

2014 Milestone Report



A PRACTICE GREENHEALTH PROGRAM

www.HealthierHospitals.org

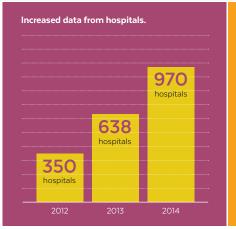
# **2014 Milestone Report**

Spring 2015 brings us to the culmination of the three-year Healthier Hospitals Initiative (HHI). Launched in 2012, the three-year Initiative was successfully modeled after the Institute for Healthcare Improvement's "100,000 Lives Campaign," using data to drive positive change. Thanks to 12 sponsoring health systems, the Initiative has been available free to any hospital that commits to take on one (or more) of six proven strategies or "Challenge" areas to improve their sustainability performance.

The Milestone Report and hospital case studies illustrate the progress that any hospital can realize, regardless of size or location. In HHI's third year, 2014 marked the submission of more than 900 sets of data, tracking progress in six "Challenge" areas: Engaged Leadership, Healthier Food, Leaner Energy, Less Waste, Safer Chemicals and Smarter Purchasing. A data summary and analysis for each Challenge and its assigned goals are featured throughout the report, each one pointing to an accompanying case study in an addendum of success. The data was also used to bring hospitals and businesses together around two key market transformation focus areas: *less meat, better meat* and *healthy interiors*. These two market transformation of a common vision for how it could be— a world where antibiotics are still able to fight infection and a health care sector that promotes healthy, local, sustainable foods as key to health and prevention of chronic disease. And a world where hospital interiors are truly healing environments, free of chemicals of concern.

For more details, including definitions of data measures and more information on how to implement the HHI challenges, visit www.HealthierHospitals.org.

A picture is worth a thousand words. Here are some visuals to highlight HHI, as it transitions into a free program at Practice Greenhealth. We look forward to continuing this important work.

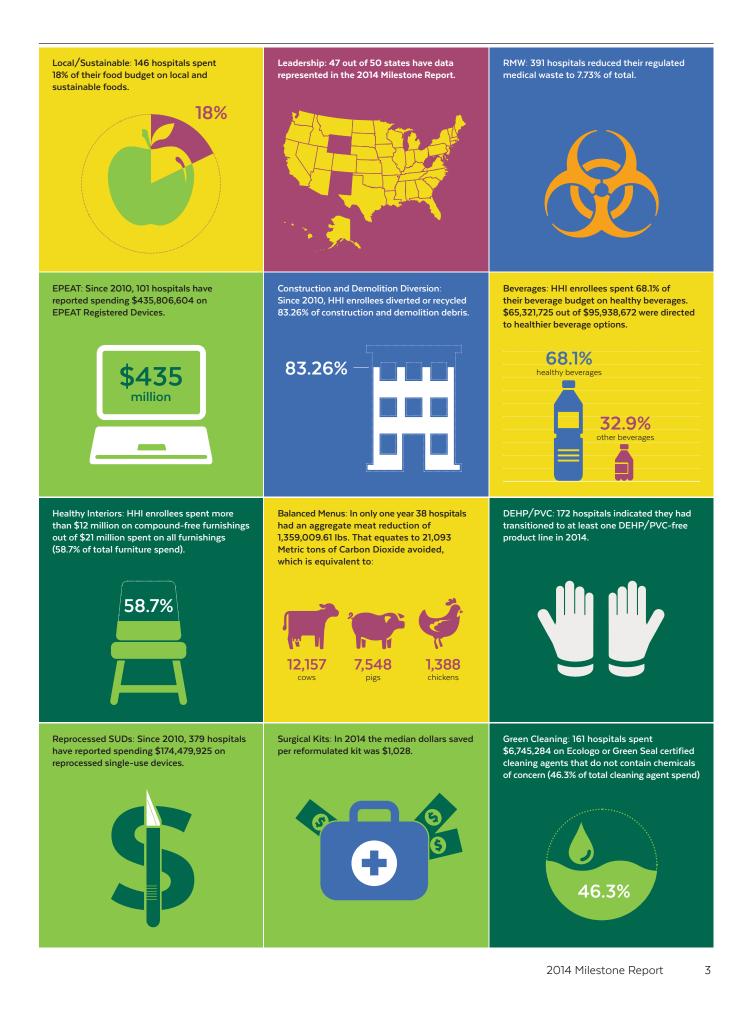


Energy: Using ENERGY STAR reported values HHI enrollees reduced their energy use by an aggregate 2.5%, eliminating 73,600 metric tons in greenhouse gas emissions, the equivalent of removing 15,600 vehicles from U.S. roads annually.



Recycling: Since 2010, 457 hospitals achieved an aggregate recycling rate of 24%, diverting 445,722.37 tons of materials from area landfills.





## Leading Communities to a Healthier Future

Time, experience, wisdom, creativity, perseverance-a willingness to be the first. These words describe the contributions the sponsoring health systems offer to the Healthier Hospitals Initiative (HHI). Each has their unique approach to healthier environments—from the first to make a public announcement to phase out flame retardants from furniture, to those who sat down with food services contract management and distribution companies to tackle challenges around healthy food and phasing out the nontherapeutic use of antibiotics in meat. These are envelope-pushing, early-adopting change makers, who individually and collectively understand the importance of environmental innovation, resilience, data and information-sharing. They are HHI's sponsoring health systems.

The HHI sponsoring health systems first came together in 2011 to communicate their successes, craft the HHI challenge details, share their data, help spread the message of sustainability as a quality imperative and to use that data to drive change. This work has helped others get started in their sustainability journey. Thank you to the HHI sponsoring health systems for providing leadership to HHI. Without them, HHI would not have existed, and we are grateful for their support.

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Janet Howard Director Healthier Hospitals Initiative

**Paul Bogart** Chief Program Officer Health Care Without Harm

Jeffrey Brown Executive Director Practice Greenhealth

Jary Char

Gary Cohen President and Co-founder Health Care Without Harm

### "The whole is greater than the sum of its parts." ARISTOTLE

### SPONSORING HEALTH SYSTEMS













PARTNERS



KAISER PERMANENTE





### ANALYSIS METHODOLOGY

Healthier

Food

CHALLENGE AREAS

Engaged

Leadership

Raw data tables were used to produce the numerical summaries. The statistical package R version 3.02 and Excel® 2007/2010 were used to produce this report. HHI staff validated data and performed diagnostic plots and tables to identify outlier values. Nevertheless, ultimately the responsibility for accurate numbers rests with the participating hospitals.

Less

Waste

Safer

Chemicals

Smarter

Purchasing

Leaner

Energy







# Engaged Leadership

While most sustainability activities start at a grassroots level, the Engaged Leadership Challenge can help create a firm foundation for long-term programming. Health care has a long way to go to become environmentally sustainable. Without engaged leadership, programs will be limited to departmental successes, driven by passionate individuals—but limited in scope.

The challenge is a checklist of indicators. Level 1 is accomplishing at least three indicators from the menu of action items; Level 2 is achieving six indicators; and Level 3 requires 10 indicators.

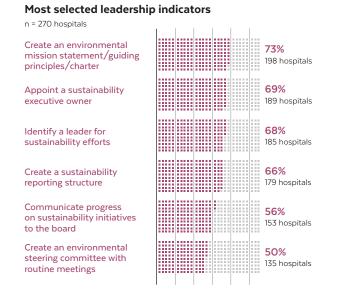
### **Engagement Trends**

The third year of HHI showed an exponential jump in the number of facilities reporting their leadership indicators from 178 in 2013 to 272 in 2014. In 2014, 129 hospitals committed to achieving three of the prescribed leadership indicators (Level 1); 26 committed to six indicators (Level 2); and 117 committed to implementing 10 leadership indicators (Level 3).

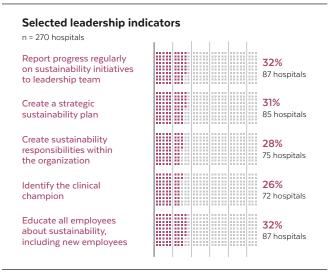
A gap is noted at Level 2 with just 26 hospitals. While many hospitals are just beginning their journey toward more environmentally healthy processes, there needs to be a concerted effort to help those that are just getting started on the next level of engagement.

### Analysis of Indicators

In looking at which of the leadership activities were most widespread and established, a picture is painted illustrating the structural and organizational tactics that help leaders get started. The following leadership indicators were the most selected out of the 25 activities.



Many facilities have begun to set up the communication structures necessary to conduct a well-functioning sustainability program. By appointing an executive owner for sustainability initiatives, health care organizations are expressing that they see a shift to more sustainable operations as a leadership imperative. An unexpected outcome of the data analysis has been the identification of a continuum in which the reporting hospitals can be placed. At the beginning of this continuum are the hospitals that are creating the structures of communication and responsibility necessary for beginning a sustainability program. While the measures listed above are crucial first steps, the next steps are intended to use the structures established to allocate responsibilities and maintain communication while reporting progress to upper-level management. This also includes spreading sustainability throughout different departments and establishing it as a clinical priority as well. Limited resources and competing agendas continue to challenge hospitals moving toward the next level of engagement. Data internships, integrating environmental indicators into performance reviews and educating leaders are critical steps for achieving the next level of engagement and optimizing measurable outcomes.



Data has demonstrated that 50 to 73 percent of hospitals in the data set have developed the communications structure for a sustainability plan. Twenty-six to 32 percent of hospitals have begun to fill out their organization with sustainability roles and reporting responsibilities. The leadership activities selected least frequently are activities that indicate a facility has conducted a cohesive assessment, set measurable goals and can track progress on specific improvement activities using the HHI measures.

The lowest represented leadership indicators involve data and data collection. This may be an indication of the time it takes to identify the data source and strategic business partners, as well as understand process flow, roles and responsibilities.

