New Ways to Reduce Waste
(And Cut Costs, Too!)

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Find sustainable products & services in the Practice Greenhealth Supplier Directory

Demand for more environmentally preferable products is growing, and the Practice Greenhealth Supplier Directory has been compiled to make it easier to find businesses that provide environmentally preferable products and services to the health care sector.

Greening the supply chain is an essential element for any health care facility embarking on a journey toward sustainable health care. Many products used in health care environments have environmentally preferable alternatives that may reduce health impacts to patients and staff and a facility’s environmental footprint.

Find products and services in the Practice Greenhealth Supplier Directory!
It is my sincere and great pleasure to join the talented and dedicated community that is Practice Greenhealth. The Practice Greenhealth community of corporate, nonprofit and policy professionals and organizations has been and will continue to be where those who are committed to making the health care sector greener and healthier come together. We come together first to share our knowledge and thoughts, opinions and real-life successes, challenges and best practices. We come together to do good work to improve the health of our patients, our facilities, our communities and our planet. We also come together to do good work as measured by the goals we have as individual entities—scientific research; product/service innovation and leadership; effective policy and legislation; organizational efficiency; personal growth and development of our associates; and financial success and sustainability to fuel crucial innovation, growth and ongoing success.

Before joining this community, I worked to drive environmental improvement in the ocean shipping and supply chain industries. My motivations for engaging in environmental work stem from my love of the wilderness and my respect for the ecology that connects all of us in the natural world. Similar to Practice Greenhealth, this work involved bringing for-profit, nonprofit and regulatory organizations together to address environmental degradation. Working with Business for Social Responsibility, we founded their Clean Cargo Working Group, “a global business-to-business initiative made up of leading cargo carriers and their customers, dedicated to environmental performance improvement in marine container transport through measurement, evaluation and reporting.” Also similar to Practice Greenhealth, we were doing this work at a time when the shipping industry was under severe financial pressure. It was imperative that we reduce our environmental impact and improve our members’ financial performance.

Today, I’m excited to do this work in health care because of the size and scope of this sector, the change coursing through it and the unique role our community has in bringing better health to your patients, to everyone in the communities where we work and live, and to the natural environment that I cherish.

I fully recognize that Practice Greenhealth’s environmental, health care and community impacts are achieved by and through you, our members. We are committed to supporting you with the knowledge, data, practices, tools and services to foster your progress in environmental sustainability and health, all while supporting financial sustainability. Please let us know how we might be able to support you more effectively or thoroughly.

I am thrilled to be the newest member of our Practice Greenhealth community, and I look forward to hearing from you, meeting you and working with you. I can think of no more exciting, desirable and important place to be.
HHI’s Julie Moyle Testifies Before EPA on Clean Power Plan

Healthier Hospitals Initiative (HHI) Outreach Specialist Julie Moyle, MSN, RN, testified at an Environmental Protection Agency hearing in Denver in late July in support of the EPA’s Clean Power Plan, which would reduce carbon pollution from power plants and support renewable energy options.

The proposal would cut carbon pollution from existing plants to 30 percent below 2005 levels by 2030 and is billed as part of President Obama’s Climate Action Plan.

“Carbon pollution has direct and indirect adverse impacts on human health,” testified Moyle. “Directly, as we take in our 35 gallons of air via our 20,000 respirations each day, we breathe in the surrounding air and all that it contains. Today, that outside air includes over 400 ppm carbon and other toxic air pollutants like nitrogen oxides, sulfur dioxide, mercury, ozone and particulate matter, all of which are known human hazards and are linked to such diseases as asthma, lung infections and respiratory diseases.

“Indirectly, carbon pollution adversely impacts our health because it is the primary contributing factor of global warming and climate change.”

In 2009, the EPA cited carbon dioxide (CO₂), especially from fossil fuel-fired power plants, as the primary greenhouse gas pollutant.

Moyle testified during two days of public hearings in Denver. Testimony also was collected in three other cities, and written comments were accepted until mid-October. The EPA’s final rules are expected in summer 2015. After that, states will have one to three years to come up with their own compliance plans based on each state’s energy needs and ability to develop renewables. Currently, there are no national limits on the amount of carbon pollution emitted into the atmosphere.

“Testifying at the EPA hearings was an honor,” Moyle said. “I was invited to represent health care providers’ concerns about the adverse health impacts of carbon pollution. Participating was a wonderful opportunity to fulfill my oath as a nurse by advocating for the health and well-being of our communities and future generations.”

Moyle called the EPA’s plan a good first step and “an important start to the work of addressing sustainability.” Now, she said, education is important, especially in the health care field.

“Greenhealth readers are most likely already aware of the direct and indirect adverse health impacts of carbon pollution and how our health care facilities are contributing significantly to that as the second-largest energy consumers in the U.S. The issue is the folks who aren’t reading Greenhealth,” Moyle said. “We need to reach out and engage other hospital leaders. I would encourage Greenhealth readers, especially those who have had success with energy reduction and other sustainability initiatives, to share their experiences with their colleagues and make them aware of the Healthier Hospitals Initiative and Practice Greenhealth, which are great resources for hospitals to begin and/or further their sustainability work.” Submit your ideas and feedback to our editorial team at Greenhealth@TheYgsGroup.com.

The Healthier Hospitals Initiative is a growing movement of more than 1,100 hospitals and health systems throughout the U.S. and Canada that are addressing sustainability by implementing best environmental practices. HHI is coordinated by Practice Greenhealth, Health Care Without Harm, the Center for Health Design and 12 sponsoring health systems.

The Colorado Independent contributed to this story.
Greening the OR Symposium Offers Solutions

Operating rooms are a driving force behind rising costs associated with equipment, supplies and personnel, and they also generate between 20 and 30 percent of a hospital's total waste volume. As hospitals are challenged to control spending, they have zeroed in on the OR as an area to quickly achieve cost savings while improving quality of care and delivering care more effectively and sustainably.

On Sept. 11, Practice Greenhealth hosted the Greening the OR Symposium at Chicago Botanic Garden in Glencoe, Illinois. More than 100 health care professionals and OR-related vendors shared innovative strategies and learned best practices for greening surgical departments with the goal of reducing waste, increasing efficiency and cutting costs. Presenters included NorthShore University HealthSystem, Spectrum Health, Advocate Illinois Masonic Medical Center, Johns Hopkins School of Medicine, TerraLocke/ComEd, Grumman/Butkus Associates, Advocate Health and Phigenics LLC.

Speakers focused on the importance of the following tactics in any greening the OR strategy:
1. Educate
2. Communicate
3. Engage key stakeholders
4. Measure success, starting with a baseline assessment, tracking, then reassessment
5. Thoughtfully address challenges
6. Celebrate your OR’s success

Energy efficiency in ORs was in the news in August when Crain’s Chicago Business featured an article that highlighted Illinois hospitals working with Practice Greenhealth to implement green health care practices that save money and reduce waste while meeting the needs of patients.
An Untapped Resource

Students, future physicians must be involved in sustainability efforts, says Mayo Medical School student Brian Rodysill

While medical advances have created better outcomes and deepened medical knowledge, the resource demands of health care have grown. For example, U.S. health care ranks second only to the food service and sales industry as the most energy-intensive industry in the U.S. on a per-square-foot basis, according to a 2008 *Time* magazine article at http://ti.me/1r0dyva.

