

2012 Milestone Report

Leading Communities to a Healthier Future

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2012 Milestone Report

The conversation about sustainability and its role in health care is shifting. For years, sustainability has been viewed as an environmental issue—a question of how human actions are impacting the environment. But this narrow vision only touches on a portion of the picture. As the health care sector considers its impact on the environment, it is also time to consider the inverse perspective: what impact does the environment have on human health? And more importantly, what can health care leaders do to minimize harm?

🗰 Engaged Leadership 🛛 🗊 Less Waste Healthier Food Leaner Energy

A Safer Chemicals 音 Smarter Purchasing



The Healthier Hospitals Initiative's intent is for sector transformation where all hospitals, regardless of size or location, recognize the critical role environmental stewardship plays in achieving the triple aim as set out by the Centers for Medicare and Medicaid (CMS)better care for individuals, better health for populations and reducing per-capita costs.

The Healthier Hospitals Initiative, formally launched in April 2012 brings together thirteen sponsoring health systems, comprising over 500 hospitals with more

than \$20 billion in purchasing power, with three not-for-profit organizations-Health Care Without Harm (HCWH), The Center for Health Design and Practice Greenhealth. Their aim is to reduce the contribution of health care to such environment-related health impacts by spurring sustainable change across the health care sector.

Since its inception, HHI has collaborated with health care experts in establishing specific measurable interventions, (dubbed 'Challenge') for reducing public and individual

health impacts, and developing a suite of resources to help health care facilities of any size or type achieve the Challenge Area goals.

In return for use of these resources, each HHI enrollee commits to reporting on progress in their selected Challenge area(s). This exchange allows the Healthier Hospitals Initiative to not only create a powerful picture of change across the health care industry, but also develop a quantitative argument for shifting the marketplace towards more sustainable health care solutions.

The **2012 HHI Milestone Report** summarizes the Initiative's first year of progress, with over 700 hospitals committed to HHI and more than 350 contributing their experiences to the data pool. Though the report delves into further detail for each Challenge and includes success stories, some of HHI's 2012 highlights include:

• Over 50 million pounds of materials recycled, plus an additional 61.5 million pounds of construction and demolition waste kept out of landfills through reuse and recycling.

- \$32,089,776 in savings resulting from single-use medical device reprocessing.
- Nearly \$9 million spent on local/ sustainable food options.
- \$19,029,640 spent on healthier, PVC/DEHP-free medical products.

The growing scale of this Initiative has not gone unnoticed by business and government leaders across the country. From a successful launch in Washington, D.C. to press coverage by the likes of the *Washington Business Journal* and *Financial Times*, from a White House Panel on Greening America's Hospitals to strategic partnerships with organizations such as Partnership For a Healthier America, the force behind the Healthier Hospitals Initiative has achieved much in its first year.

We look forward to continuing to share tales of growth and impact as HHI continues to expand its reach. Through enrollment in the Healthier Hospitals Initiative, the sector is working together to lead communities to a healthier future.

HHI thanks all those who worked diligently and tirelessly to generate our first *Milestone Report.* From the technical assistance, data validation, to report writing and technical analyses this report would not be possible without your contributions.

ANALYSIS METHODOLOGY:

Raw data tables were used to produce the numerical summaries. The statistical package Minitab® version 16 and Excel 2007/2010 were used to produce this report. Data validation steps and choices were made when values could not be confirmed directly with the source hospital system or HHI.





Engaged Leadership

Health care organizations cannot achieve lasting environmental sustainability programs without the commitment and support of senior medical, administrative and board leadership. This level of involvement validates the time, energy and resources invested by everyone involved while increasing the likelihood that programs are implemented effectively, remain a strategic priority, and receive the support they need to become a core part of the organization's culture. The most successful, well-developed health care sustainability programs have leadership support, demonstrated by environmental charters, reporting structure and goal-setting that recognize the importance of continuous environmental quality improvement for the long-term.