While only three percent of hospitals indicated they have conducted a sustainability baseline, developing a baseline was integrated into each of the six HHI Challenge areas. While HHI provides a framework, a full baseline assessment is a key activity for leadership because it both identifies wins and opportunities for a cohesive environmental improvement strategy. For health systems, it identifies best practices and offers an opportunity to take site successes and spread those successes across the system.

### Least selected leadership indicators



While HHI provides proven interventions, Practice Greenhealth offers customized support for those that need it with the use of the Eco-Checklist and the Environmental Excellence Awards for a thorough baseline assessment. This process provides both recognition and customized gap analyses to help hospitals and systems continuously improve upon their full spectrum of environmental performance.

The Engaged Leadership Challenge is qualitative. Lessons learned from the Challenge include the need for clear definition and a validation of leadership measures to confidently inform the trends and opportunities.

Leaders have the opportunity to create a culture of possibility and to use their leadership for positive change. With staffing constraints, leadership has the potential to embed the responsibilities into diverse teams and educate each staff member on their role in reducing environmental impact. The long-term vision is a day where green teams are no longer needed, and sustainability is integrated into every strategic conversation, purchase and process-improvement activity.

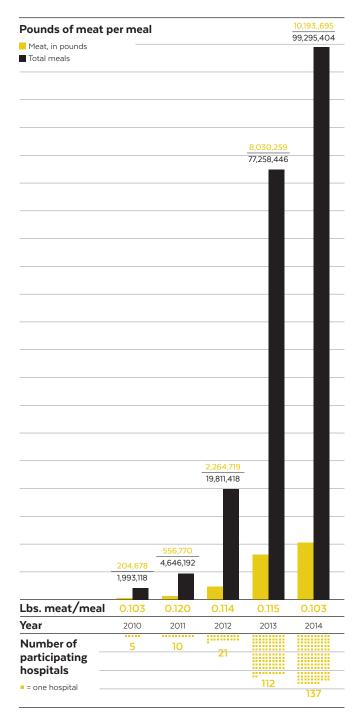
HHI's Engaged Leadership Challenge was used to elevate Bronson Methodist Hospital's established hospital sustainability program to the next level. Tracking positive outcomes such as cost savings, increased staff engagement and improved safety made the case for a full-time sustainability lead.

# **Healthier Food**

The current industrial food system in the U.S. has significant impacts on human health, climate change, air and water pollution, and the viability of future agricultural production. The United States spends billions of dollars annually to treat diet-related, chronic diseases—\$147 billion to treat obesity alone—another \$116 billion to treat diabetes, and hundreds of billions to treat cardiovascular disease and cancer. The goals of the Healthier Food Challenge provide strategies in the health care sector to counter these trends, purchase more sustainable foods and offer healthier meals and beverages to patients, employees, visitors and the communities.

### Balanced Menus-Less Meat, Better Meat

Meat and dairy production account for 18 percent of the world's greenhouse gas emissions. Eighty percent of the antibiotics used in the U.S. are given routinely in low doses to animals to both promote growth and prevent infections, compensating for overcrowded, unsanitary and unhealthy living conditions in factory farms known as concentrated animal feeding operations (CAFOs). According to the Centers for Disease Control and Prevention, antibiotic resistance costs the U.S. \$20 billion a year in direct health care expenses and \$35 billion a year in lost productivity.



The balanced menus goal of the Healthier Food Challenge is a two-tiered strategy to reduce meat and poultry procurement overall and invest in more sustainable options, including but not limited to meat and poultry raised without the routine use of antibiotics. The goal is to reduce the pounds of meat per meal by 20 percent within three years of baseline. One hundred sixty-one different hospitals reported data on the balanced menus goal over the course of the initiative.

The results of the Challenge show an increase in reporting since 2012 from 21 hospitals reporting an aggregate of 2,264,719 lbs. to 137 hospitals reporting an aggregate of 10,193,695 lbs. in 2014. Also, there was an aggregate decrease in the pounds of meat per meal from an average of 0.115 lbs. per meal in 2013 down to 0.103 lbs. per meal in 2014.

Overall, 23 hospitals have met the goal of decreasing their meat purchasing by 20 percent. Fifty-four hospitals have decreased their lbs. of meat per meal in 2014, compared to the first year in their series.

Moving forward, Practice Greenhealth will track which sustainable meats hospitals are purchasing with a focus on those raised without the routine use of antibiotics. By working together, hospitals can transform the marketplace by bringing transparency to the supply chain and increasing the availability of sustainable, healthier meats.

### **Healthy Beverages**

The healthy beverages goal of the Healthier Food Challenge is an opportunity for hospitals to initiate strategies to combat obesity and reposition themselves as leaders in preventionbased care. The production, consumption and waste associated with sugar-sweetened and bottled beverages have numerous negative environmental consequences that are often overlooked. Meanwhile, tap water has been proven to be just as safe, or safer, than its bottled version in the U.S. The goal is to increase the purchase of healthy beverages over baseline year by at least 20 percent annually or achieve a level of 80 percent or better purchase of healthy beverages. One hundred sixty-four hospitals reported on this measure.

In 2014 there was an aggregate of 57.2 percent healthy beverages purchased or \$20,552,949 out of \$35,927,705. While many hospitals are phasing out soda and diet options as well, many are using product placement or pricing strategies, expanding availability of 100 percent fruit juice options and promoting access to tap water to increase their healthy beverage purchases. From 2013 to 2014, 48 hospitals increased their healthy beverage purchases.

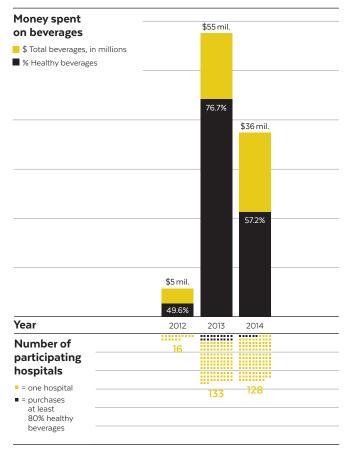
Since May 2004, Dayton Children's Hospital in Ohio has been 100 percent sugar-sweetened-beverage free in the cafeteria and vending machines.

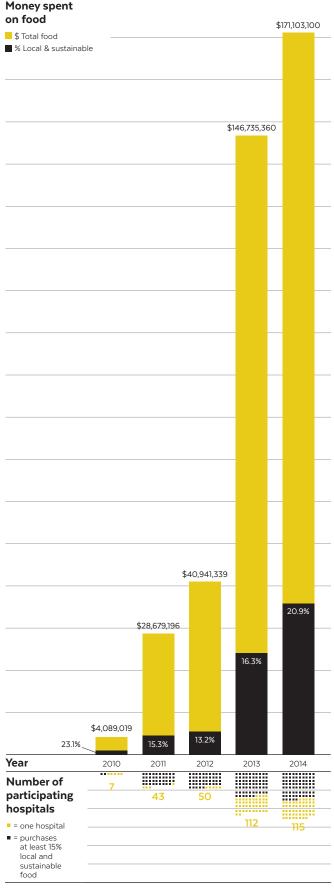
### Local/Sustainable

By prioritizing local and sustainably-grown foods, hospitals can help build a healthier food system; support local/regional economies; improve the health of their patients, staff, and visitors; and invest in the well-being of communities and the environment for generations to come. The local/sustainable goal of the Healthier Food Challenge aims to achieve increases in local (within a 250-mile radius) and sustainable food purchases by 20 percent annually over baseline year or to achieve purchases of at least 15 percent local and sustainable food purchases.

Data shared by participating hospitals has steadily risen since 2010. One hundred fifteen hospitals spent \$35,805,740 on local and sustainable food in 2014, and 64 percent (74 hospitals) purchased at least 15 percent local and sustainable food.

Between 2013 and 2014, 32.5 percent of hospitals reporting data in both years increased their percentage of spend on local and sustainable food by 20 percent. This data is showing the corollary relationship between the desire to purchase more local and sustainable foods and the expanded availability of local and sustainable foods. Moving forward, Practice Greenhealth hopes to see innovative solutions emerge to address some of the barriers to procuring more local, sustainable foods such as production and aggregation, and labeling and availability through current supply channels.





### **Healthier Food Challenge**

# Healthier, Sustainable Food Systems through Market Transformation

While the HHI sponsoring health systems were well on their way to achieving the goals of the Healthier Food Challenge, they convened a meeting in September 2013 to share their successes and highlight three primary obstacles: issues around local and sustainable food definitions, transparency and availability, and tracking and reporting. These challenges could prevent the more than 446 other hospitals, which had made commitments to the Challenge, from improving their hospital food environments and advancing the development of a sustainable food system.

# What is the local/sustainable food goal of the Healthier Food Challenge?

The goal requires participating hospitals to increase the percentage of local and/or sustainable food purchases by 20 percent annually over baseline year or achieve local and/or sustainable food purchases of 15 percent of total food dollar purchases, within three years (measure=dollars).

As the founding sponsoring health systems, these leaders and advocates felt an obligation to work through these challenges by sitting down with their food suppliers, group purchasing organizations (GPOs) and food service management companies. The meeting in Washington, D.C. in February 2014 confirmed that food production, processing, sales and distribution are complex systems. Together with their suppliers, participants in the meeting agreed there were pathways to achieving the healthy beverage and balanced menus (meat reduction) goals over time; however, the previously identified barriers lend little or no progress on the local/sustainable food goal. With the help of HCWH's Healthy Food in Health Care (HFHC) program and hospital leaders like University of Vermont Medical Center (formerly Fletcher Allen Healthcare) and University of San Francisco Medical Center who have led the country in sourcing local and sustainable foods, attendees arrived at the conclusion to focus on one product category—meat and poultry—and to address one of the leading public health issues today, the overuse of antibiotics in raising food animals. Such routine, non-therapeutic use is unnecessary and contributes significantly to the rise in resistant bacterial infections in humans.