With increasing financial constraints in medicine, along with the aging of the population and the resulting increased demand for medical care, the health care system needs medical students and future physicians to make decisions informed by sustainability and efficient use of resources.

Sustainability is too often reduced to thinking primarily about recycling. To many practitioners of medicine, this limited scope can seem distant from the patient’s bedside. Sustainability, however, is about ensuring that the needs of future generations can be met, particularly through judicious use of resources. Using this wider understanding, much work is in progress by the medical establishment and medical students. One can point to the study of health care delivery and individualized medicine for an example. Mayo Clinic and other health care systems are developing methods to help practitioners order the right tests and administer the right treatment for the right individual. By eliminating unnecessary or unhelpful tests and procedures and finding the most effective and efficient treatment options, less waste will be generated and fewer resources will be used.

Reducing medical errors, investing in human capital and addressing health disparities are less obvious examples of factors that contribute to sustainability. Errors are inherently inefficient uses of resources apart from the harm they cause. Investments in human capital, such as reducing physician, medical student and other health care worker burnout, keeps these highly trained individuals not only happier but also working efficiently and more effectively for a longer time period. Further, efforts made to address health disparities—from lack of sanitation and clean, reliable water supplies in developing countries to socioeconomic relationships and noncommunicable disease in the U.S.—fit within this broader concept of sustainability.

“Medical students, in particular, may have a great opportunity to create change by making the connection between their role in health care and sustainability early on.”

—BRIAN RODYSILL

Medical students, in particular, may have a great opportunity to create change by making the connection between their role in health care and sustainability early on. They can inject new energy into projects and initiatives and provide the benefit of a fresh perspective. Medical students may have a particular ability to identify redundancies, challenge the status quo and create new ideas for efficient delivery of care or use of resources. They may be more likely to ask, “Why is this done this way?” than practitioners who are already inside the proverbial box and decision-making algorithms.

The hope is that medical students very early in their careers will make efficient use of resources part of who they are and how they practice medicine. As they become physicians and leaders within health care organizations, they can provide crucial engagement in sustainability initiatives and become positive role models within their practices and society. This idea is supported by Mayo Medical School and other programs that integrate the science of health care delivery and good stewardship of resources into curricula and training programs. Because physicians are role models and the leaders of the health care team, it is critical to have physician/student involvement in sustainability efforts.
2013 Milestone Report Shows Hospitals Going Healthier

Big trends around local, sustainable food and healthier beverages top the figures released recently in the Healthier Hospitals Initiative (HHI) 2013 Milestone Report released Aug. 6, 2014.

Launched in April 2012, HHI is a national campaign to promote a more sustainable business model for health care while addressing the health and environmental impacts of the industry.

“Hospitals nationwide are transforming their purchasing practices to avoid toxic chemicals, buy healthier food and beverages and become energy efficient and less wasteful,” says Gary Cohen, president of Health Care Without Harm and founder of HHI. “Clear trends have emerged, and innovative hospitals are implementing strategies to reduce costs, improve their environmental performance and support broader environmental health goals.”

The report shows that more hospitals are committed to modeling healthy behavior and reducing diet-related, chronic diseases such as diabetes, heart disease and cancer. The majority reported spending more than 15 percent of their food budget on local and sustainable food. These figures represent an increase of more than 350 percent in local/sustainable spending from the previous year. The purchase of sugar-sweetened beverages also decreased, with more than 65 percent reporting an increase in the purchase of healthier alternatives.

Additional report highlights include:

- The percentage of hospitals purchasing PVC/DEHP-free products increased by 60 percent.
- The number of hospitals demanding that upholstered furnishings do not contain toxic flame retardants or other unsafe chemicals increased by 20 percent.
- More than $45 million was saved as a result of single-use device reprocessing, a 33 percent increase in 2012.
- More than 121,000 tons of materials were recycled, plus an additional 29,200 tons of construction and demolition waste were kept out of landfills through reuse and recycling.

The report summarizes HHI’s second year of progress with more than 630 HHI enrollees—hospitals big and small, rural and urban—submitting data that quantified their sustainability efforts. The HHI campaign has reached more than 1,100 enrollees in 2014.

TO LEARN MORE ABOUT THE HEALTHIER HOSPITALS INITIATIVE OR FOR THE FULL REPORT, VISIT WWW.HEALTHIERHOSPITALS.ORG.
A Multipronged Strategy

NorthShore University HealthSystem’s green team updates key processes to tackle waste

BY KAELEIGH SHEEHAN, PRACTICE GREENHEALTH PROJECT MANAGER

THE OPERATING ROOM is an area of significant opportunity in waste reduction. Across its four hospitals, NorthShore University HealthSystem in Illinois has implemented multiple strategies in the surgical department to minimize waste, increase cost savings and reduce its environmental footprint.

According to the health system, the first step in updating a waste program is to assess current practice to identify areas of opportunity, then develop a team, create a strategy, set goals and implement the program. Maintaining these programs requires reassessing, tracking, continued education and enthusiasm.

During assessment of its OR, NorthShore University HealthSystem saw that one prime area for change is separating precase waste—that is, waste from setting up the operating room before the patient even enters the room. This waste typically consists of clean plastic packaging, overwraps and other sterile materials. Because this material has not come into contact with the patient, blood or body fluids, there is no reason for it to be disposed of as regulated medical waste (RMW), which can cost up to six to eight times more than recycling or solid waste disposal.

The health system implemented a process to segregate this precase waste across its surgical departments, then took it a step further, maximizing waste reduction efforts by segregating waste during and after the case. The system also launched a commingled recycling program that accepted mixed medical plastics, product boxes and packaging, and blue wrap. These small changes helped to significantly decrease the waste coming out of the ORs and incur savings.

Education, communication and teamwork played critical roles in the success of these programs. Clear signage, presentations, training sessions and examples of which materials belonged in each waste stream helped staff know and feel confident that they were making the right decisions. Good communication also encouraged staff to err on the side of caution when they were unsure, helping to ensure that contaminated materials were not entering the solid waste or recycling streams, which could pose a risk to the health and safety of environmental services or vendor staff.

Avoiding Unnecessary Costs

The green team at NorthShore University HealthSystem also examined other strategies to reduce its environmental footprint.

Purchasing rigid sterilization containers for surgical kits helped NorthShore reduce the impact of blue wrap across its surgical departments. While these containers require a capital investment, hospitals can see a quick payback: Rigid sterilization containers help eliminate the upfront purchase of blue wrap; help ensure devices are properly returned to the container; and eliminate the occurrence of torn corners on sterilized surgical kits, which then require flash sterilization. All told, implementing rigid sterilization containers for about 50 percent of the kits across the health system helped save over $336,000 in the combined avoided purchase and disposal of blue wrap and helped divert 10.5 tons of plastic from the landfill.

Use of these containers also avoids the downtime related to torn kits, an added benefit that has associated cost savings.

Many facilities have found that reviewing OR kits for unnecessary supplies is another great way to have an impact on purchasing and waste disposal costs. Often, items are included in kits “just in case,” but are routinely thrown out
NorthShore says maintaining an updated waste program requires reassessing, tracking, continued education and enthusiasm.

unopened and unused. These small items—a gauze pad here, a suture there—can add up quickly, impacting a facility’s environmental footprint and bottom line.