ANALYSIS

The high level of participation in HHI's Engaged Leadership Challenge in its first year is a strong signifier of rapidly changing attitudes toward the role of sustainability in health care. It demonstrates the transition of health care sustainability from grassroots to leadership offices, indicating that it is becoming less of a one-off trend and more of a

Engaged Leadership Enrollees

The 143 Engaged Leadership enrollees showed guite a spread in their level of engagement, with 68 committing to achieving three of the listed leadership activities (Level 1), eight committing to implementing six activities (Level 2), and 66 committing to implementing 10 or more of the activities (Level 3). Those organizations that have committed to Level 1 are likely just starting to build a formalized structure for sustainability within their organization. Until they have taken the basic actions to establish this structure (such as identifying a sustainability lead or developing a mission statement) it is difficult for them to take on some of the more advanced Engaged Leadership actions. Also noteworthy is the fact that nearly 96 percent of participants responded that they had identified a project lead for their sustainability efforts, while almost 94 percent have created a related mission statement, guiding principle or charter. The extremely high participation rate in these actions indicates

strategic priority for health care organizations. Over 86 percent of Engaged Leadership Challenge participants have communicated about sustainability programming to their leadership teams and 94 percent have appointed a sustainability executive owner, further showing how sustainability is garnering attention at the senior leadership level.

that they are essential steps for all organizations pursuing an environmental sustainability program, regardless of whether they are just starting out or have been working at it for a number of years.



Everyday we practice stewardship by treating our planet as a treasured limited resource. Through our actions we have become a model of sustainability not only for our industry but for our community.

-DANIEL NEUFELDER, PRESIDENT AND CEO, AFFINITY HEALTH

Journey of Enrollees

The range of participation has helped HHI gain a better understanding of the journey enrollees are traveling as they work to build sustainability initiatives into their organizations. It also indicates that, while there are some common actions that all organizations are taking at the start of their environmental stewardship efforts, many are choosing to customize their approach at the leadership level as their programs become more advanced. Those actions that saw mid-level participation seem to be stepping stones along the path to broad-scale implementation, whereas the actions that saw lower participation are the more advanced steps for organizations with more robust programs.

Some of these middle "stepping-stone" actions included:

- Creating an environmental steering committee with routine meetings (53 percent).
- Identifying a clinical champion (43 percent).
- Creating a sustainability reporting structure including green teams (38 percent).
- Creating a strategic sustainability plan (47 percent).
- Hosting programs that support employee and community engagement (45 percent).

All listed actions achieved at least some level of participation, with the least common action ("communicating routinely and directly from the leadership on sustainability") achieving an 8 percent participation rate.





Healthier Food

Current methods of food production, processing, packaging, distribution and consumption in the U.S. have negative impacts on human health and the environment. From antibiotic resistance to chemical exposure, air pollution to water scarcity, the current food system is environmentally, socially and economically unsustainable. The industrialized food system encourages quantity over quality and highly processed foods over fresh and whole foods, while the U.S. spends billions of dollars each year treating diet-related chronic illnesses such as obesity, diabetes, cardiovascular disease and cancer. Yet many hospitals continue to serve food and beverage choices that are detrimental to health and in direct contrast to the healing mission of health care.

ANALYSIS

The Healthier Food Challenge was designed as a partnership between hospitals' leadership and food services teams to more effectively track progress towards the procurement of healthy and sustainable foods. Contractors and suppliers have started to recognize and respond to these changes in the way hospitals purchase food, by building more relationships with local producers, offering more sustainable foods on contract and assisting with tracking of sustainable procurement results. As these partnerships evolve, it is important for health care organizations to indicate exactly what information they need in order to streamline the reporting process. HHI's reporting guidelines for the Healthier Food Challenge can help facilitate this dialogue by identifying specific, relevant metrics for tracking sustainable food initiatives.

Balanced Menus

Year	Pounds of Meat	Meals	Pounds Meat/Meal
2010	159,919	1,519,539	0.105
2011	161,831	1,618,664	0.100
2012	210,593	2,219,759	0.095

The Balanced Menus directive is a two-tiered strategy that involves first a reduction in the amount of meat purchased and served in facilities overall, and then a transition to more sustainablyproduced meat products.