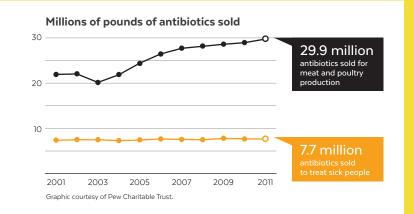
Meeting again at CleanMed in June and virtually in October 2014, the founding sponsoring health systems shared progress and best practices from working with their vendors.

### Notable progress to date includes:

 Advocate Health Care, the largest health system in Illinois, recognizes the mounting evidence linking nontherapeutic antibiotics in animal production to antibioticresistant infections in people. Advocate is working with ARAMARK and US Foods to source and calculate the cost of transitioning to meat and poultry raised without the routine use of antibiotics. To date, US Foods identified antibiotic-free meat options available for nearly 30 percent of the total meat purchased per year by Advocate. The annual cost to convert to the antibiotic-free meat options

According to government estimates, up to 80 percent of all the antibiotics consumed each year are routinely given to poultry, beef cattle and swine in their feed, not to treat diagnosed disease, but to promote faster growth and to prevent disease outbreaks that are inevitable under confined, often unhygienic conditions where most U.S. animals are raised. Many such antibiotics are identical or very similar to human medicines.

Sources: IMS Health Inc. (human sales data); Animal Health Institute survey of its members, 2001-07; U.S. Food and Drug Administration, 2009-11 (animal sales data).



available is projected to cost 20 percent more than current meat costs but is viewed as the right thing to do in order for Advocate to provide the best health outcomes for its patients. The costs are also offset by the reduced amount of meat purchased.

- Partners HealthCare, an 11-hospital health system located in New England, worked through their GPO, Novation, to identify credible criteria for meat and poultry raised without the routine use of sub-therapeutic antibiotics and availability of these products through their contract. Several of their hospitals have made purchases and Partners continues to work with University of Vermont Medical Center (formerly Fletcher Allen Healthcare, a leader in local and sustainable food procurement) to locate regional options.
- Kaiser Permanente released the sustainable food scorecard and accompanying materials with support from HCWH for use during development of food-related contracts, and to gather information from potential vendors regarding distribution and corporate practices related to sustainable food. This tool can help hospital food services identify vendors that can support sustainable purchasing goals as part of the broader request for proposal (RFP) process.
- Inova Health System, located in Northern Virginia, is working with their vendor partners to increase transparency in the food procurement process. Healthful and sustainable foods are cornerstone elements in building healthy communities. Understanding what they are purchasing, where it is coming from and associated impacts allows Inova to make more responsible choices. Inova leverages the opportunities to drive change through the influence of their market demand. Inova has more than doubled their spend on local and sustainable foods since 2012, spending over \$200,000 on local produce alone. Inova is able to create a meaningful impact by streamlining processes and working with partners to improve data tracking. Through this effort of data-driven decision making, Inova is helping to support products that benefit the local economy and are aligned with their sustainability values.
- Resolute Health, of Tenet Healthcare, has a mission to provide antibiotic-free meat, and local, organic, and seasonal food on a regular basis. They began by educating their patients, employees and visitors using the theme on food day: "reforming factory farms to protect the environment and farm animals." The hospital's Leaf Café serves chicken raised without antibiotics with a seasonal vegetable blend. Resolute Health also serves grass-fed, locally-raised beef from Koch Ranches in the hospital Leaf Café and on the daily patient room service menu.
- The University of California, San Francisco Medical Center (UCSF) played a crucial role in crafting and supporting the adoption of the UCSF Academic Senate's resolution to stop buying meat raised with non-therapeutic antibiotics on their medical campus. This change in buying practices

Participating Health Systems *HHI Sponsoring Systems	"We're moving the marketplace by					
Advocate Health Care*	making aggregate					
Ascension Health	asks to vendors and					
Catholic Health Initiatives*	distributors."					
Dignity Health*						
Gunderson Health System*						
Inova Health System*						
Kaiser Permanente*						
Lee Memorial Health System						
Partners HealthCare*						
Tenet Healthcare*						
University Hospitals Health System						
University of California San Francisco Medical Center						
University of Vermont Medical Center (formerly Fletcher Allen Health Care)						
ThedaCare						

has spread to other California hospitals. Close work with the University of California, Los Angeles Medical Center and several hospitals in the San Diego area has resulted in collaboration on the procurement of meat and poultry raised without insidious antibiotic use through a common distributor, US Foods. Working together, the hospitals are benefiting from faster action taken by their vendor to change their offerings while also helping society avoid a potentially catastrophic decline in antibiotic efficacy.

### **Looking forward**

As the health systems recognize their leadership and role in moving the marketplace, they will convene again to review progress made and the major challenges still remaining for other participating health systems. The HCWH HFHC Program is creating educational resources and tracking tools to sustain the effort and document progress; furthermore, two regional projects in California and New England will work to support place-based efforts among the participating health systems and other institutional partners. The hospitals and their partners recognize change doesn't take place overnight, and starting with the purchase of meat and poultry raised without routine use of antibiotics is a good step in the right direction. The long-term vision still remains to serve the healthiest sustainable foods to patients, employees and communities while creating a supply chain system that is conducive to food producers meeting the robust and verifiable label claims recognized by the healthy food in health care campaign.

### For more information, contact Hillary Bisnett, National Procurement Director, HCWH HFHC Program, hbisnett@hcwh.org.

# Leaner Energy

From powering life-saving equipment to ensuring the comfort of patients and staff, twenty-four hours a day, seven days a week, energy is paramount to quality health care. However, with hospitals and health systems—the second most energy-intensive building sector in the U.S.—emitting eight percent of the nation's greenhouse gas emissions, it is imperative that hospitals cut emissions through improved operations and equipment maintenance efficiency. There is a need to track both efficiency, as measured by energy used per unit of service or size of hospital, and aggregate use. HHI's Leaner Energy Challenge resulted in reduced energy use equivalent to avoiding 73,600 metric tons of  $CO_2e$  in greenhouse gas emissions. These avoided emissions are equivalent to removing 15,600 vehicles from U.S. roads annually.

Each vehicle = 1,000 cars

Hackensack University Medical Center embarked on a two-phase energy conservation project. The annual utility cost savings, when the full project is completed, is estimated to total \$1.06 million. The annual energy savings is estimated to total 4,218,984 kWh and 217,693 therms.

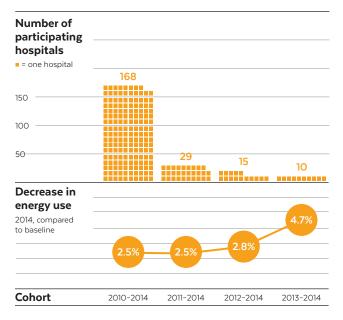
In viewing the number and length of time that facilities have been benchmarking with ENERGY STAR Portfolio Manager an energy tracking and benchmarking tool provided by the U.S. Environmental Protection Agency (EPA), juxtaposed with the percent decrease in weather normalized site energy use index (which expresses energy per square foot per year, adjusting for monthly outside air temperatures), it is clear that there is a learning curve when it comes to data quality and reporting regiments. Across the cohorts, the first year in the series tends to have data quality issues, which most likely stem from undefined meters in the first years that are added. This will show an artificial increase in energy consumption. As hospitals become more familiar with tracking their energy they improve upon the identification of meters in their campus.

In the 2013 Milestone Report, 193 hospitals were utilizing ENERGY STAR's Portfolio Manager, and data from 160 hospitals were included in the report. In 2014, 361 hospitals were enrolled in the Leaner Energy Challenge, and 222 hospitals' data made it into the Milestone Report. HHI is celebrating a 38.75 percent increase in the number of hospitals reporting energy data for the Leaner Energy Challenge. The improved (stronger) data set more clearly demonstrates the progress being made on energy reduction within the health care sector.

- The 222 hospitals that submitted data saw an aggregate reduction of 2.5 percent since 2010.
- One hundred thirty-two (59%) hospitals reduced energy use relative to the baseline year.
- Ninety-one hospitals (41%) show at least Level 1 achievement, a three percent reduction in energy use from their baseline year.
- According to ENERGY STAR's Portfolio Manager, HHI's Leaner Energy Challenge resulted in reduced energy use equivalent to avoiding 73,600 metric tons of  $CO_2e$  in greenhouse gas emissions. These avoided emissions are equivalent to removing 15,600 vehicles from U.S. roads annually.

Two hundred twenty-two hospitals submitted energy data, representing 18.1 percent of the 1,226 hospitals enrolled in HHI at the beginning of 2015. While the successes of benchmarking and analyzing such a significant health care data set can be celebrated, it is just the beginning. Benchmarking is the first step. The more hospitals that submit data, the better the entire picture. If all 1,226 HHI facilities were benchmarking energy use with ENERGY STAR as a partner, the data set could serve as a sector-wide baseline, informing additional insights—by region, fuel type, patient days, function and more. This acute look at energy in health care could lead to more detailed analysis, as well as present options for increased efficiency moving forward.

Energy conservation requires a complementary focus on renewable energy sources. Cost savings from energy conservation can be used to invest in renewable resources. The data can be scrutinized to identify gaps in the market and be incorporated into strategies, planning to increase access to MRFs. Data can be the conduit for real change, as hospitals both seek affordable renewable energy sources and energy conservation strategies.



# Less Waste

According to Practice Greenhealth's 2014 Sustainability Benchmark Report, the health care sector creates the staggering amount of 28.4 lbs. of total waste per staffed bed per day (the sum of biohazardous, solid, recyclables and hazardous waste). One of HHI's most popular challenges, the HHI Less Waste Challenge, sets the goal of 15 percent recycling as a component of total waste—easily achievable with corrugated cardboard and single-stream recycling. Improving segregation of RMW to 10 percent or three lbs. per adjusted patient day is important to health care facilities for its cost-saving opportunity. The Less Waste Challenge is rounded out with a focus on recycling and diversion of construction and demolition debris from significant (more than 1,000 square foot) construction projects, recognizing that landfills' biggest contributor is construction debris.