While donating these unused goods to programs in developing countries can be a great and viable option that has wonderful benefits, it is also worthwhile for the organization to review current practice to reduce these unused and unnecessary supplies in the first place.

NorthShore began a process to systematically review OR kits to remove items that were routinely thrown out or not needed. This helped ensure that OR kits were up-to-date while also eliminating the up-front purchase and back-end disposal fees of these supplies. The supply savings alone totaled $104,000.

Another area of opportunity explored by NorthShore was single-use device reprocessing. A program such as this can help organizations save significant financial resources by purchasing reprocessed devices at almost 50 percent of the original price while also removing these devices from the regulated medical waste stream. However, reprocessing single-use medical devices is a program that requires time, education, re-education and considerable work with the vendors, clinicians and support services to make sure it is implemented successfully.

Understanding that starting small and building the program can lead to long-term and sustainable success, the team at NorthShore University HealthSystem began its reprocessing journey by collecting and reprocessing non-invasive devices such as compression sleeves, pulse oximeter probes and tourniquets. Invasive single-use devices were collected to be recycled or reprocessed outside the health system, which has helped divert almost five tons from the RMW stream and saved $2,811 in avoided disposal costs. The green team plans to expand the program by purchasing reprocessed noninvasive and invasive devices, but notes that for successful program implementation, health systems should take the time to ensure clinicians and staff are onboard, education has been provided and concerns have been addressed.

In other words, small steps build to bigger successes!
WHAT COMES IN the front door of health care organizations through the supply chain also goes out the back door as waste—and costs of disposal add up. It’s estimated that U.S. health care organizations spend more than $752 million across the sector each year on waste disposal. But there are ways to eliminate or reduce these costs and provide savings to health care organizations.

The supply chain can play an active role. At a time when cost minimization is a must, savings from waste reduction efforts are not trivial, but it takes a team approach, and many options are available.

While we don’t encourage “dumpster diving,” the first step is to examine or audit what is thrown away. Some hospitals have checked their waste and found surprises. For example, Boulder Community Hospital in Colorado noticed it was throwing away partially used boxes of tissue from patient rooms—a clue that the hospital needed to modify its purchasing and reduce the size of tissue boxes.

Practice Greenhealth suggests several opportunities where a supply chain can further support waste reduction for a health care organization. Here are a few:

### Solid Waste Reduction Opportunities

Solid waste typically costs between $0.03 and $0.08 per pound.1

1. Establish a contract or utilize a group purchasing organization (GPO) contract for recycling services and consider a composting service for food waste and landscaping clippings. (Refer to the EPP Specifications and Resources Guide available at [www.practicegreenhealth.org](http://www.practicegreenhealth.org) for request for proposal questions.) Examples of recycling services include single-stream or commingled recycling services. Consider recycling for the following materials depending on your market: paper, confidential paper, cardboard and boxboard, general plastics (bags, shrink wrap), medical plastics (irrigation bottles, skin prep solution bottles, trays, overwraps, rigid inserts, blue wrap, Tyvek, basins, urinals, bedpans, other admission items and more), metals, precious metals from clinical devices, office supplies (printer/toner cartridges) and batteries.

2. Add a “Take Back Program” to contracts, making suppliers responsible for taking products back for recycling. This eliminates the need for the hospital to pay for disposal.

3. Establish a memorandum of understanding with a responsible donation organization for materials, equipment and furniture that ensures the needs of developing countries are met. One resource is the Catholic Health Association guide [Assessing and Selecting High Quality Medical Surplus Recovery Organizations](http://www.chausa.org/internationaloutreach/medical-surplus-recovery), found at [www.chausa.org](http://www.chausa.org).

4. Specify the use of reusable totes or containers for supply delivery to reduce waste and labor for handling. Visit the Use Reusables campaign at [www.usereusables.org](http://www.usereusables.org).

5. Specify office duplication equipment to standardize double-sided copying when installed.

6. To measure your success and impact, require vendors to provide spend reports as part of the contract terms. For example, measuring copy paper purchases can show success of paper reduction efforts.

### Regulated Medical Waste Minimization Strategies

Regulated medical waste (RMW) typically costs $0.20–$0.50 per pound and is six to eight times more expensive to dispose of than solid waste or recyclable materials. Examples of RMW include red bag or infectious waste, sharps and some microbiological waste.

1. Establish or utilize a GPO service contract with a third-party reprocessor for collection of single-use medical devices (SUDs) in patient care areas and the OR, including EP/cath labs. Ask the vendor to provide reports on the type and weight of devices collected.

2. Purchase reprocessed single-use medical devices from an FDA-approved third-party reprocessor. Specify that they provide reports on the type and weight of devices collected.

3. Establish or utilize a GPO contract for a reusable sharps container program. This is important because reusable sharps containers can be reused between 400 and 600 times,
As with the supply chain, a robust waste reduction strategy starts at the front door. Take the first step by putting the right contracts in place with reliable vendors who believe in waste reduction as much as you do.

reducing waste from disposable containers and driving down supply costs.

4. To accurately report success, specify that vendors must provide the following information on a periodic basis (ideally, at least monthly):
   - Tons of general RMW treated.
   - Tons of sharps treated, but do not include weight of reusable sharps containers if applicable.
   - Tons of RMW incinerated. Split out by non-RCRA (Resource Conservation and Recovery Act) pharmaceuticals and other incinerate-only RMW.
   - Tons of RCRA-hazardous pharmaceutical waste treated.
   - Costs associated with each kind of disposal.

Hazardous Waste Minimization Strategies

Hazardous waste is defined and regulated by the U.S. Environmental Protection Agency (EPA) and is either a “listed” waste or meets the characteristics of a hazardous waste. Individual states might have stricter regulations than the EPA, so management requirements can vary state to state. The costs vary depending on the material, but common RCRA hazardous wastes include hazardous pharmaceuticals, bulk chemotherapeutic agents, mercury, xylene and other solvents, some paints, aerosol cans and more. The typical cost for this waste is about $3.25 per pound.

1. Establish or utilize a GPO contract for recycling services for electronics-related waste using a certified e-waste service (such as e-Stewards certified). Refer to www.e-stewards.org.

2. Purchase digital X-ray equipment for radiology to reduce costs of fixer solutions.

3. When applicable, establish or utilize a GPO contract for recycling services to recycle silver from X-ray films.

4. Establish or utilize a GPO contract for recycling collection services for proper disposal of fluorescent lamps, thus ensuring mercury is not released into the environment.

5. Establish or utilize a GPO contract for recycling batteries or require a vendor take-back program to recycle batteries.

6. When applicable, purchase equipment to recycle, reprocess or distill solvents, alcohols or other chemicals from the lab. Specify that vendors report gallons handled annually.

7. To measure success with hazardous waste reduction, specify and ensure that service providers for collection of RCRA hazardous waste (including solvents, engine oil, Zenker, B5 stains, lab packs, refrigerants, etc.) periodically report:
   - Tons and/or gallons of RCRA hazardous waste annually.
   - Costs associated with this treatment.

As with the supply chain, a robust waste reduction strategy starts at the front door. Take the first step by putting the right contracts in place with reliable vendors who believe in waste reduction as much as you do. Investing the time and effort in these practices now can keep your disposal costs down at the other end.