The 2012 data collected as part of Balanced Menus illustrates that the proportion of meat being purchased by hospitals and served at meals is decreasing. Though the overall amount of meat purchased (in terms of pounds) increased by about 50,000 pounds from 2010 to 2012, the number of meals also increased by over 700,000 meals during that time frame. Therefore, the amount of meat per meal being served by reporting hospitals has decreased by almost 10 percent over that time. These reductions are being achieved through decreases in meat portion sizes in patient meals and on cafeteria menus, the implementation of programs such as Meatless Mondays, and the addition of increased vegetarian snack and entrée options in hospital cafeterias.

Healthy Beverages

Hospital	\$ On Healthy Beverages	\$ Total Beverages	Percent
Hospital One	\$25,393	\$86,830	29.2%
Hospital Two	\$30,954	\$307,783	10.1%
Hospital Three	\$2,924	\$9,238	31.6%
Hospital Four	\$628,215	\$1,009,898	62.2%
Total	\$687,485	\$1,413,750	48.6%

In an effort to model healthier behavior, hospitals are increasingly offering healthier beverage choices and educating patrons about the amount of sugar found in beverages such as juice, energy drinks and soda. The goal of this directive is to measure the dollars spent on healthier beverages in relationship to total beverage spend.

Healthy Beverages has also seen encouraging results, with respondents spending 48.6 percent of their beverage purchasing dollars on healthier beverage options. Reporting enrollees are all at different stages of participation, from just under 10 percent of dollars spent on healthy beverages to over 62 percent. One key takeaway of Healthy Beverages data is that this small group of hospitals that has submitted their numbers purchased over \$687,000 on healthy beverages in 2012 alone, indicating that enrollees are in different stages of rolling out healthy beverage programs. HHI anticipates broader participation in this directive of the Healthy Food Challenge in the coming year as we gain additional enrollees, increasing the demand for healthier beverages by millions of dollars annually and demonstrating to beverage manufacturers a strong commitment to healthier beverage options.

Local and Sustainable Procurement

Year	\$ Local/Sustainable	Total \$	Percent Local/Sustainable
2010	\$35,911	\$809,944	4.43%
2011	\$3,872,791	\$25,778,918	15.0%
2012	\$8,974,282	\$215,022,182	4.17%

The results of Local and Sustainable Foods data submitted at this time only illustrate part of the story of procurement efforts underway at hundreds of hospitals across the country, yielding a 4.17 percent annual purchasing rate for local/ sustainable food options as identified by HHI. Many enrollees in this directive have identified the procurement of local/sustainable foods as a priority and are working on strategies for increasing these numbers.

However, before hospitals can tell their stories by submitting their data, they need to develop a system for tracking the food that comes into their facilities and identifying sources for the products they are using. Then, they must work with their distributors to increase accessibility to local and sustainable products on contract, increase their capacity to easily identify those products in ordering catalogs, and set up tracking processes at point of sale. This represents a real shift in how procurement choices are made, both on the part of the hospitals and their distributors. The directive regarding local and sustainable foods is already making its mark across the country as these mechanisms are developed and implemented. We expect that in 2014, we will begin to see much higher numbers as these systems are up and running.

We recognize that sustaining the health of the environment is critical to preserving human health. We consider conservation of resources, both natural and monetary, as fundamental to our mission of delivering quality health care to the communities we are privileged to serve.

-JIM SKOGSBERGH, PRESIDENT AND CEO, ADVOCATE HEALTH CARE



Leaner Energy

Hospitals and health care facilities are the second most energy-intensive building sector in the U.S., consuming over eight percent of the nation's energy while generating a proportionate amount of its greenhouse gas emissions. This fossil fuel-based energy consumption negatively impacts the health of communities both within and outside of hospital walls in ways that are just beginning to be understood. At the same time, hospital energy costs rose 56 percent between 2003 and 2008, indicating a continued rise in the cost of energy for health care organizations. By using less energy and obtaining it from cleaner sources, hospitals can reduce the amount of emissions they release, lower the risk of respiratory illness, and benefit their bottom lines.