### Waste Recycling

The first Less Waste Challenge goal aims to recycle 15 percent or more of total waste. Four hundred fifty-seven different hospitals provided data from 2010-2014 with an average recycling rate of 24.4 percent.

In aggregate, the 395 reporting hospitals in 2014 recycled 122,000 tons of waste, and 68.4 percent (270 of 395) of them have met or surpassed the 15 percent goal with an average recycling rate of 26.3 percent.

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			21%	23%	26%	
	28%	29%	21/0			
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### **Regulated Medical Waste**

Due to a finite number of treatment facilities, including incinerators, RMW requires significant transportation and treatment costs. Because RMW is at least five times more expensive than solid waste management, improved segregation offers both cost savings and improved environmental performance. The second Less Waste Challenge goal is to attain a RMW percentage of less than 10 percent of total waste. Over the past four years, 391 different hospitals provided HHI with data. In 2014, 217 of 298 hospitals (72.8 percent) reported RMW as less than 10 percent of total waste, averaging 8.6 percent RMW.

# Regulated Medical Waste per Adjusted Patient Day

An alternative goal of the Less Waste Challenge is to reduce RMW to three lbs. or less per adjusted patient days (APD). Fifty-five hospitals provided HHI with data over the four-year period. In 2014, 16 of 18 (88.9 percent) hospitals providing data met the goal of no more than three lbs. RMW per APD.

### **Construction and Demolition Diversion**

The third goal of the Less Waste Challenge is to divert or recycle 80 percent or more of construction and demolition waste. Seventy-two hospitals provided HHI with data. Since 2010, an average of 76.9 percent of construction and demolition debris has been recycled.

An analysis of the data by geographic region shows areas of low recycling rates and higher RMW rates. This finding may indicate a lack of access to material recovery facilities. One of the obstacles to having the entire country recycling at a higher rate is geography. By looking at the geographic representation of the data, there are regions of the country that have lower recycling rates and higher RMW rates. A portion of this imbalance can be attributed to varying cultures in health care facilities, but the location of the material recovery facilities (MRF), where recyclables are prepared for market, can also be a factor. Hospitals situated far from MRFs may experience higher transport costs and difficulty identifying partners, making recycling more difficult. The increase in recycling rates demonstrates a growing demand among hospitals for these services, and that data sets can be helpful in regional market changes and increased access to MFR services.

Hudson Hospital and Clinics, Hudson, Wisconsin, achieved a 40.22 recycling rate, far surpassing the HHI goal of 15 percent.

The 233-bed St. Mary's Regional Medical Center, Lewiston, Maine, reduced their regulated medical waste (RMW) from 10 to seven percent, lowering waste removal fees by \$2,000 per year.

# **Safer Chemicals**

Medica

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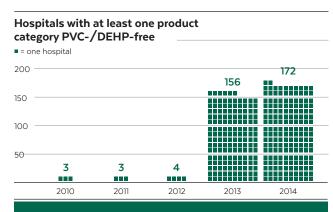
Certain chemicals that are used in everyday products such as furnishings, cleaners and medical devices have the potential to expose both patients and staff at health care facilities to harmful chemicals. These products can also have health and environmental consequences during their manufacture and disposal. From endocrine-disrupting chemicals in the form of flame retardants or DEHP, to chemicals that can cause respiratory problems for environmental services employees, it is crucial that hospitals transition to products that align with healing environments and healthy communities. By prioritizing and tracking this information, HHI is helping accelerate a switch to safer products and highlight trends and product lines that meet the goals of the Safer Chemicals Challenge.

### **PVC-/DEHP-Free Devices**

The first goal of the Safer Chemicals Challenge is to eliminate PVC and DEHP from one or more of seven defined product lines as listed below:

- Breast pumps
- Enteral nutrition products
- $\cdot\,$  Parenteral infusion devices and sets
- General urological (irrigation/urology sets and solutions, urinary catheters)
- Exam gloves
- Umbilical vessel catheters
- Vascular catheters

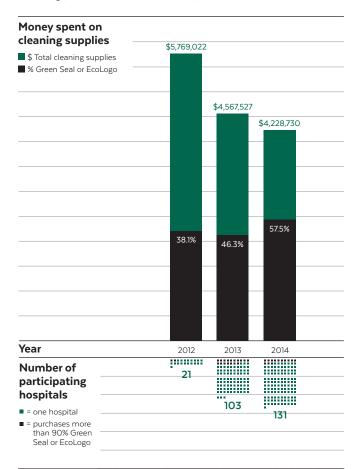
A large increase was observed in the data set between 2012 and 2013, which may be an indication of the time it takes to review and identify new contracts and to pilot alternatives. In 2014, 172 hospitals reported making at least one product line DEHP- and PVC-free. The dramatic increase in participation sends a strong message to the marketplace about health care's interest in the elimination of PVC and DEHP from medical devices, products and materials.



Beaumont Health System felt that a clinical champion was key to the success of their elimination of medical devices that contained Di(2-ethylhexyl)phthalate (DEHP) and Polyvinyl chloride (PVC).

### Green Seal or EcoLogo Certified Cleaning Products

The green cleaning goal is to purchase more than 90 percent Green Seal or EcoLogo certified products in four product categories—bathroom cleaners, general purpose cleaners, carpet cleaners and window cleaners—measured in dollars spent compared to total spend for these four areas. One hundred sixty-one different hospitals reported data on cleaning purchases over the three years with 131 in 2014.



Spectrum Health's Butterworth Hospital realized \$30,000 in green cleaning savings through reduction in product inventory and standardization.

This data requires some interpretation because of an atypical situation in 2012. A large system purchased a significant amount of green cleaners but only reported data for 2012. Although the total spend appears to go down from 2012 to 2013, this in large part reflects the drop-off in reporting by one system. Note that overall, participating systems increased dramatically from 2012 to 2014. From 2013 to 2014 the data shows an 11.2 percent increase in spend on certified cleaning chemicals compared to total spend. Many enrollees outsource environmental services management, which may have contributed to challenges in capturing the data required for this challenge. This, along with the fact that many systems

are interested in this challenge but did not participate, demonstrates a lot of opportunity for expanded engagement going forward.

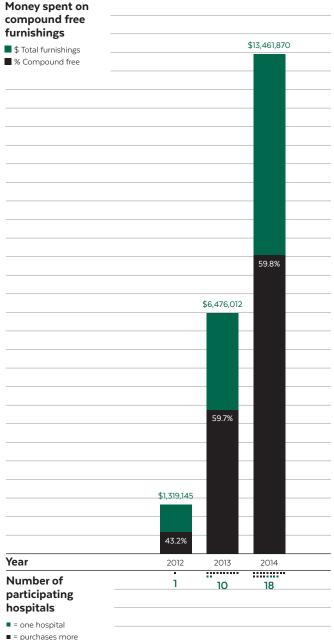
### **Healthy Interiors**

The healthy interiors goal of the Safer Chemicals Challenge is to purchase at least 25 percent (in dollars) of products in furnishings (such as chairs or exam tables) that eliminate the intentional use of halogenated flame retardants, formaldehyde, perfluorinated compounds and PVC.

Most health care facilities do not track whether or not their furnishings contain harmful chemicals. Creating the internal systems to track furniture purchases and to identify alternatives takes time for health care systems. New tools developed recently, including lists of furnishings meeting the criteria, have helped make it easier to accomplish this goal.

Although the numbers are small, there is a significant increase in the number of reporting hospitals as well as the dollars spent on cleaning agents that do not contain chemicals of concern. In 2014, 18 hospitals reported that an average of 59.8 percent of furnishings purchased that year were free of the targeted chemicals of concern, and 14 hospitals met the goal of purchasing more than 25 percent of healthy furnishings.

This goal has significant market movement implications. Increasingly, major purchasers are urging vendors to manufacture products that do not contain chemicals of concern, both to help them create healthy interiors and to protect communities and the environment. For example, flame retardants were added to furnishings when smoking was more common in public places and before the widespread use of sprinkler systems. Recent evidence suggests those flame retardants often do not perform as advertised, yet can expose people and the environment to hazardous chemicals. Consumer pressure on furniture manufacturers to remove flame retardants from their products has been critical in generating demand for compound-free furnishings. Large health systems are leading this market transformation with public announcements and corporate policies to reflect the purchase of compound-free furnishings only. The health care sector has added to this public pressure in the form of public announcements by large health systems declaring that they will no longer purchase furnishings with toxic flame retardants in them. And companies are responding by bringing more products to market that meet these demands.



than 25% healthy interiors compliant

University Hospitals Health System, Ohio, spent over \$760,000 on furnishings free of HHI-identified chemicals of concern, representing 71 percent of total spend from reporting vendors.

# Healthy Interiors through Market Transformation

Chemicals linked to cancer, birth defects, asthma and a variety of other health problems are present in a wide range of products—from medical devices to furniture and textiles used in health care. Through the Safer Chemicals Challenge, HHI is working with hospitals to eliminate harmful chemicals in some commonly used products and to switch to safer alternatives.

The goal of the safer chemicals market transformation work is to leverage the increased demand for products without chemicals of concern to drive manufacturers to offer safer products in the marketplace.

### Health Care is Moving the Market toward Healthy Interiors

The health care sector can be a powerful force in building a healthy and sustainable material economy that protects communities and ecosystems. Through purchasing power and persuasive voice, hospitals and health professionals across the country are influencing the types of products on the market and the content of those products. The size and reach of the sector influences the amount of information available to purchasers about products and their ingredients, and ultimately, the relative safety of products used every day.