Reference

Enjoy the Data Dividend

Practice Greenhealth and other partners can help hospitals reduce costs and waste by tracking sustainability data.

BY RON KIRKWOOD
HOW WELL DO you know your sustainability data?

The 198 winners in Practice Greenhealth’s 2013 Environmental Excellence Awards know everything about theirs, including that together they reduced energy use by 533 million kBtus, waste by 94,930 tons and water use by 209 million gallons in 2012. They also know that those figures translate into a whopping savings of $76.3 million, from just three of the many categories in Practice Greenhealth’s 2013 Sustainability Benchmark Report.

Practice Greenhealth has those numbers and many more because hospitals today are increasingly tracking their sustainability performance data. As the number of sustainability-related programs and initiatives in health care grows, assessing the value of these programs—financially and otherwise—is paramount. Hospitals want to know: What percent of waste is recycled? How much regulated medical waste (RMW) is generated? How much money is saved by reprocessing single-use devices (SUDs)? Some even track the reduction of red meat served in their facility.

But some hospitals think they’re too small to track this data. They say they don’t have enough resources, time or people when just covering the next shift is a looming issue. These might be good reasons, but it’s becoming a tougher argument to make, especially with the abundance of free tools and guidance offered by Practice Greenhealth and other partners. Along with Practice Greenhealth, some hospitals are also relying on consultants and vendors not only for data gathering but also for ongoing tracking for awards applications, reports to see how others in and out of their system are performing and, most importantly, to monitor their facility’s improvement, savings and good citizenship. These partners can help support a hospital’s environmental efforts while also demonstrating performance metrics and cost savings to keep the executive team content.

An Example of a Waste-Tracking Chart

Getting Started

“It’s hard to figure out where you’re going if you don’t know where you’re starting,” said Practice Greenhealth Director of Facility Engagement & Metrics Cecilia DeLoach Lynn, MBA, LEED AP.

That’s why a baseline needs to be established first.

Using waste as an example, Practice Greenhealth might begin by helping a hospital understand how the four basic waste categories of solid waste, regulated medical waste, hazardous waste and recycling are divided. Hospitals are then encouraged to catalog their costs and volumes for the previous 12 to 18 months using invoices, bills and other measures. Along with this, Practice Greenhealth provides a basic waste tracking spreadsheet that will produce a graphic showing percent of volume for each category and cost.

“Waste is created in a lot of different departments across a hospital,” DeLoach Lynn said. “One would imagine that all of those waste hauling services would be centralized with one person, but that’s not always the case. So one of the things we tell them to do first is to figure out who is responsible for managing which waste stream. Whom do they work with to pick up that waste stream? How often is it picked up? What’s the cost when it’s picked up? It’s sort of a scavenger hunt in the beginning, but once the lead person has their arms around these basic facts, it can get a lot easier to track.”

DeLoach Lynn estimates that consultants are hired by 30 to 50 percent of hospitals to track some portion of their data. Depending upon finances and staffing, some hospitals establish a sustainability baseline on their own or with Practice Greenhealth’s guidance and use a consultant later once the process reaches the point of seeking out savings. Other hospitals might use a consultant from the beginning.

“If they don’t have that time personally, aren’t able to hire an intern to help them do that and are able to marshal the funding to bring in a consultant, then I think a consultant can be a really great option,” DeLoach Lynn said. “Practice Greenhealth helps hospitals identify opportunities and provides technical support, but unlike consultants, we’re not often out in the field doing it for them. We’re not necessarily going to develop their regulated medical waste reduction program. We’re not going to audit their site. A consultant has the ability to go on-site, pull together a team and project manage the team to the intended goal.”

For example, Capaccio Environmental Engineering Inc. of Marlborough, Massachusetts, gathers data for a 2013 Practice Greenhealth Partner for Change Award winner. “Data gathering can be very time consuming and involved,” said Bill Potochniak, senior associate. “That’s where somebody like Capaccio can come in. We almost act like a contract sustainability director. We handle tracking all that data. We do all of the legwork of getting the data. Plus, we have the staff of scientists and engineers to make sense of the data, and we might see...
trends that the average person might not see or someone in a hospital setting might not see. We can help identify areas for improvement.”

Capaccio’s involvement with one hospital started by placing an employee on-site a couple of times a month. Before long, Capaccio was asked to sit on the hospital’s green team with department managers and directors. Now, Capaccio works with individual departments and vendors to gather all of the facility’s data.

“Right now it’s all tracked on an Excel spreadsheet, but we’re working with them to move toward a Web-based database so they would have access to the most up-to-date data,” Potochniak said. “It will work no matter where they are as long as they have an Internet connection.”

**The Data Trail**

Energy, water and waste are the three big areas for tracking a health care facility’s environmental footprint. That includes at least 10 different waste streams, according to Debra Gillmeister, vice president of Health Care Services for Stericycle Inc. of Lake Forest, Illinois, a leader in disposal services for medical and biohazardous waste.

As a vendor, Stericycle uses its Sustainable Solutions program to help hospital leaders measure progress. This tool tracks pounds of plastic kept from landfills by using reusable containers for sharp objects and pharmaceutical waste. Bar-coded reusable containers are tracked to confirm their use and the number of times they have been turned. This metric is important, Gillmeister says, and has shown that for every one reusable Stericycle container, 600 disposable ones are prevented from going to landfills.

Stericycle also tracks facility compliance with regulatory bodies through surveys. The Sustainable Solutions tool promotes best practices for continuous improvement in categories including waste minimization and segregation. In some cases, Stericycle compares a hospital’s numbers with averages nationwide.

Stericycle also has a Carbon Footprint Estimator tool that can be used by hospitals to profile and improve their facilities’ sustainability efforts related to its Sharps Management Service containers. By inputting the bed count and location, leaders can determine the estimated number of pounds of CO₂ emissions that are prevented annually and the corresponding gallons of gas that are not burned through the production and transportation of disposable containers. Compliance containers are reusable and coded so hospital leaders know their environmental impact. Since 1989, 154 million disposable containers have been kept out of landfills.

Likewise, Sterilmed Inc., a reprocessor in Maple Grove, Minnesota, provides data on its area of expertise of reprocessing single-use medical devices and more.

“We do it in a couple of ways,” Sterilmed Director of Marketing Keith Hoof said. “We have what we call a business review that we provide to our customers on a monthly basis. We track what we’re collecting from them. We have a database. When the devices are coming in the door, it’s counted. During the sorting and counting process, it’s logged. Then it goes through our process of reprocessing and now again it’s logged into the system and follows through the database system so a quote is generated back to the customer. We know exactly what’s in there.

“We also keep track of what we call our environmental aspect of water savings. We have formulas based on the average weight of different products for what the environmental impact is. So we know water usage for a device, waste savings from going into a landfill and energy savings. Then, typically, at the end of the year, customers contact us to help them get total figures: waste and environmental figures that they put into things like the Practice Greenhealth application for environmental awards.”

**Tips for Finding a Good Consultant**

From Cecilia DeLoach Lynn of Practice Greenhealth

- Check if they are a Practice Greenhealth member.
- Make sure they understand the awards process and the way Practice Greenhealth is asking for the data.
- Make sure you have a consultant who’s willing to work with you to think through what the information needs are for the organization, how the data can be collected and how the data can in turn drive performance.
- Referrals are important. Learn from a community who has done this and done it well. A consultant can show examples of how they worked with other hospitals on baseline development and waste reduction.