ANALYSIS

One hundred eighteen hospitals enrolled in the Leaner Energy Challenge in 2012, providing HHI with their annual energy consumption data through ENERGY STAR® Portfolio Manager. As part of the Challenge, organizations were encouraged to share data from previous years, which means that some were reporting on just one year of performance while others were reporting on their past three years of energy utilization. On a whole, the 2012 results of HHI's Leaner Energy Challenge show extreme variations in the health care industry's experience with energy management and progress towards energy efficiency,



ENERGY STAR

Yet regardless of the significant gap between the highest- and lowest-intensity facilities (demonstrated by an ENERGY STAR rating range of almost zero to almost 100), HHI's data collection for the Leaner Energy Challenge has highlighted one key fact: despite the fact that hospitals are getting bigger and both health care equipment and processes are becoming more energy-intensive, the overall energy intensity of America's hospitals is going down across all data pools—from new reporters to seasoned energy experts. This is something to celebrate.

Greenhouse Gases/Square Footage of Enrollees

Year	WN kBTU	Sq Ft	WN EUI	Ν	GH (MT)	GH (MT)/Sq Ft
2010	1.43164E+10	59,436,687	240.9	97	1,284,120	0.0216
2011	1.43155E+10	60,108,005	238.2	97	1,280,691	0.0213
2012	1.43857E+10	60,628,343	237.3	97	1,280,293	0.0211

WN: Weather Normalized N: Number EUI: Energy Use Intensity GH (MI): Greenhouse Gas, Metric Tons

The average metric tons of GHG/square foot of enrollees who only reported for 2012 (.0243) was noticeably higher than the 2012 average of the enrollees who provided data going back several years (.0211). This is likely because those organizations with only 2012 data have just recently started focusing on energy management within their facilities. Likewise, the organizations who shared several years' worth of data most likely had lower energy consumption on average because they have had more time to implement broad-scale energy conservation measures. Interestingly, those who only reported for two years saw a higher yearover-year reduction in energy intensity than those reporting for three years. One likely reason for this difference is that the organizations who have implemented their energy management programs more recently are still taking advantage of low-hanging opportunities which contribute to larger and easier drops in energy intensity, while enrollees with more developed programs have likely already taken advantage of these opportunities.

Magee-Womens Hospital of UPMC is committed to providing superior health care to the families of western Pennsylvania and is a leader in advancing environmentally sustainable practices in health care, linking all aspects of our mission to greening initiatives and environmental health, safety, and stewardship.



Less Waste

According to the Practice Greenhealth 2013 Sustainability Benchmark Report, hospitals and health systems produce an astonishing 14,000 tons of waste each day as they care for patients, generating an average of 30.9 pounds of waste per staffed bed per day. The disposal of health care's unique mix of plastics, chemicals, paper, food, needles, packaging and electronics creates varied environmental and health impacts on patients, staff and local communities. Amid concerns around rising waste removal fees, mercury and dioxin pollution from medical waste incinerators, and pharmaceutical waste in drinking water, health systems are recognizing waste management as an essential strategy for protecting individual, public and organizational health.

ANALYSIS

One hundred seventy-two hospitals provided HHI with data related to the Less Waste Challenge one of the highest levels of any Challenge category. Though many more hospitals enrolled in this Challenge during HHI's first year, most are still developing the internal framework and tracking mechanisms for reporting on their waste performance. The results of the Less Waste Challenge demonstrates the popularity of waste as a starting point for organizations first venturing into the realm of health care sustainability, and that it remains a vital metric for those with even the most advanced sustainability programs.