The key to success is easier access to furnishings that meet the healthy interiors goal. As hospitals asked their vendors for furniture without the targeted chemicals of concern, suppliers slowly started to respond. After over a year of developing relationships with furniture manufacturers, HCWH and HHI wanted to accelerate the response and provide more resources to hospitals, including public lists of products that met the healthy interiors goal. In September 2014, HCWH and HHI convened a meeting at Chicago's Merchandise Mart that brought together leading health systems in the U.S., including Advocate Health Care, Beaumont Health System, Dignity Health, Kaiser Permanente, Partners HealthCare and University Hospitals, as well as major furniture suppliers to health care, including Steelcase, Herman Miller, Haworth, Knoll, IOA, The HON Company and Staples. The meeting provided a forum in which health systems could express their purchasing preferences as a broader community and ask pointed questions about the elimination of the harmful chemicals targeted by the healthy interiors goal.

With health care providers' preferences clearly stated and several suppliers prepared to meet the demand, HCWH and HHI encouraged furniture manufacturers to develop lists of products meeting the healthy interiors goal. These lists make identifying and purchasing such products easier for health care purchasers. The response has been incredibly encouraging, as companies now approach HHI for assistance in developing their lists. The Safer Chemicals Challenge also reaches deeper into the supply chain, with suppliers to the furniture sector providing their own lists of products that meet the healthy interiors goal.

### **Companies Manufacturing Healthier Furnishings**

As of March 1, 2015, the following companies have developed lists of products that meet the HHI healthy interiors goal: Allsteel, EnviroLeather by LDI, Gunlocke, Haworth, Herman Miller, The HON Company, IOA, KI, Knoll, Naturepedic, National Furniture, OFS Brands and Steelcase. To get the most up-to-date lists, visit www.HealthierHospitals.org/ hhichallenges/furniturelist.

### What is the Healthy Interiors Goal of the Safer Chemicals Challenge?

The goal requires participating hospitals to ensure that 25 percent of the annual volume of freestanding furniture and medical furnishings eliminate the intentional use of halogenated flame retardants, formaldehyde, perfluorinated compounds and polyvinyl chloride (PVC, also known as vinyl).

### **Reaching Beyond Health Care**

In June 2014, at CleanMed in Cleveland, Ohio, Kaiser Permanente committed publicly to phasing out flame retardants from upholstered furniture systemwide. In September 2014, four large health systems followed suit with a similar announcement, including: Advocate Health Care, Beaumont Health System, Hackensack University Medical Center and University Hospitals, which represent 7,000 patient beds throughout Illinois, Michigan, New Jersey and Ohio. Combined with Kaiser Permanente, the five health systems spend nearly \$50 million a year on furniture for their facilities.

This commitment to go flame retardant-free in furniture goes beyond the HHI healthy interiors goal, driving the market away from additional problematic flame retardants. The five leadership health systems are joining a much broader movement away from hazardous flame retardants—a movement that has arisen in response to mounting evidence that these compounds pose hazards to humans and wildlife. While health care is joining a broader societal movement away from flame retardants, its engagement and the fact that health care professionals are opinion leaders in society, add significant momentum to this market shift. The actions of the health care sector are helping to accelerate a move toward a safer and more sustainable planet, one chair at a time.

### **Looking Ahead**

In the coming year, the HHI Safer Chemicals Challenge will focus on medical furnishings, mattresses and textiles more broadly. A meeting at CleanMed 2015 in Portland, Oregon, with major medical furniture companies and some of HHI's leading health systems provides another opportunity to accelerate the transition away from the use of harmful chemicals in hospital furnishings.

Beyond furnishings, HHI is also in the early stages of engaging in market transformation work around the other Safer Chemicals Challenge goals, including green cleaners and DEHP- and PVC-free medical devices.

For more information contact rgibson@hcwh.org.

# Flame Retardants Showing Up in Hospital Dust

In 2013, Zhuoyuan Chen and Dr. Heather Stapleton at Duke University analyzed dust samples from fifteen U.S. hospitals for the presence of flame retardants. The researchers found flame retardants in every sample, including two common flame retardant commercial mixtures at levels higher than those found in residential settings, and two organophosphate flame retardants at the same level as residential settings. Multiple researchers have found relatively high levels of flame retardants in the dust in buildings and residences. The Duke study was the first of its kind to analyze hospital dust.

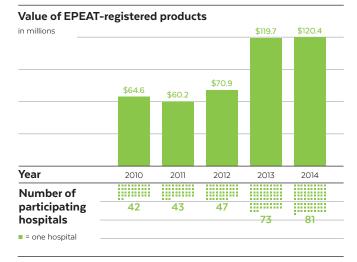
# **Smarter Purchasing**

The Smarter Purchasing Challenge is intended to facilitate the implementation of win-win opportunities for cost savings and environmental improvement. HHI brings the power of data to the contracting table. All too often, environmental improvement and data needs are identified after contracts are signed. The Smarter Purchasing Challenge (and all of the HHI Challenge goals) provide specification language and data needs to support and inform key aspects of contracts with prospective business partners. The Smarter Purchasing Challenge goals help get enrollees started with EPP and incorporate criteria of health and sustainability in contract, service and equipment purchase decisions. Capturing environmentally preferable spend sends the message across the sector that hospitals have an interest in safer materials and environmentally responsible equipment, products and services.

TAPE NOT CERTIFY

### Electronic Product Environmental Assessment Tool (EPEAT®)

Electronic equipment use is quickly growing, and with the continuous technology demands and growth comes enormous challenges related to energy use and disposal of outdated equipment which may contain heavy metals and hard-torecycle components. Specifications for computers, televisions, printers and photocopiers with the use of EPEAT promote environmentally-preferred electronics purchases without increasing costs. The goal is to measure the total spend on EPEAT-registered products in health care. Current contracting processes can make it challenging to track spend by product, since purchasing may be spread across multiple departments.



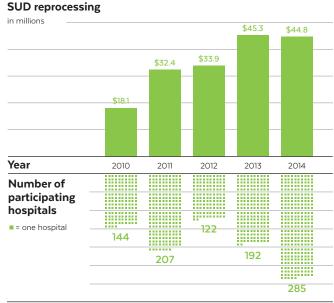
One hundred and one hospitals reported EPEAT spending, with the numbers steadily increasing since 2010. In 2014, 81 hospitals reported their annual spend on EPEAT-registered electronics. An additional \$120,415,193 was spent on EPEATregistered electronics in 2014. HHI has been able to quantify \$435,803,604 in EPEAT spending since 2010.

Tracking EPEAT spend is an important market transformation measure. The goals are to demonstrate the demand for environmentally-preferable electronics, influence other manufacturers to register their products with EPEAT, and educate the health care sector about opportunities for improving the environmental performance of the electronic equipment that is growing at such a rapid rate, while addressing deep challenges around energy, chemicals and waste.

Kaiser has a long-standing culture and commitment to Electronic Product Environmental Assessment Tool (EPEAT®). Today, the organization purchases 100 percent of desktops, monitors and laptops that meet EPEAT's gold requirements, and are moving towards the same for printers and photocopiers.

### SUD Reprocessing

One of the goals of the Smarter Purchasing Challenge is to increase the purchases of reprocessed SUDs by at least 50 percent over baseline. While the collection of FDA-approved SUDs for reprocessing reduces waste tonnage and disposal costs, it is equally important for hospitals to purchase back the reprocessed devices to maintain the demand, closing the loop. The reprocessed device is roughly equal in cost.



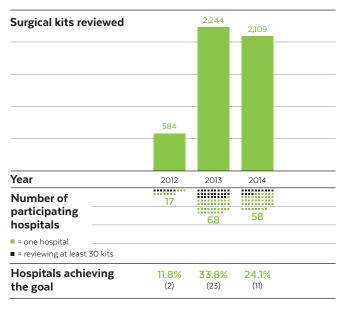
Since 2010, 379 hospitals saved more than \$174 million by purchasing reprocessed single-use devices. Hospitals generally buy back the reprocessed SUDs at 1/2 the original purchase price. Three hundred seventy-nine different hospitals reported data on SUD purchases since 2010. Of the 119 hospitals reporting data in 2014 that have a continuous purchasing series (2010-2014, 2011-2014, 2012-2014 or 2013-2014):

- Fifty (42 percent) increased purchases compared to the first year in the reporting series.
- Thirty-one (26 percent) reported increasing purchasing of reprocessed devices by more than 50 percent in 2014 relative to the first year in the reporting series.

HHI has been able to quantify \$174.4 million in reprocessed SUD expenditure since 2010. While it is fantastic that hospitals are spending such a large sum of money on reprocessed devices, there are numerous roadblocks to implementing an SUD purchasing program, ranging from physician buy-in to leadership support. Practice Greenhealth will continue to work with hospitals, tackling barriers around contracting limits, clinical engagement, and ongoing training and auditing needs.

### Surgical Kit Reformulation-Kit Count

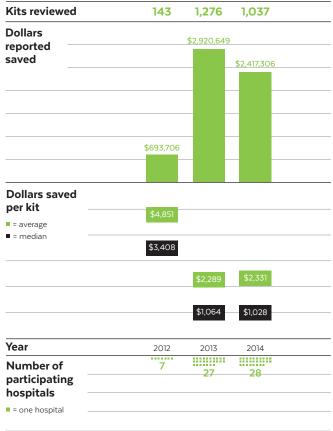
The final goal of the Smarter Purchasing Challenge is surgical kit reformulation, with a goal to review at least 30 custom surgical OR kits or 80 percent of OR kit types, whichever number of kits is greater. Through kit review, unnecessary components are eliminated, reducing costs and waste. Seventy-one hospitals reported on kits reviewed from 2012–2014.