**One of the Innovators**

Laura Brannen was among the first people to start tracking waste data in a health care setting in the 1990s when she was a part-time waste management sustainability coordinator at Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire. Some of the spreadsheets and programs that she created back then are still in use today.

“I needed equipment, I needed help with staffing,” recalled Brannen, now a consultant with Mazzetti Inc. and director of Blue Environmental Performance Consulting in San Francisco. “I had to justify what I did and I thought, ‘well, all right,’ so I created a spreadsheet. I started collecting invoices from all of the waste. I knew what our recycling rate was. I built on that early strategy, setting a baseline.

“You have to understand your waste metric. In the early days, no hospital knew what their regulated medical waste generation rate was or how much they were spending. I was collecting that information. I couldn’t have done my job without it,” says Brannen.

It’s the same strategy 20 years later. Set a baseline and understand your data so appropriate goals can be set. When you do that, Brannen says, “You can then understand how much money you’re saving. When you ask for budget for the next project, you’re much more likely to get it if you have successful data to report on.

“I feel like a broken record because I’ve literally been saying this for 20 years,” Brannen continues. “You think you can’t afford to do it. You think it takes too many resources. If you’re not collecting your data and you’re not understanding your generation rates or where your opportunities are, you are talking money, you are talking resources. You can’t afford not to do it. I’ve heard hospitals say, ‘Oh, we’re too small.’ But you can still pay for the resources that it takes to get that job done. Understand the power in the data. It will absolutely save you money in the long run.”

*Ron Kirkwood has edited for USA Today, the Baltimore Sun and the Harrisburg. Pa., Patriot-News. He lives in York, Pa.*
THIS YEAR, Boston Scientific celebrates 20 years in Galway, Ireland. The plant has been a key facility in the medical device developer and manufacturer’s global operations network, now employing about 2,500 people. Like all large organizations, Boston Scientific Galway faces the challenge of reducing its impact on the environment while achieving production goals.

As early as 1995, the site reviewed possible energy improvements when converting a warehouse into a cleanroom by installing variable-speed drives, which conserve energy by controlling the speed of machinery. Later, during the design of building extensions, the latest energy technologies were used and retrofitted into the existing installations. The site benchmarked its energy performance in 1999 by winning ESB’s—Ireland’s national electricity company—“eta” Energy Efficiency Award, further consolidated by winning boiler efficiency and air-conditioning awards.

In 2000, the site formalized the methodology for pursuit of environmental sustainability by achieving certification to ISO 14001, a globally recognized Environmental Management System (EMS). The EMS incorporated sustainability into existing operations and identified waste generation, energy management and greenhouse gas emissions as key challenges for the Galway site.

Starting Small
Initially, Galway focused on developing a waste management program and introduced a recycling effort to divert waste from the landfill. It began simply by segregating paper and cardboard for
Galway’s combined heat and power plant has reduced the amount of greenhouse gases going into the atmosphere each year by more than 3,000 metric tons.
Air change optimization.
Use of programmable sequence controllers (on chillers, boilers and compressors).
Use of variable-speed drive fans.
Compressed air heat recovery.
Improved temperature and humidity set points.
Shutting off nonproduction equipment during nonproduction hours.

By the Numbers: Boston Scientific’s Sustainability Success

In 2013:
- All 14 of Boston Scientific’s major operations sites around the world were certified to the ISO 14001 Environmental Management System standard, and the company received its 10th consecutive certification to the FTSE4 Good Sustainability Index.
- The company increased its worldwide solid waste recycle/reuse to 92 percent (up 4 percent).
- Water use decreased by 4 percent.
- Solid waste generation decreased by 5 percent.
- Greenhouse gases decreased by 8 percent.

砾石 (Gravel) recycling. Yearly after that, new waste streams were introduced to increase the volume of waste being recycled. Some of the biggest gains came from the management of canteen waste and centralizing the location of recycling stations and removing individual waste bins.

Fast forward to 2014 and observe a landscape where more than 80 percent (approximately 700 metric tons) of Galway’s nonhazardous generated waste is recycled. The remaining waste is used to power electricity, with zero waste going to the landfill. The ISO 14001 philosophy of continuous improvement and reduction of environmental impact means Galway’s efforts were not limited to recycling, but also included reduction in hazardous and nonhazardous waste generation, with one project alone resulting in a 50 percent reduction (more than 400 metric tons) of an acid hazardous waste stream. Success is based on employee engagement and support, especially in the canteen, which generates a quarter of the total nonhazardous waste, with employees’ efforts recycling at least 94 percent of that waste.

As the site’s energy demand peaked in 2008, Boston Scientific faced the challenge of operating in a more sustainable fashion by identifying key energy sustainability impacts such as electricity, oil, and building and infrastructure upgrades. Using the ISO 14001 EMS, goals were set and projects implemented to reduce these impacts on the environment.

Technology, Employees Play Roles
As more conventional projects were completed, the site increased its focus on innovative technologies and employee engagement to achieve the next levels of improvement. Example projects ranged from major infrastructure developments such as introducing natural gas and installing a combined heat and power (CHP) plant to fostering employee awareness about occupancy lighting and the use of energy-efficient hand dryers.

Photo: A data center upgrade was designed to maximize energy efficiency.

The CHP plant was one of the site’s greatest successes, allowing it to generate 25 percent of its electricity while using the waste heat to meet 80 percent of the building’s heat requirements. An added environmental benefit was the elimination of the use of heavy fuel oil. The site’s most recent data center upgrade project was designed to maximize energy efficiency. By using free-cooling technology, Galway took advantage of the temperate western Ireland climate to reduce the air-conditioning load by 70 percent.

Since 2008, the electrical and thermal load has been reduced by 37 percent, and Galway continues to reduce energy demands and manage more than 180,000 square feet of cleanroom space to achieve savings with projects such as:

Since 2008, the site has reduced greenhouse gas emissions to the atmosphere by 28 percent (5,486 metric tons), with the introduction of the CHP plant alone resulting in a reduction of more than 3,000 metric tons of greenhouse gases from the atmosphere each year. It would take approximately 50,000 mature trees to remove the same amount of carbon in the same time frame.

Additionally, Galway further demonstrated commitment to sustainability by eliminating greenhouse gas-generating compounds such as hydrochlorofluorocarbons (HCFCs) and choosing compounds that cause less damage to the ozone layer in the site’s air-conditioning units, years before the legislative due date.

Galway’s Journey Continues
To continue the sustainability journey, the site networks with other large industry groups to benchmark and share experiences. Boston Scientific also works in partnership with universities to support and develop opportunities in energy efficiencies and the reduction of greenhouse gas emissions.

Galway expanded the focus of sustainability beyond the confines of the site by hosting events and initiatives to raise awareness, including: electrical and electronic equipment household hazardous waste collection days for employees; vendor presentations on alternative energy solutions such as wind, solar and photovoltaic; energy-efficient lighting; dedicated parking spaces for carpooling; and the installation of bicycle sheds to encourage cycling to work.

Boston Scientific sees the relationship between environmental performance and business results as complementary rather than either/or choices. Through smart decisions and effective programs, the company has been producing positive environmental benefits and financial return.

“We are proud of our sustainability journey at Boston Scientific Galway,” says Mike O’Flynn, Galway’s vice president of operations, “and are committed to conducting business in a safe and environmentally sustainable manner.”