Recycling

All 172 hospitals who reported data for the Less Waste Challenge included information about their recycling programs. Some reported only on their 2012 data, while others shared data extending several years back. It is no surprise that the organizations who only shared 2012 data realized a much lower recycling rate than those with data extending back to 2010 (13.5 percent for those only reporting in 2012 versus 28.5 percent for those reporting from 2010 – 2012). This result is most likely because the organizations who have been collecting data for longer have been working on improving their results for longer. The three-year reporters have had significantly more time than their one-year counterparts to take advantage of high-impact opportunities such as implementing a commingled recycling program, as well as more advanced opportunities such as OR and medical plastics recycling. This implementation gap is also what likely contributed to the steeper slopes on the graph of the one- and two-year reporters—those organizations that have just started out recycling are likely to see larger year-over-year jumps in recycling rates than organizations with more mature programs because the recycling opportunities at that level are easy to implement and achieve noticeable results.



Regulated Medical Waste

Regulated medical waste was the second most popular reporting category for the Less Waste Challenge, with 137 organizations sharing their data. As with recycling, enrollees who only shared 2012 data had a higher average RMW rate in 2012 (12.01 percent) than those who shared data extending several years back (8.76 percent), again indicating that they have had less time to implement RMW reduction strategies. Of note was the wide range of RMW levels experienced by one-year reporters. As indicated by the table, many enrollees did achieve HHI's target RMW levels of 10 percent or less, but a long tail of results above the 10 percent line—some significantly higher brought up the overall average. This outcome shows that there is still a significant cost and waste savings opportunity in RMW for those enrollees above the 10 percent mark.

Construction and Demolition (C&D) Recycling

This category had the lowest participation rate of all the Less Waste categories, indicating that it is a more advanced challenge in terms of experience and reporting requirements. While we know that many hospitals are recycling their construction and demolition debris, we realize that many are still working with their design and construction departments and contractors to establish a consistent reporting system across all projects. The 44 enrollees who shared information about their C&D recycling activities have all realized tremendous success through their efforts, achieving an average recycling rate of 87.33 percent in 2012. This impressive work has helped keep over 61 million pounds of materials out of the landfill—an opportunity of over two billion pounds when scaled up to the 2,000 HHI hopes to enroll over the next two years.



Safer Chemicals

Every day, health care patients and workers are exposed to a wide array of chemicals contained in the products, building materials, air and waste found within the build hospital environment. Scientific research shows that exposure to some of these chemicals increases the risk of various diseases in the general population. Many of the chemicals found in the health care setting have been linked to individual and public health issues such as cancer, birth defects, asthma and other health problems. They have also been shown to have a lasting negative effect on the environment.

ANALYSIS

HHI's Safer Chemicals Challenge saw lower levels of data reporting in 2012 than many of the other Challenge areas. This is likely because the information requested, though readily available and easy to collect, does not fall on the list of standard sustainability metrics tracked by most organizations. It is not more difficult to collect information on the amount of PVC/DEHP-free products purchased, green cleaning chemicals used or healthy furnishings installed, but it does require establishing an additional reporting process for each. Many of the Safer Chemicals Challenge enrollees did not have these tracking systems in place when they signed up, and so did not yet have a full year's worth of data to report. We expect to see additional participation in data measurement and reporting across all of the Safer Chemicals areas in future years as enrolled organizations perfect and share their reporting processes.

PVC/DEHP-Free Devices

Year	\$ Spent on PVC/DEHP Free Devices	\$ Total	Percent PVC/DEHP Free Devices	Hospital
2011	\$19,029,640	\$20,007,960	95.11%	35

Of note within the data set is the success rate on PVC/DEHP-free devices. Only one organization reported data for this category, so though a 95 percent rate of purchase for PVC/DEHP-free devices is not necessarily reflective of where the industry is, it does show that achieving the elimination of PVC/DEHP from nearly an entire product category is, indeed, achievable. The organization that reported on this category consists of only 35 hospitals but spent over \$19,000,000 in 2012 on PVC/DEHP-free devices in just one product category. This presents a significant opportunity for the health care industry to use its purchasing power to push for safer products. If just one health care system's 35 hospitals can show that much of a financial commitment to healthier chemicals in its medical products, the potential impact of the entire health care industry committing to healthier chemicals is astounding. From the beginning, Partners HealthCare has made a commitment to improving the health of our communities, locally and globally. We accept the responsibility to take a leadership role in protecting our environment through a focus on sustainability.

