on faucets, such as motion sensors, and low-flow fixtures for toilets and urinals, both implemen ted by 55 percent in the last two years. About 43 percent had employed condensate recovery systems.

A majority of hospitals have no plans to use rainwater for landscape irrigation, water conservation initiatives in the kitchen and cafeteria, or water-efficient dishwashing and food disposal equipment. Those areas aren’t as cost-effective for the most part; using rainwater, for example, would mean paying to install large holding tanks.

Having a water management plan, however, could prove economical for the 47 percent that have either implemented water management plans in the past two years or intend to do so in the next two. Reed notes that those hospitals who did well to emulate the University of Wash ington’s facilities services department, which retrofitted 50 sterilizers and autoclaves with water-saving kits to eliminate water tempering—an inefficient use of cold water to reduce water temperature before sending it into local drains. The university, he says, will save over 2.5 million gallons of water per year, worth $250,000 in avoided water and sewer costs.

WASTE NOT Hospitals generate so much waste—25 to 30 pounds per bed per day, according to Brown—that it tends to be a high priority in sustainability efforts. About two of every three health care facilities surveyed (61 percent) said they measure waste reduction savings.

“Waste reduction and recycling has been well embedded in health care oper ations and there is a well-established and growing infrastructure to support those initiatives, including composting programs being introduced in hospitals,” says Vitos. The methods most commonly used are tracking waste volume and cost (58 percent), a waste management assessment for all materials and waste streams (56 percent), a waste management plan (53 percent), and establishing baseline rates and cost for recycling and all other waste categories (90 percent).

Not on the agenda: establishing product specifications to include less packaging and recycled content, participating in manufacturer take-back programs and contracting for waste stream reduction—the three areas cited most often by respondents who asked what they had no plans to implement.

Most respondents indicated that their facilities recycled cardboard (93 percent), paper (84 percent), beverage containers (67 percent), plastic (58 percent) and metal (84 percent).

Even an initiative as basic as recycling, however, can be hard for small, rural hospitals to pursue due to limited resources and staff, notes Patti Costello, executive director of ASHES. She knows of at least two facilities in downstate Illinois, for example, that want to recycle but cannot afford to because of the absence of competitive pricing. Take-back programs, too, are of widespread interest but are like wise focused on cities, she says.

Costello asks: “Contracting for waste stream reduction sounds good, but when the consultant leaves can the culture sustain what has been accomplished given the higher priorities of patient satisfaction, quality and safety?”

CLEAN AND GREEN Just 31 percent of facilities surveyed measured savings from environmental cleaning practices. But efforts in that area appear to be accelerating. All 10 cleaning initiatives listed on the survey had been implemented by 49 percent or more of respondents within the past two years.

“My sense is everybody is going to environmentally friendly cleaning materi als or looking at them,” says Smith. “With issues around air quality, the increase of asthma and other respiratory problems, people are just trying to stay away from those as much as they can.”

Initiatives implemented most often involved microfiber mops and cleaning cloths, which data have shown perform better, reduce water consumption and minimize the need for chemical use; cleaning equipment that does not hamper indoor air quality; infection control risk assessments and the use of pre-diluted disinfectant systems for worker safety. The top three items that organizations have no plans to implement are sustainable floor care materials, integrated pest control and eco-labeled cleaning products. The difficulty with most of these initiatives, says Costello, is that measuring the savings and efficiencies isn’t always easy—yet that’s what is needed to demonstrate their value to organization leaders.

‘IT TAKES TIME’ Just as the survey results show that many doubters have been won over to eco-friendly practices, they provide evidence that many holdouts remain. And financial barriers may keep them on the sidelines if they can’t find a way to overcome the high initial costs of some green programs. “Just about everyone is tuned in to the environmental push,” says Costello. “Finding balance between cost and competing priorities is a bigger challenge.”

Use microfiber mops and cleaning cloths to reduce water and chemical use. Use cleaning equipment that does not negatively impact indoor air quality. Conduct an Infection Control Risk Assessment that identifies areas where use of disinfectants is required. Use predictive disinfectant systems for worker safety. Adopt an operational policy to limit exposure of building occupants and staff to potentially hazardous chemicals, biological and particulate contaminants. Use environmentally friendly practices, they provide evidence that many holdouts remain. And financial barriers may keep them on the sidelines if they can’t find a way to overcome the high initial costs of some green programs.

Sustainability programs will likely take a backseat to patient initiatives, Woodin agrees, at least until the financial crunch that began in 2008 has gone away. But if departments prove their value, ultimately the resources and funding will come. In the meantime, advocates of environmental sustainability hope that health care organizations will continue their gradual greening.

“Hospitals are realizing success in sustainability a program at a time, and we’re seeing the effects of that.” Brown says. “But the survey shows that we’re just get ting started; it demonstrates that there’s a lot of need for education around sustain ability in health care. It takes time.”

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