The company’s journey now and into the future continues by capturing its learnings, incorporating best practices and the latest technologies, and maximizing employee engagement in pursuit of sustainability goals.

Leonard Sarapap, PE PH, is corporate director of environment, health and safety for Boston Scientific, headquartered in Marlborough, Massachusetts.
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Mary Larsen is responsible for developing and leading a comprehensive sustainability program at Advocate Health Care to support Advocate’s environmental stewardship.

Engaged Leadership Challenge

A conversation with Mary Larsen, Environmental Stewardship manager for Advocate Health Care

BY JANET HOWARD, DIRECTOR, FACILITY ENGAGEMENT, PRACTICE GREENHEALTH, AND DIRECTOR, CONTENT AND OUTREACH, HEALTHIER HOSPITALS INITIATIVE

PROGRESS WAS SUBMITTED this year by 178 facilities in the Engaged Leadership Challenge of the Healthier Hospitals Initiative. The Engaged Leadership Challenge creates the foundation for long-term programming and articulates “the ask” when approaching leadership. How does one create the infrastructure for operationalizing sustainability initiatives? The answers are 21 actions that are broken into four categories: Strategic Priority, Operational Focus, Systematic Communication and Stakeholder Engagement. Achieving Level One of this challenge is achieving three of the action items, Level Two is achieving six and Level Three is 10.

Mary Larsen is the Environmental Stewardship manager for the HHI sponsoring health system, Advocate Health Care, a 12-hospital system in the Chicago area with more than 35,000 associates and a combined bed count nearing 4,000. Prior to publication, it was announced that Advocate Health Care has merged with NorthShore University Health System and will have a new name—Advocate NorthShore Health Partners. Mary is a friend of the family and a former director of Sustainable Operations for Practice Greenhealth, where she worked from 2008 to 2011. She now reports to Al Manshum, vice president of Facilities and Construction, as the lead on Advocate’s sustainability efforts.

Advocate is a five-time System for Change Award winner through Practice Greenhealth. Three of its 12 hospitals won the prestigious honor of the Top 25 Award this year, and several hospitals won the Circle of Excellence for leadership in Waste, Energy and Environmentally Preferable Purchasing. At over 100 years old, Illinois Masonic Medical Center is the oldest building in Advocate’s system, and it has also been recognized with the Environmental Protection Agency’s Energy Star award for an energy efficiency rating of 98 out of a possible 100.

As director of content and outreach, I had a virtual sit-down with Mary to talk about Advocate’s work with the Healthier Hospitals Initiative and how the Engaged Leadership Challenge has helped Advocate create a systemwide, coordinated sustainability strategy that provides a structure for the various programs and activities that go into a robust, multifacility sustainability initiative.

Janet: Why was it important for Advocate to sponsor the Healthier Hospitals Initiative?

Mary: Sponsoring HHI was a way for us to show our leadership in sustainability and be part of the call to action to other hospitals in the sector and make it available to them at no cost. We are proud to mentor those that are just getting underway while we continue on the journey of reducing Advocate’s environmental impact and improving the quality of our healing environments. The Engaged Leadership Challenge aids in an intentional culture change that is underway at Advocate. The leaders want to engage the hearts and minds of the staff toward a mind-set of conservation. They are committed to staff education and host events on Earth Day and America Recycles Day and make a big effort to educate and recognize and celebrate staff who embody the value of stewardship. This work is very important to our leadership.

Janet: One of the goals in the Engaged Leadership Challenge is to appoint an executive sponsor. Who is yours at Advocate Lutheran General Hospital?

Mary: Al Manshum, our VP for Facilities and Construction, was essentially self-appointed. When Advocate had an opportunity to construct a new bed tower, Al’s passion for environmental protection and conservation shined as the project manager of the first LEED Gold hospital project in the Midwest. As a result of his experience, he wanted to extend sustainability to renovations and operations and not stop with the newly constructed bed tower. Through educating senior leaders, he was able to secure their support, and this led to the creation of my position and also the position of manager of Energy Solutions, led by Austin Rennick.

Janet: Another goal in the Engaged Leadership Challenge is to build in sustainability measures as an organizational priority. How did Advocate do this?

Mary: As a data-driven organization, we decided that we needed to measure our sustainability...
programming. Our very first environmental goal was to reduce energy by 20 percent by 2015 from a 2008 baseline, which I am proud to say we are on track to achieving. And if we were measuring energy performance, what other environmental improvement activities should we take on and measure? We added waste, construction and demolition debris recycling, single-use device reprocessing and paper reduction. Under waste, we broke out solid waste, recycling and regulated medical waste. We started looking around to identify benchmarks for each of these items, and with Practice Greenhealth and the use of its awards program and benchmark report, we could set targets and see how we compared with others.

In 2012, we developed a sustainability scorecard as a way to educate key stakeholders and executive sponsors. The data is both rolled up in the aggregate and provided by site. Sharing the data drives competition among the sites and motivates them to achieve their goals. Seeing how they performed compared with others is very helpful.

**Janet: How is the scorecard populated?**

**Mary:** Populating the document is shared between myself and the energy manager. He calculates all of the energy data, including greenhouse gas emissions, weather adjusted for each site, and I do all of the other data collection. Some tips for success include identifying key vendors for each category and requesting the data prepared for us on a quarterly basis. These data requests are made clearly so the data is given in the format of our preference. The data is shared through a system-level committee made up of all green team leaders and it is posted on an internal website and emailed to executive sponsors. Data samples are shared in the annual sustainability report. This year, we are doing something different. The health and wellness program has a partnership with sustainability to ramp up joined efforts around education and develop a computer-based tutorial describing the connection between environmental and human health. The computer-based training is online and a raffle is used to incentivize its use.

**Janet: Another goal under the Operational Focus heading is identifying a clinical champion. Tell me about clinical engagement at Advocate.**

**Mary:** One of Advocate’s infection preventionists has been leading our efforts in Advocate’s systemwide infection control consortium for antibiotic stewardship, including when and how to provide them. The consortium is supporting a recommendation to reduce purchase and sale of meat raised with the nontherapeutic use of antibiotics. This is a powerful support of our sustainability work—connecting environmental stewardship activities with public health and wellness issues. We have other clinicians engaged in specific program areas like in our single-use device reprocessing in surgical services. One of our clinical champions is also a green team leader.

Thanks to Al Manshum, our executive sponsor, and senior leadership at Advocate, a newly formed council made up of vice presidents from each hospital site and ambulatory facilities is empowered to make strategic changes to support environmental and human health. This council supports our focus on meat procurement reduction through the Healthier Hospitals Initiative’s Healthier Food Balanced Menu Challenge. The council can help with the financial analysis and the details we need to make the case for less meat and healthier meat. This council offers us a new, powerful method to make strategic decisions that impact the entire system.

Advocate has a model of clinical operations that is centralized, and now supply chain and other initiatives are made at a system position and rolled out to the various locations. This is valuable for making evidence-based decisions, best practices, systems thinking and standardization for cost and operational efficiency. Policies are developed systemwide. In our Health Outcomes Council, which is chaired by our chief medical officer, we submitted a chemical exposure policy. It was approved by the council in an effort to protect workers and identify healthier materials and medical products in our health care environments. This has led to Advocate’s recent focus on healthier materials, HHI’s Safer Chemicals Challenge and a commitment to avoid chemicals of concern in furniture, fabrics and finishes.