### Surgical Kit Reformulation-Dollars Saved

While reporting on cost savings was optional, 62 hospitals reported dollar information from 2012-2104. The total reported savings across the three years for the 62 hospitals is \$6.03 million, or an average of almost \$100,000 in savings per hospital. While the number of hospitals reporting on this challenge decreased slightly in 2014, OR kit reformulation is clearly a continued win-win for hospitals.

Combining hospitals that reported both kits and dollars saved, HHI estimates dollar savings per kit, with the median providing a more conservative estimate than the mean, as seen below.



Fort Lauderdale's Broward Health's surgical kit reformulation review project yielded an overall 30 percent savings on their \$3.4 million annual spend, plus an additional \$400,000 surgical single-pull stock keeping unit (SKU) spend which resulted in the elimination of 24,501 lbs. of custom surgical kit waste.

Virginia Mason of Seattle, Washington, reduced supply cost by \$3 million in three years by reprocessing single-use devices (SUDs). In 2014 they reprocessed or recycled over 18,850 lbs. of devices.

# Thank you

Most health care sustainability initiatives begin with the passion of one or two individuals. HHI has offered an opportunity to connect individuals and their facilities with the power of the aggregate—strength in numbers. You are part of a movement in which hospitals are the anchor, leading their communities to a healthier future.

We'd like to express our appreciation to The Center for Health Design, Practice Greenhealth and Health Care Without Harm (HCWH) staff, Informing Ecological Design, LLC, Brink Communications and many others for their contributions to HHI and the Milestone Report. We also thank the HCWH Safer Chemicals Workgroup and the Healthy Food in Health Care Workgroup, who provided leadership on the Safer Chemicals and Healthier Food Challenges. Thank you for all that you do.

### HHI Staff

Christopher Bodkin, Data Coordinator Stephanie Buckler, Outreach Specialist Kevin Conway, Communications Manager Janet Howard, Director of HHI Lauren Kleinman, Project Manager Sherry MacDonald, Director of Marketing Julie Moyle, Outreach Specialist Seema Wadhwa, (former) Director of HHI

### **Supporting Organizations**

American Nurses Association American Public Health Association Amerinet California Hospital Association The Canadian Coalition for Green Health Care Catholic Health Association Colorado Nurses Association Efficiency Vermont Florida Hospital Association Health Trust Healthy Building Network Hospital Association of Rhode Island Illinois Hospital Association: The Institute for Innovations The Institute for Healthcare Improvement The Institute for Innovations in Care and Quality Premier Maryland Hospitals for a Healthy Environment Massachusetts Association of Behavioral Health Systems Massachusetts Hospital Association The Michigan Center for Rural Health Michigan Health and Hospital Association New Hampshire Hospital Association Ohio Hospital Association Vermont Association of Hospitals and Health Systems Wisconsin Hospital Association Wyoming Pollution Prevention Program Washington State Hospital Association

### **Enrollees who Provided Data**

Advocate BroMenn Medical Center Christ Medical Center Condell Medical Center Eureka Hospital Good Samaritan Hospital Good Shepherd Hospital Illinois Masonic Medical Center Lutheran General Hospital Sherman Hospital South Suburban Hospital Trinity Hospital All Children's Hospital Ann & Robert Lurie Children's Hospital of Chicago Anne Arundel Medical Center Aria Health Bucks County Frankford Torresdale Ascension Health Alexian Brothers Behavioral Health Hospital Alexian Brothers Medical Center Alexian Rehabilitation Hospital - Long Term Care Borgess Lee Memorial Hospital Borgess Medical Center Borgess Pipp Hospital Borgess Pipp Hospital Carondelet St. Joseph Hospital Carondelet St. Mary's Hospital Columbia St. Mary's Hospital–Milwaukee Columbia St. Mary's Hospital Ozaukee Dell Children's Medical Center of Texas Genesys Regional Medical Center Holy Cross Hospital Lourdes Hospital-Binghamton Lourdes Medical Center-Pasco Ministry Saint Joseph's Hospital Mount St. Mary's Hospital and Health Center Providence Health Center-Waco Providence Hospital-Mobile Providence Hospital-Washington Providence Park Campus-Novi Providence Southfield Campus Sacred Heart Hospital Sacred Heart Hospital on the Gulf Coast Sacred Heart on the Emerald Coast Sacred Heart Rehab Institute-Long Term Care Saint Agnes Hospital Saint Thomas Hickman Hospital Saint Thomas Midtown Hospital Saint Thomas Rutherford Hospital Saint Thomas West Hospital Seton Edgar B. Davis Seton Highland Lakes Seton Medical Center-Austin Seton Medical Center-Hays Seton Medical Center-Williamson Seton Northwest Hospital Seton Shoal Creek Seton Southwest Seton Specialty Hospital of Indianapolis Seton Specialty Hospital of Lafayette St. Alexius Medical Center St. Elizabeth Hospital-Appleton St. John Hospital & Medical Center St. John Macomb Hospital St. John River District Hospital St. John's Health System-Anderson St. Joseph Hospital-Kokomo St. Joseph Hospital-Tawas City St. Joseph Medical Center-Kansas City St. Joseph Regional Medical Center-Lewiston St. Luke's Hospital/St. Vincent's Medical Center Southside St. Mary's Hospital St. Mary's Medical Center-Blue Springs St. Mary's Medical Center of Evansville St. Mary's Medical Center of Saginaw St. Mary's Standish Community Hospital St. Mary's Warrick Hosp, Inc. St. Vincent Carmel St. Vincent Dunn St. Vincent Frankfort St. Vincent Heart Center of Indiana St. Vincent Indianapolis Hospital St. Vincent Jennings St. Vincent Mercy Hospital St. Vincent Randolph St. Vincent Salem Hospital St. Vincent Stress Center St. Vincent Williamsport Hospital St. Vincent Women's Hospital St. Vincent's Birmingham Hospital St. Vincent's Blount St. Vincent's Clay St. Vincent's East St. Vincent's Medical Center-Bridgeport St. Vincent's Medical Center Riverside St. Vincent's St. Clair Tucson Heart Hospital-Carondelet, LLC University Medical Center Brackenridge Aultman Hospital Baptist Health South Florida Baptist Hospital of Miami Doctors Hospital Homestead Hospital Mariners Hospita South Miami Hospital West Kendall Baptist Hospital

### Barnesville Hospital Baystate

Baystate Medical Center Franklin Medical Center MaryLane Hospital Beaumont Hospital Grosse Pointe Roval Oak **Belmont Community Hospital** Berger Health System Berkshire Health Systems-Fairview Hospital Berkshire Medical Center Beth Israel Deaconess Hospital-Plymouth Beth Israel Deaconess Medical Center Beverly Hospital-Beverly Blanchard Valley Bluffton Hospital Bon Secours Health System **Boston Medical Cente** Boulder Community Foothills Hospital Boulder Community Hospital Brattleboro Memorial Hospital **Bronson Battle Creek** Bronson Methodist Hospital Broward Health Coral Springs Imperial Point Medical Center North Cape Cod Healthcare Cape Cod Hospital Falmouth Hospital Carilion Clinic-Roanoke Memorial Hospital Carolinas Healthcare System Carolinas Medical Center-Charlotte Carolinas Medical Center-Charlotte Carolinas Medical Center-Lincoln Carolinas Medical Center-Mercy Carolinas Medical Center-Morcy Carolinas Medical Center-Northeast Carolinas Medical Center-Pineville Carolinas Medical Center-Union Carolinas Medical Center-University Carson City Hospital Central Vermont Medical Center Charlevoix Area Hospital CHENEVOIX AREA HOSPITAL CHE/Trinity -Mercy Health Saint Mary's Hospital Chesapeake Regional Medical Center Catholic Health Initiatives Cleveland Clinic Ashtabula County Medical Center Cleveland Clinic Florida-Weston Cleveland Clinic Main Campus Euclid Hospital Fairview Hospital Hillcrest Hospital Lakewood Hospita Lutheran Hospital Marymount Hospital Medina Hospital South Pointe Hospital Community First Medical Center Community Medical Centers Clovis Community Medical Center Community Regional Medical Center Fresno Heart & Surgical Hospital Copley Hospital Cottage Hospital Covenant Health St. Joseph Hospital-Bangor St. Joseph Hospital-Nashua St. Mary's Regional Medical Center St. Joseph Hospital CT Mental Health Center Dana-Farber Cancer Institute Dartmouth-Hitchcock Medical Center Dayton Children's Hospital Department of Veterans Affairs-Portland VA Medical Center DePaul Medical Center Dignity Arroyo Grande Community Hospital Bakersfield Memorial Hospital California Hospital Medical Center Chandler Regional Hospital Community Hospital of San Bernadino Dominican Hospital French Hospital Glendale Memorial Hospital and Health Center Marian Medical Center Marian Medical Center Mark Twain St. Joseph's Hospital Mercy General Hospital Mercy Gilbert Medical Center Mercy Hospital of Folsom Mercy Medical Center Merced-Community Campus Mercy Medical Center Merced-Dominican Campus Mercy Medical Center Merced-Dominican Campus Mercy Medical Center Mt. Shasta Mercy Medical Center Redding Mercy San Juan Medical Cente Methodist Hospital of Sacramento Northridge Hospital Medical Center Saint Francis Memorial Hospital Seguoia Hospital Sierra Nevada Memorial Hospital St. Bernardine Medical Center St. Elizabeth Community Hospital St. John's Hospitals St. John's Pleasant Valley Hospital