-GARY GOTTLIEB MD, PRESIDENT AND CEO, PARTNERS HEALTHCARE

Green Seal or EcoLogo Certified Products

Hospital	Year	\$ On Green Seal or EcoLogo	\$ On Cleaning Supplies	Percent
Hospital One	2012	\$2,040,955	\$5,407,037	37.75%

Compound-Free Furnishings

Hospital	Year	\$ Compound-Free Furnishings	Total \$ On Furnishings	Percent
Hospital	2012	¢560.607	¢1 710 145	17 100/
One	2012	\$309,003	\$1,519,145	43.1070

Similarly, only one organization each reported on green cleaning and healthy interiors metrics for 2012. The potential impacts from their actions, however, present an enormous opportunity when extrapolated to the 2,000 hospitals HHI is set to enroll. The organization that reported on its Green Cleaning metrics spent 37.75% of its cleaning supply dollars on Green Seal or EcoLogo Certified products—over \$2,000,000 in 2012 alone. Likewise, the organization that reported metrics for the healthy interiors spent nearly \$570,000 of its furnishings budget on furnishings free of the noted chemicals of concern, achieving a 43.18 percent spend on healthier interior furnishings. The scaled-up impact if hospitals across America were to dedicate their purchasing dollars to safer, environmentally superior products such as these would surpass the billion-dollar mark and help to permanently shift the marketplace.





Smarter Purchasing

The health care industry wields significant purchasing power, spending billions of dollars each year on supplies designed to protect health. Yet many of these products generate unnecessary waste, release hazardous materials or use excessive energy, contributing to negative health and environmental impacts. The health care industry can mitigate some of these impacts by exploring alternative products with environmentally preferable attributes. In the absence of a universal set of environmental standards for many medical products, the Healthier Hospitals Initiative has collaborated with health care leaders in environmentally preferable purchasing to identify and evaluate a list of relevant, practical environmental considerations for supply chain professionals.

ANALYSIS

The 2012 data provided to support the Smarter Purchasing Challenge highlights the health care industry's journey to drive change in the availability of sustainable products. It shows a general trend of cost savings opportunities paired with positive environmental impact for most Smarter Purchasing efforts. Data was readily available for measures related to single-use device reprocessing, indi-

cating its popularity and prevalence as a Smarter Purchasing strategy. The results of other challenge categories, however, show that many hospitals are still putting in place systems to track these efforts and their environmental and financial outcomes.

Year	\$ Single-Use Device Purchased	Hospitals
2010	\$4,285,327	1
2011	\$20,934,685	152
2012	\$32,089,776	185

Single-Use Device Reprocessing (SUD)

Noteworthy are the significant savings realized in reprocessing by a select group of hospitals. Over \$32 million was saved annually by 185 hospitals in 2012, highlighting the enormous savings that could be realized by the 2,000 hospitals HHI hopes to enroll by the end of the Initiative. Also of note is the fact that this category had the highest data-sharing rate of all the HHI Challenges, showing that business partners play a critical role by helping their customers achieve their goals and provide the necessary data to track performance. Hospitals just getting started and those leading the way benefit by contracting with businesses that can help them achieve and report out on their environmental goals. An integrated commitment to sustainability is crucial to our success as a corporation, as an employer, and as a steward of the communities and environments in which we operate.

Year	\$ EPEAT	Hospitals
2010	\$58,549,284	36
2011	\$53,773,236	37
2012	\$62,076,425	36

Electronic Product Environmental Assessment Tool (EPEAT®)

Both the EPEAT and Surgical Kit Reformulation categories saw less participation than SUD reprocessing but still achieved significant successes. The 37 hospitals reporting data for dollars spent on EPEAT products spent over \$60 million on EPEAT-rated electronic products in 2012, highlighting the potential billions of dollars that could be spent on environmentally responsible electronics if hospitals across the U.S. and Canada committed to this Challenge. Many HHI enrollees are, in fact, already purchasing EPEAT products and simply have not yet attempted to track these purchases. HHI anticipates that the dollar savings realized from the energy savings of these devices, and the increased drive to connect environmental efforts with financial performance, will motivate increased participation from HHI enrollees over the next several years.

