



BRIEFINGS ON HOSPITAL SAFETY

Your trusted source for hospital safety compliance

Saving water and money in the healthcare environment

Water conservation efforts can take a big chunk out of your utility bill, but where do you start?

Given their size and the nature of their services, healthcare facilities can be a massive strain on the environment, contributing energy consumption, waste, and hazardous chemicals to their large footprint.

A report released in April by the Health Care Research Collaborative—a collaborative initiated by Health Care Without Harm, an international nonprofit that focuses on ways hospitals can be more environmentally conscious—indicated that the average hospital uses more total energy than any other commercial building type. The U.S. Department of Energy says the health-care industry spent more than \$6.5 billion in energy in 2009, more than any other service industry aside from

transportation. Each year U.S. hospitals generate roughly 5 million tons of waste, 5% of it hazardous.

However, a growing number of facilities have been taking strides toward environmental stewardship. A 2009 member survey conducted by Practice Greenhealth showed that more than 90% of member hospitals have implemented measures to improve energy efficiency and nearly 80% are making efforts to reduce hazardous waste.

These are two common areas where hospitals can expand their bank accounts while shrinking their footprint. But more hospitals are now looking to expand their sustainability initiatives to include water conservation programs, which can reduce a hospital's utility bill as well as provide environmental benefits.

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Track your usage

Many hospitals don't realize the potential savings they can accrue simply by outlining a water conservation plan and reviewing their water consumption, says **John Ebbers, LEED AP, CEM, CEA**, associate director of the facility engagement and energy program at Practice Greenhealth in Reston, Va.

"I think most hospitals they just pay their water bill," Ebbers says. "It's not often analyzed, and no one besides one or two people in the organization can even say how much water they use."

Most hospitals track their water usage on a year-to-year basis, but to begin conserving water and saving money, they need to be more detailed, Ebbers says. Hospitals should track month-to-month usage to get a better gauge on water trends in the facility. Analyzing these trends will alert you to usage spikes that may be easily fixable.

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Hospitals should also look at how they are measuring their water usage. Traditionally, hospitals use ratios involving square footage, but they should transition toward using adjusted patient days instead. "Square footage is relatively stagnant, but it's not always indicative of how many people are coming through your door," Ebbers says.

An easy way to track water consumption is through the Energy Star Portfolio Manager, which many facility managers use to track electricity and gas consumption.

From there, hospitals can begin approaching their utility bill more strategically, Ebbers says. For example, are you only being billed for water coming in and water leaving? Chillers and irrigation systems can use a lot of water, but they aren't necessarily tracked. Some municipalities allow you to pull those numbers specifically.

There are also new tools out there that will help you benchmark your facility with others of the same size and function, says **Christy Love, LEED AP, BD+C**, a senior environmental performance analyst for Mazzetti Nash Lipsey Burch, a consulting and design firm in Portland, Ore.

"If you input your water consumption and compare it against other facilities, that is another way to see how you're doing in the big picture," Love says. "And it helps you hone in on which facilities are your worst performers and therefore the best ones to start with."

Grab the low-hanging fruit

The following are a few simple initiatives that hospitals can employ for a quick initial reduction in water consumption and utility expenses:

► **Fix your leaks.** It sounds simple, but implementing a leak detection and repair program can have a significant financial impact, Love says. In one case study, Kirkland Air Force Base saved 179 million gallons of water a year, which translated to \$330,000 in annual savings, just by implementing a leak detection program.

"It really depends on the facility and how much it is using to begin with," Love says. "If it is a water hog, you can fairly easily achieve a 30% reduction in your water consumption. Remember that you're paying for the potable water coming in and for the sewer going out, so you get a double financial benefit if you are able to reduce your consumption."

► **Investigate your irrigation.** It's one area hospitals might overlook, but evaluating your irrigation system can be just as important as auditing interior equipment. Hospitals should look to transition from spray-type sprinklers to drip irrigation, and use plants that are suited to the climate and don't need additional

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irrigation. Hospitals can also purchase rain sensors so they don't irrigate when it's raining.

► **Use optimized equipment.** When existing equipment gets old, facility managers should consider replacing it with new equipment optimized for water consumption. This means replacing equipment that uses once-through water for cooling (sending high-quality water directly to the drain) with equipment that recycles water, or upgrading existing equipment for cooling through the building's chilled water loop.

"Newer medical vacuum pumps, for instance, can either be completely waterless, or they can recirculate some of the water used to maintain the vacuum seal so you're not wasting quite as much as the old-style liquid ring pumps," Love says.

Get people involved

Getting frontline staff members to lead the charge of environmental stewardship will bring others on board as well. For this purpose, hospitals should utilize staff members who have a passion for this cause. Ebbers recommends recruiting environmental services employees who have routine exposure to things like dripping faucets or running toilets.

"That's just a way of what I call fine-tuning your facility," he says. "If you have these people and there is a communication mechanism to get that information back to an overwhelmed facilities director, it's hopefully going to make his or her job easier."

Hospitals should also identify areas or units that consume a lot of water and collaborate on ways to reduce their consumption. Departments like central sterilization and laboratories traditionally use more water than other areas. "I think that becomes a conversation between a facilities director and director of those departments," Ebbers says. "If it's a large facility with ten labs, then collaboration can be really focused and department-specific."

In general, frontline staff members should receive some basic training to identify areas where water is misused. If a toilet flush sensor is repeatedly going off, for example, they should know whom to communicate that to. Staff members may also want to hear about environmental initiatives.

"A lot of people might not know you can save a million gallons in a chiller, but they would like to hear about that and they would like to hear about how their hospital is doing that," Ebbers says. ■

Non-touch faucets: Are they really working?

More hospitals are transitioning from manual to touchless faucets for two reasons: first, because it can help reduce the spread of infection via faucet handles; and second, because it can lower the amount of wasted water from faucets that are either left on or not completely shut off.

But if your facility is thinking of making the touchless transition, it's important to evaluate whether these faucets are actually improving your water conservation efforts, says **John Ebbers, LEED AP, CEM, CEA**, associate director of the facility engagement and energy program at Practice Greenhealth in Reston, Va. The same thing applies for other touchless appliances such as toilets.

"A lot of facilities are buying technology for efficiency, but sometimes with that technology you need to ask, 'Did

it work as well as we wanted?' " Ebbers says. "You have to have the communication lines open so that when you put a new water sensor on a faucet, in that you communicate that to the staff and the staff can communicate back to the facilities director."

Other equipment in nonclinical areas should be evaluated for efficiency as well. For example, dishwashers have Energy Star certifications to improve efficiency, but you also want to track how many gallons a dishwasher is using during each run and over the course of an eight- or 12-hour day.

Depending on their geographical area, hospitals may also be eligible for energy rebate programs through their utility providers, which may make the initial investment in newer technology easier to digest.