St. John's Regional Medical Center St. Joseph's Hospital and Medical Center-Phoenix St. Joseph's Medical Center and Behavioral Health St. Joseph S Hedical Center and Behavioran St. Mary Medical Center-Long Beach St. Mary's Medical Center-San Francisco St. Rose Dominican Hospital-San Martin St. Rose Dominican Hospital-Siena St. Rose Dominican Hospital-Sena Woodland Healthcare Doctors Hospital of Nelsonville Dublin Methodist Hospital East Ohio Regional Hospital Edward Hospital Einstein Medical Center Montgomery Emory University Hospital Emory University Hospital Midtown Evergreen Healthcare Fairfield Medical Center Fairfield Memorial Hospital Fairview Health Services University of Minnesota Medical Center, Fairview-East Bank University of Minnesota Medical Center, Fairview-West Bank Fairview Ridges Hospital Fairview Southdale Hospital Fayette County Memorial Hospital Franklin Hospital Fraser Health Burnaby Hospital Chilliwack General Hospital (including CHC) Delta Hospital Deita Hospital Eagle Ridge Hospital Fraser Canyon Hospital Langley Memorial Hospital Mission Memorial Hospital Peace Arch Hospital Ridge Meadows Hospital Royal Columbian Hospital Surrey Memorial Hospital Geisinger Medical Center Gifford Medical Center Good Samaritan Hospital Grace Cottage Hospital Grady Memorial Hospital Graham Hospital Grant Medical Center Grays Harbor Community Hospital Greater Baltimore Medical Center Greenfield Medical Center Greenfield Medical Center Greenville Regional Hospital Gundersen Lutheran Medical Center H. Lee Moffitt Cancer Center and Research Institute HackensackUMC Harrison Community Hospital HCA Alaska Regional Hospital Allan County Hospital Aventura Hospital and Medical Center Bayshore Medical Center Bayshore Medical Center Blake Medical Center Blandon Regional Hospital Brigham City Community Hospital Capital Regional Medical Center Cantersville Medical Center Central Florida Regional Hospital CJW Medical Center Chippenham CJW Medical Center Chippenham CJW Medical Center Johnston-Willis Clear Lake Regional Medical Center Coliseum Center for Behavioral Health Coliseum Medical Center Coliseum Medical Center Coliseum Northside Hospital Colleton Medical Center Colletion Medical Center Columbia Hospital Conroe Regional Medical Center Corpus Christi Medical Center-Bay Area Corpus Christi Medical Center-Doctors Regional Corpus Christi Medical Center-Northwest Corpus Christi Medical Center-NorthWest Corpus Christi Medical Center-The Heart Hospital Dauterive Hospital Del Sol Medical Center Denton Regional Medical Center Doctors Hospital of Augusta Doctors Hospital of Sarasota Dominion Hospital East Houston Medical Center Eastern Idaho Regional Medical Center Eastside Medical Center Edward White Hospital Englewood Community Hospital Inc Fairview Park Hospital Fawcett Memorial Hospital Flower Mound Emergency Center Fort Walton Beach Medical Center Frankfort Regional Medical Center Garden Park Medical Center Good Samaritan Hospital Grand Strand Regional Medical Center Green Oaks Hospital Green Oaks Hospital Gulf Coast Medical Center Hendersonville Medical Center Hendrisonville Medical Center Henrico Doctors Hospital-Forest Henrico Doctors Hospital - Porest Henrico Doctors Hospital-Parham Henrico Doctors Hospital-Retreat Horizon Medical Center JFK Medical Center John Randolph Medical Center Kendall Regional Medical Center

Kingwood Medical Center Lafayette Regional Health Center Lake City Medical Center Lakeview Hospital Lakeview Regional Medical Center Largo Medical Center Largo Medical Center Largo Medical Center-Indian Rocks Las Colinas Medical Center Las Palmas Las Palmas Rehabilitation Hospital (LTC) Las Paimas kenabilitation Hospital (LL, Lawnwood Regional Medical Center Lee's Summit Medical Center Lewis Gale Hospital-Ruleghany Lewis Gale Hospital-Pulaski Lewis Gale Medical Center Los Robles Hospital and Medical Center Mainbaod Medical Center Mainland Medical Center Medical Center of Aurora Medical Center of Aurora Medical Center of Aurora Medical Center of Actional Act Medical Center of Trinity Medical Center Trinity-West Pasco Medical City Dallas Hospital Memorial Hospital of Jacksonville Menorah Medical Center Methodist Ambulatory Surgical Hospital NW Methodist Hospital Methodist Hospital Methodist Specialty and Transplant Hospital Methodist Stone Oak Hospital Metropolitan Methodist Hospital Mountain View Hospital Mountain View Hospital-Las Vegas North Florida Regional Medical Center North Hills Hospital North Suburban Medical Center Northeast Methodist Hospital Northside Hospital & Tampa Bay Heart Institute Northwest Medical Center Oak Hill Hospital Ocala Regional Medical Center Ogden Regional Medical Center Orange Park Medical Center Osceola Regional Medical Center OU Medical Center-Etword OU Medical Center-Etword OU Medical Center-Presbyterian Tower Overland Park Regional Medical Center Palms West Hospital Parkland Medical Center Northwest Medical Center Parkland Medical Center Parkridge East Hospital Parkridge Medical Center Parkridge Valley Hospital Plantation General Hospital Plaza Medical Center Fort Worth Portsmouth Regional Hospital Polk Medical Center Presbyterian/St Luke's Medical Center Rapides Regional Medical Center Raulerson Hospital Redmond Regional Medical Center Regional Medical Center Bayonet Point Regional Medical Center of San Jose Research Belton Hospital Research Medical Center Research Psychiatric Center Reston Hospital Center Rio Grande Regional Hospital Riverside Community Hospital Rose Medical Center Sky Ridge Medical Center Skyline Madison Skyline Medical Center-Nashville South Bay Hospital Southern Hills Hospital and Medical Center Southern Hills Medical Center Spalding Rehabilitation Hospital Spacially Hendbillauton Hospital Specially Hospital Jacksonville Spotsylvania Regional Medical Center St. David's Medical Center St. David's Morth Austin Medical Center St. David's South Austin Medical Center St. David's South Austin Medical Center St. Lucie Medical Center St. Mark's Hospital St. Petersburg General Hospital Summerville Medical Center Summerville Medical Center Summit Medical Center Sunrise Hospital and Medical Center Swedish Medical Center Terre Haute Regional Texas Orthopedic Hospital The Regional Medical Center of Acadiana Timpanogos Regional Hospital Trident Regional Medical Center Tristar Centennial Medical Center Tristar Centennial Medical Center-Nashville TriStar StoneCrest Medical Center Tulane-Lakeside Hospital Tulane Medical Center Twin Cities Hospital University Hospital/Medical Center Valley Regional Medical Center Wesley Medical Center West Florida Hospital West Hills Hospital/Medical Center

West Houston Medical Center West Houston Medical Center West Marion Community Hospital West Valley Medical Center Westside Regional Medical Center Woman's Hospital of Texas Women's & Children's Hospital HealthPartners Hudson Hospital and Clinics Regions Hospital Henry Ford Health System-Henry Ford Hospital Henry Ford Macomb Hospital Henry Ford West Bloomfield Hospital Henry Ford Wyandotte Hospital Henry Mayo Newhall Memorial Hospital Highland District Hospital Hoag Health Centers Hoag Hospital Irvine Newport Beach Hospital for Joint Diseases HSHS Sacred Heart Hospital Hurley Medical Center Indiana University Health West Inova Alexandria Hospital Fair Oaks Hospital Fairfax Hospital Loudoun Hospital Mount Vernon Hospital Jefferson Healthcare John T. Mather Memorial Hospital Johns Hopkins Bayview Johns Hopkins Hospital Kaiser Permanente Antioch Medical Center Baldwin Park Medical Center Downey Medical Center Fontana Medical Center Fontana Medical Center Fremont Medical Center Hayward Medical Center Los Angeles Medical Center Manteca Medical Center Moatesto Medical Center Modesto Medical Center Moreno Valley Medical Center Oakland Medical Center Ontario Medical Center Ortario Medical Center Orange County-Anaheim Medical Center Orange County-Irvine Medical Center Panorama City Medical Center Redwood City Medical Center Richmond Medical Center Riverside Medical Center Roseville Medical Center Sacramento Medical Center San Diego Medical Center/ Kaiser Foundation Hospital San Francisco Medical Center San Jose Medical Center San Rafael Medical Center Santa Clara Medical Center Santa Rosa Medical Center South Bay Medical Center South Sacramento Medical Center South San Francisco Medical Center Sunnyside Medical Center Vacaville Medical Center Vallejo Medical Center Walnut Creek Medical Center West Los Angeles Medical Center Woodland Hills Medical Center Kenmore Mercy Hospital Lehigh Valley Health Network 17th Street Cedar Crest Muhlenberg LifeBridge Health Levindale Hebrew Geriatric Center and Hospital Northwest Hospital Sinai Hospital Lima Memorial Health System Lowell General Hospital Madigan Army Medical Center Magee-Womens Hospital of UPMC Magruder Hospital Margaret Mary Community Hospital Marion General Hospital Martha Jefferson Hospital Mary Immaculate Hospital Maryview Medical Center Mason General Hospital & Family of Clinics Massachusetts Eye and Ear Mayo Clinic Hospital-Phoenix McLaren-Northern Michigan MedCentral-Mansfield MedStar Franklin Square Hospital Center Georgetown University Hospital Good Samaritan Hospital Harbor Hospital Montgomery Medical Center Union Memorial Hospital Memorial Healthcare Memorial Hospital Memorial Hospital of Union County Memorial Medical Center