**Janet: What are the feedback mechanisms for staff?**

**Mary:** We have a section in our computer-based tutorial where suggestions can be offered. Additionally, each site has a green team and a process for receiving suggestions. We have developed a departmental Green Advocate program where individuals represent their department, implement sustainable practices and can achieve a workspace certification. The Green Advocate can engage with their co-workers and communicate needs, ask questions and request education. Green Advocates answer questions like: How do you set up double-sided printing? Can we put in an occupancy sensor? Where do we recycle this type of paper?

**Janet: What’s next for Advocate?**

**Mary:** Engaging patients and families. Telling the story.
HEALTH CARE SYSTEMS across the country are implementing healthy beverage programs in their facilities as a step toward reducing the consumption of sugar-sweetened drinks and addressing nutrition-related chronic diseases such as obesity and diabetes.

Along with focusing on reducing unhealthy beverage options, it is important to send a positive message that includes what beverages are encouraged or supported as “healthy.” Promoting the consumption of tap water as a safe, affordable, environmentally responsible and healthy alternative to sugar-sweetened beverages is consistent with the message of creating a healthy workplace environment that supports the broader community. Promoting tap water to patients, staff and visitors also educates our communities about the healthiest beverage of choice; one that reduces waste, is calorie-free, hydrating and helps to conserve a precious natural resource upon which all life depends.

While approximately 70 percent of Earth’s surface is covered by water, only 1 percent of that water is suitable and accessible for human consumption. What seems like such a simple act of going to the tap and filling a glass with fresh, clean water is not so simple for the hundreds of millions of people across the globe who have limited access to this precious and dwindling resource. The statistics are staggering: 400 million children—one in five from the developing world—have no access to safe water. And 1.4 million children will die each year from lack of access to safe drinking water and adequate sanitation.¹

In some areas, depletion and pollution of economically important water resources have gone beyond the point of no return, and coping with a future without reliable water resources is a real prospect in parts of the world. UNESCO’s third World Water Development Report predicts that nearly half of humanity will live in areas of high water stress by 2030.²

**U.S. Faces Critical Water Issues**

Water scarcity is rapidly becoming a significant issue in the United States. Some areas of the nation are experiencing acute water shortages, a trend that could spread throughout the country, whether it be related to climate change and/or naturally occurring extended periods of drought coupled with the demands of increasing populations.³ The range of effects could include: long-term restrictions on home and community water usage; significant declines in agricultural output and meat and dairy production that require huge amounts of water for irrigation and sustenance; shortages of just about every product made using water-dependent manufacturing processes such as fossil fuels, steel, plastics and pharmaceuticals; and disruptions or complete shutdowns of several critical sources of hydroelectric power.

What does this have to do with health care in the U.S.? A mere 12 percent of the world’s population uses 85 percent of its water, and that

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³ United States Geological Survey, 2009
12 percent does not live in the Third World. Indeed, in this country we consume and use huge amounts of freshwater in our daily lives and in the daily operations of industry. The health care sector’s responsible use of water and the promotion of clean tap water over bottled water can help draw attention to the need for the protection of publicly accessible water resources and contribute greatly to resource conservation.

Bottled Water Is Wasteful
Bottled water is a resource-intensive product. Six times as much water is used in the production of bottled water as actually ends up inside the bottle, threatening local stream and groundwater supplies where water is bottled. Each year, close to 2 million tons of polyethylene terephthalate (PET) bottles end up in landfills in the U.S., and less than 30 percent of these bottles is recycled. Nearly 50 percent of all bottled water is actually tap water, resulting in approximately 2.5 billion gallons of municipal tap water—which taxpayers pay to treat—being bottled and sold every year. This is compared with just pennies per gallon when you get this same water directly from the tap.

Regulations for bottled water are generally weaker for some microbial contaminants. A recent study by the Environmental Working Group found a variety of pollutants such as fertilizer, pharmaceutical residues and cancer-causing chemicals in common bottled water brands. Bottled water, defined as a “food” in federal regulations, is under the authority of the Food and Drug Administration (FDA), while tap water, under much stricter standards, is regulated by the Environmental Protection Agency (EPA) and closely monitored by local public utilities. The EPA does not allow residuals from human waste in city tap water and mandates that local water treatment plants provide city residents with a detailed account of their tap water’s source and the results of any testing, including contaminant-level violations. Bottled water companies are under no such directives.

Promote the Positives of Tap Water
A first step in championing tap water is to ensure ready access to clean, attractive water fountains, coolers or filtered water units. Advertising government or independent testing of water can help build confidence in its safety. Tap-water promotion can also be achieved by distributing reusable water bottles through on-site stores or giveaways.

Hospitals can implement water conservation measures in their daily food service operations by purchasing Energy Star- and/or WaterSense-rated commercial food service equipment and replacing pre rinse spray valves with low-flow alternatives. General beverage container reduction can be achieved by installing bulk/fountain dispensers in retail locations.

An integrated program of water conservation and promotion of tap water as a healthy beverage can go a long way toward the preservation of freshwater resources and can help to educate the community about the issue of access to clean drinking water as a basic human right.

References
3. Federation for American Immigration Reform.

Drink up: Promote access to water in your hospital
Provide educational information on tap water vs. bottled water, such as the cost savings and environmental benefits of tap water and the impact of bottled water on health and the environment.

Cafeteria
- Increase the number of filtered tap-water stations.
- Provide easy access and clear signage to water fountains and dispensers.
- Provide an incentive one day per week (“Water Wednesdays”) by offering a meal discount to those who utilize a reusable water bottle on their tray in the cafeteria.
- Provide eco-friendly reusable water containers (for free or for purchase, with facility logo) and indicate availability through signage.

Catering
- Offer water infused or garnished with citrus slices or herbs in large dispensers.
- At meetings, serve ice and water in pitchers with reusable drinking glasses or compostable cups.

Patient areas
- Use filtered tap water with reusable cups instead of bottled water on patient trays.
WHEN YOU’RE IN the Pacific Northwest, sustainability comes naturally.

“We live in a very beautiful area surrounded by mountains, trees and water that are loved by all,” says Brenda Nissley, sustainability and waste manager at Harborview Medical Center in Seattle. “We have a lot of people at Harborview who are passionate about the environment and are committed to preserving it for future generations. That’s not just here at the hospital; it’s prevalent throughout the Pacific Northwest.”

Harborview was named a 2014 Practice Greenhealth Top 25 Environmental Excellence Award winner, and also won Circle of Excellence Awards in the categories of Chemicals, Greening the OR and Food. This reflects a commitment to the environment that took off for Harborview in February 2010 with the creation of its Environmental Sustainability Steering Committee. The committee’s goal is to promote healing and well-being for patients, employees, visitors, the neighborhood and the broader community through environmentally sustainable practices. The committee is made up of department directors and managers from throughout Harborview, and its members set policies and guidelines with much input from Harborview employees.

Harborview’s sustainability victories are many. Here are a few:

- Recycling as a percent of total waste is at 35 percent and climbing. As of this year, every patient room has a recycling container.
- The amount of regulated medical waste (RMW) dropped last year from 2.7 pounds per bed to 2.07 pounds.
- Kronos and Computerized Physician Order Entry computer software helped decrease confidential paper collection by 97 tons in 2013.
- The majority of RMW is treated on-site and then disposed of as solid waste. That cut CO₂ emissions by 17,820 pounds in 2013.
“At Harborview, we are always trying to figure out how best to utilize our resources to make health care healthier and greener.”

—BRENDA NISSLER, SUSTAINABILITY AND WASTE MANAGER

There are close to 600 pharmaceutical waste containers throughout the campus. In 2013, 11.53 tons of pharmaceutical waste was collected, compared with 1.42 tons in 2009.

Bike racks and showering facilities have long been provided for bike riders, and electric vehicle charging stations were installed in 2012.

Another current initiative is creating a healing garden on campus for patients, visitors and staff.

Also, the operating room is focused on waste reduction because ORs generate the largest percentage of waste in a hospital. Efforts in the OR include: reformulating 100 percent of kits; installing a reusable canister fluid management system; recycling plastics before, during and after procedures; using reusable surgical items and sterilization containers; and purchasing reusable gel-positioning devices to replace single-use blue foam positioning devices that become solid waste.

The Engineering Department at Harborview has a strong commitment to sustainability and strives to make the 80-year-old building more energy and water efficient. And when renovations are scheduled, a hospital interior design specialist incorporates sustainable, greener products.

“When completing the Practice Greenhealth award application, it’s fun to meet with people from each department to review their accomplishments from the previous year,” Nissley says. “We have all discovered that there is so much more to making health care more sustainable than recycling. It may be offering healthier foods to patients and staff, providing patients with a quieter environment to promote healing, using UV light technology to disinfect without harmful chemicals or installing LED lights to conserve energy. It’s important to consider the whole package, not just one component, when focusing on sustainability.”

Harborview has enrolled in all six challenges of the Healthier Hospitals Initiative, a national campaign to promote a more sustainable business model for health care while addressing the health and environmental impacts of the industry. Other current Harborview initiatives are: educating staff who evaluate and select products about Harborview’s Environmental Preferable Purchasing policy; expanding hospitalwide reprocessing efforts; rolling out composting in all employee break rooms; and developing a website to share sustainability efforts and successes with staff.

“At Harborview, we are always trying to figure out how best to utilize our resources to make health care healthier and greener,” Nissley says.

Harborview is part of UW Medicine, which has 64,000 annual admissions in four hospitals. Harborview has 413 inpatient beds and 4,700 employees. —RK ☞

NEW COMMUNITY HEALTH CENTER MEMBERS
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B. Braun Medical Inc.
The medical device company leads the way for hospitals to go PVC and DEHP free

B. BRAUN MEDICAL INC. remains the only medical device supplier offering a full line of IV solution containers not made with polyvinyl chloride (PVC) and diethylhexyl phthalate (DEHP).

More studies are indicating that PVC bags with DEHP, a plastic softener that can leach from devices, are linked at certain levels to birth defects and other illnesses. The Food and Drug Administration has issued a public health notification about DEHP.

Many companies now have DEHP-free lines but still offer DEHP-containing medical products. B. Braun made the decision a long time ago to go DEHP free. It even sponsors the DEHP-Free Award for Practice Greenhealth.

“More than three decades ago, B. Braun recognized the environmental and patient risks posed by products containing DEHP and PVC,” says Rick Williamson, vice president of Pharmaceutical Marketing at B. Braun. “We were the first medical device manufacturer to remove these harmful substances from many products. This is a testament to B. Braun’s ecological awareness and patient-centric philosophy.”

Ted Schettler, science director of the Science and Environmental Health Network and adviser to the Health Care Without Harm campaign, says the number of hospitals that have gone DEHP free are in the minority, though he says there have been “great strides” in moving away from it in recent years.

“People can come down on all sides and have arguments about DEHP,” Schettler says, “but B. Braun is an example of a company that has developed an alternative that avoids DEHP exposure. That’s good. We want more of that.”

Schettler says it’s become easier to switch to non-PVC as more DEHP-free products have become available. “Hospitals that have been the most successful replacing them go about it in a very systematic way,” he says. “They identify the problem, they get the clinical staff involved early on and they get samples of the alternatives so they don’t spring things on people.”

B. Braun has more than 50,000 employees in more than 60 countries and is the 13th-largest medical device manufacturer in the world. It has four manufacturing facilities in the U.S., with more than 5,500 employees.

In addition to going DEHP free, B. Braun is a leader in developing infusion therapy and pain management products and services. The company’s innovations enable:

- Improved patient outcomes. B. Braun’s physician-preferred pain control products have reduced patient complications.
- Medication error reduction. These errors account for an estimated 7,000 deaths annually. B. Braun’s DoseTrac with Infusion
Pumps and DUPLEX® Drug delivery are designed to ensure that patients get the correct medication in the correct dosage from the correct clinician.

■ Infection prevention. B. Braun products are designed to help reduce serious catheter-related bloodstream infections. The company developed the industry’s leading passive catheter as well as a silver-impregnated antibacterial connector, which is designed to help reduce bacterial growth on the surface and in the fluid path of the device.

■ Environmental responsibility. B. Braun uses processes and machinery that conserve energy and natural resources.

Also:

■ In January, B. Braun received FDA approval for the next generation 1L Intravenous Containers E³. It represents the latest advancement in IV container technology in more than 25 years and is a first-of-its-kind offering that will provide health care professionals with high-quality, easy-to-use IV containers that are not made with natural rubber latex, DEHP or PVC.

■ In April, B. Braun expanded its TITAN™ XL line of large-volume containers, which are the only large-volume, flexible containers on the market not made with DEHP or PVC.

■ In August, B. Braun announced it had received FDA approval of Nutrilipid® 20% (I.V. fat emulsion) for parenteral nutrition therapy in adult and pediatric patients. It will be available in flexible containers not made with DEHP or PVC.

“One consultant says B. Braun is “showing great responsibility through their product innovation.”

■ “B. Braun products help pave the way for successful recycling programs within hospitals,” says Linda Smith-Zengen of JT Environmental Consulting Inc. “With PVC and DEHP already removed, patients are safer and there’s also the waste savings being generated. If hospitals don’t have a recycling program, they could spend on average $1.5 million a year or more on disposal. That money can be spent elsewhere. B. Braun wants to help. They are showing great responsibility through their product innovation.” —RK

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Velmed Inc., Gibsonia, Pa.
WHR Architects, Houston
Xenex Healthcare Services, San Antonio

“B. Braun is an example of a company that has developed an alternative that avoids DEHP exposure. That’s good. We want more of that.”

—TED SCHETTLER, SCIENCE DIRECTOR OF THE SCIENCE AND ENVIRONMENTAL HEALTH NETWORK AND ADVISER TO HEALTH CARE WITHOUT HARM
Parker Adventist Hospital in Parker, Colorado, is putting the fun in recycling by donating its used saline bottles to Cheyenne Mountain Zoo. Zookeepers fill the bottles with food or freeze water in them, giving the gorillas and other animals hours of playtime and a cool treat.
This Germ-Zapping Robot destroys superbugs. HAIs have dropped. Our customers have proven it.

53% reduction \textit{C. diff} infection rates – published outcome\textsuperscript{1}

57% reduction \textit{MRSA} infection rates – published outcome\textsuperscript{2}

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