Memorial Sloan Kettering Cancer Center Mercer County Community Hospital Mercy Medical Center-Canton Mercy St. Charles Hospital Mercy Tiffin Hospital Mercy Willard Hospital Meriter Methodist Hospital of Southern California Metro Health Hospital Mills-Peninsula Health Services Mission Hospital Monadnock Community Hospital Montefiore Medical Center Morrow County Hospital Mount Carmel East Hospital New Albany Surgical Hospital St. Ann's Hospital West Hospital Mt. Ascutney Hospital Munson Medical Center Nationwide Children's Hospital New England Baptist Hospital New Milford Hospital NewYork-Presbyterian Columbia Morgan Stanley Children's Hospital NewYork-Presbyterian Hospital The Allen Weill Cornel Westchester North Country Hospital North Shore-LIJ Forest Hills Hospital Franklin Hospital Glen Cove Hospital Huntington Hospital Lenox Hill Hospital Long Island Jewish Medical Center North Shore University Hospital Plainview Hospital Southside Hospital Staten Island University Hospital Steven and Alexandra Cohen Children's Medical Center of New York Syosset Hospital Northeastern Vermont Regional Hospital NorthShore University HealthSystem Evanston Hospital Glenbrook Hospital Highland Park Hospital Skokie Hospital Northwestern Medical Center O'Bleness Hospital Ohio Health-Doctors Hospital Olympic Medical Center Oregon Health & Science University Healthcare Orlando Health Arnold Palmer Hospital For Children Dr. P. Phillips Hospital Health Central Lucerne Pavillion Orlando Regional Medical Center South Lake Hospital South Seminole Hospital South Seminole Hospital Winnie Palmer Hospital For Women and Babies Otsego Memorial Hospital Our Lady Bellefonte Overlake Medical Center Overlook Medical Center Palomar Health Downtown Campus Palomar Medical Center Pomerado Hospital Parkland Health & Hospital Systems-Dallas County Community Hospital Partners Healthcare Brigham & Women's Faulkner Hospital Brigham and Women's Hospital Cooley Dickinson Hospital Martha's Vineyard Hospital Massachusetts General Hospital McLean Hospital Nantucket Cottage Hospital Newton-Wellesley Hospital North Shore Medical Center Spaulding Hospital-Cambridge Spaulding Hospital-North Shore Spaulding Rehabilitation Hospital-Boston Spaulding Rehabilitation Hospital-Cape Cod Porter Medical Center Porter Medical Center Presence Covenant Medical Center Holy Family Medical Center Mercy Medical Center Our Lady of the Resurrection Medical Center Resurrection Medical Center Saint Francis Hospital Saint Francis Hospital Saint Joseph Hospital-Chicago Saint Joseph Hospital-Elgin Saint Joseph Medical Center Saints Mary and Elizabeth Medical Center-Saint Elizabeth Campus Saints Mary and Elizabeth Medical Center-

Saints Mary and Elizabeth Medical Center Saint Mary Campus St. Mary's Hospital

ProMedica Bay Park Hospital ProMedica Flower Hospital

ProMedica St. Luke's Hospital ProMedica Toledo Hospital Providence Alaska Medical Cente Centralia Hospital Colby Campus Holy Cross Medical Center Holy Family Hospital Hood River Memorial Hospital Kodiak Island Medical Center Little Company of Mary Hospital Medford Medical Center Campus Milwaukie Hospital Mount Carmel Hospital-Main Building Pacific Pavilion Portland Medical Center Providence Center Providence Verberg Medical Center Providence Tarzana Medical Center Providence Valdez Medical Center Sacred Heart Medical Center Saint Joseph Medical Center-MT San Pedro Hospital Seaside Hospital & Clinic Seward Medical Center St. Joseph Medical Center-CA St. Joseph's Hospital St. Mary Medical Center Campus St. Patrick Hospital St. Peter Hospital St. Vincent Medical Center Willamette Falls Medical Center Providence Health Care Mount Saint Joseph Hospital St. Paul's Hospital Provincial Health Services Authority Children's and Women's Hospital Sunnyhill Health Care Centre Vancouver Cancer Centre Regina Medical Center Regional West Medical Center Ridgeview Medical Center Riverside Methodist Hospital Robinson Memorial Hospital Ronald Reagan UCLA Medical Center Rutland Regional Medical Center Saint Joseph Mercy Ann Arbor Saskatoon Health Region Royal University Hospital Saskatoon City Hospital St. Paul's Hospital Schneck Medical Center Seattle Children's Hospital Shriners Hospitals for Children-Chicago Simi Valley Hospital Sonoma Valley Hospital Southcoast Health System Charlton Memorial Hospital St. Luke's Hospital Tobey Hospital Southeastern Ohio Regional Medical Center Southern Ohio Medical Center Southwestern Vermont Medical Center Sparrow Sparrow Hospital Specialty Hospital Speare Memorial Hospital Spectrum Health Big Rapids Hospital Blodgett Hospital Butterworth Hospital Gerber Memorial Hospital Kelsey Hospital Ludington Hospital Reed City Hospital United Hospital Zeeland Hospital Springfield Hospital St. Elizabeth Boardman Health Center St. Elizabeth Health Center St. Francis Medical Center St. Joseph Health Center St. Rita's Medical Center Sturdy Memorial Hospital Summa Akron City Hospital Summa Barberton Hospital Summa St. Thomas Hospital Summa Wadsworth-Rittman Hospital Sutter Health Memorial Medical Center Mills-Peninsula Health Services Tampa General Hospital Tenet Arizona Heart Hospital Arrowhead Hospital Atlanta Medical Center Atlanta Medical Center-South Campus Baptist Medical Center Brookwood Medical Center Centennial Medical Center Central Carolina Hospital Children's Hospital of Michigan Coastal Carolina Hospital Coral Gables Hospital Cypress Fairbanks Medical Center Delray Medical Center Des Peres Hospital Desert Regional Medical Center

Detroit Receiving Hospital & University Health Center DMC-Huron Valley Sinai Hospital DMC-Sinai-Grace Hospital DMC Surgery Hospital Doctors Hospital at White Rock Lake Doctors Hospital of Manteca Doctors Medical Center of Modesto East Cooper Medical Center Florida Medical Center Fountain Valley Regional Medical Center Framingham Union Hospital Frye Regional Medical Center Good Samaritan Medical Center Hahnemann University Hospital Harper University Hospital/Hutzel Women's Hospital Hialeah Hospital Hilton Head Hospital Houston NW Medical Center JFK Memorial Hospital Lake Pointe Medical Center Lakewood Regional Medical Center Leonard Morse Hospital Los Alamitos Medical Center MacNeal Hospital Maryvale Hospital Mission Trail Baptist Hospital Nacogdoches Medical Center North Central Baptist Hospital North Fulton Regional Center North Shore Medical Center-FMC Campus North Shore Medical Center-Miami Northeast Baptist Hospital Palm Beach Gardens Medical Center Palmetto General Hospital Park Plaza Hospital Phoenix Baptist Hospital Piedmont Medical Center Placentia-Linda Hospital Plaza Speciality Hospital Providence Memorial Hospital Rehabilitation Institute of Michigan Resolute Health Saint Vincent Hospital at Worcester Medical Center San Ramon Regional Medical Center Sierra Medical Center Sierra Providence East Medical Center Sierra Vista Regional Medical Center Spalding Regional Medical Center St. Christopher's Hospital for Children St. Francis Hospital St. Francis Hospital St. Francis Hospital-Bartlett St. Louis University Hospital St. Luke's Baptist Hospital St. Mary's Medical Center Sylvan Grove Hospital Twin Cities Community Hospital Valley Baptist Medical Center–Brownsville Valley Baptist Medical Center–Harlingen Weiss Memorial Hospital West Boca Medical Center West Suburban Medical Center West Valley Hospital Westlake Hospital The Bellevue Hospital The Children's Hospital of Philadelphia The MetroHealth System The Miriam Hospital The Ohio State University Hospital East The Ottawa Hospital Civic Campus General Campus Riverside Campus The University of Chicago Medicine The University of Vermont Medical Center The University of Vermont Medical Center Fanny Allen ThedaCare Appleton Medical Center New London Family Medical Center Riverside Medical Cente Shawano Medical Center Theda Clark Medical Center Trinity Hospital Twin City Trinity Medical Center East Trinity Medical Center West UC Health-University of Cincinnati Medical Center UCLA Medical Center-Santa Monica UCSF Medical Center UH Ahuja Medical Center Bedford Medical Center Case Medical Center Conneaut Medical Center Geauga Medical Center Geneva Medical Center Richmond Medical Center Parma Community General Hospital Union Hospital of Cecil County University Medical Center of Princeton at Plainsboro University of Colorado Health-North Medical Center of the Rockies Poudre Valley Hospital University of Maryland Medical Center University of Michigan Hospitals and Health Centers University of Washington Medical Center UW Medicine Harborview Medical Center University of Washington Medical Center Van Wert County Hospital

GF Strong Lions Gate Hospital Powell River Hospital/Evergreen Richmond Hospital/Lilltop House St. Mary's Hospital UBC Hospital Vancouver General Hospital Whistler Health Care Centre Vidant Bertie Hospital Vidant Chowan Hospital Virginia Mason Medical Center War Memorial Hospital Wayne HealthCare Weeks Medical Center Westfields Hospital Wheaton Franciscan Healthcare All Saints-Spring Street Campus Covenant Medical Center Elmbrook Memorial Campus Franklin Mercy Hospital Midwest Orthopedic Specialty Hospital Midwest Spine & Orthopedic Hospital/ Wisconsin Heart Hospital Campus Sartori Memorial Hospital St. Francis St. Joseph Campus Whidbey General Hospital and Clinics White River Junction VA Medical Center Wilson Memorial Hospital Winchester Hospital Wooster Community Hospital Wright Patterson AFB Medical Center Wvandot Memorial Hospital Yakima Valley Memorial Hospital Yale-New Haven Hospital

Vancouver Coastal Health





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General Inquiries www.HealthierHospitals.org info@HealthierHospitals.org 703.860.9790

Media Inquiries media@HealthierHospitals.org 703.870.7494

Mailing Address Healthier Hospitals Initiative c/o Practice Greenhealth 12355 Sunrise Valley Dr, Suite 680 Reston, VA 20191

www.HealthierHospitals.org