Year	Hospital	Kits Rationalized	Total Kit types	\$ Savings
2010	Hospital One	22	22	\$46,038
2011	Hospital Two	2	2	Not Reported
2012	Hospital Three	61	97	\$225,485

Surgical Kit Reformulation

Surgical Kit Reformulation faces a similar reporting challenge. Many organizations are already in the process of evaluating their OR packs and simply haven't started tracking the outcomes of these evaluations as part of their environmental improvement activities. The case studies and results are generally reported within OR leadership teams, but may not necessarily make it to the sustainability leadership team. Of the three hospitals who reported 2012 data for this category, over 100 kits had been evaluated and associated savings of more than \$250,000 had been identified. HHI expects to see increased reporting on Surgical Kit Reformulation as the potential environmental and financial savings from these efforts are better understood.

As the data has exhibited through this Challenge, buying sustainable products does not necessarily involve a premium and can actually lead to significant cost savings. In the area of reprocessing, achieving these savings is becoming easier with availability of products from an increasing number of vendors.

SUCCESS STORIES: Sustainability in Action

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Engaged Leadership

VIDANT CHOWAN AND VIDANT BERTIE HOSPITALS: Green Council

The hospitals have shared their successes with Vidant Health's other community hospitals and have recommended that they implement similar programs.

Vidant Chowan and Vidant Bertie Hospitals have made great progress, enrolling in all six HHI Challenge Areas. The support of their shared Administration and green council has made their 2012 sustainability accomplishments possible. After several months of meetings with administrators and employees, Vidant Chowan and Bertie Hospitals' green council was launched in October 2011. It evolved into one small green council responsible for both hospitals borrowing heavily from HHI for its structure, reporting to the director of clinical and support services as its executive sponsor, and identifying a communication officer, clinical champion, and sustainability coordinator to manage the program.

Vidant's green council organizes and supports its team of "data collectors" and its green teams on specific projects. It helps oversee waste stream management, employee engagement in recycling, sustainability education, maintenance of the ENERGY STAR portfolio, data collection, collaboration with the local farmers' market, and the formation of Green Teams with specific sustainability-related projects. Monthly reports on progress are given at Management council meetings, while the executive sponsor provides quarterly reports to the board.

Vidant Bertie realized a 37 percent solid waste reduction, and a 66 percent operating room recycling rate. Vidant Chowan realized a 27 percent landfill diversion rate, resulting in a 33 percent reduction in solid waste expenses overall. The hospitals have shared their successes with Vidant Health's other community hospitals and have recommended that they implement similar programs.

YALE-NEW HAVEN HOSPITAL: WorkSMART Team

Yale-New Haven Hospital's (YNHH) WorkSMART committee is an innovative, employee-driven program to help the hospital manage its environmental impacts. Originally created in 2009, YNHH's WorkSMART program has continuously evolved. In 2011, YNHH realized its responsibility to pursue environmentally sustainable solutions, the WorkSMART structure was expanded to include two subcommittees: the employee engagement subcommittee and the waste reduction, efficiency and sustainability subcommittee (overseeing operating room single-use device reprocessing, waste reduction,

printing and paper reduction, courier services, energy conservation and transportation demand management). Both committees report on their efforts at bi-weekly steering committee meetings, and the use of data and performance metrics is ingrained in the program's reporting structure to help engage key constituents and ensure accountability.

As a result of the committee's oversight of YNHH's sustainability program, the organization saved approximately \$1,649,132 in 2012. It additionally achieved a 24 percent recycling rate, implemented a reusable sharps program, expanded its transportation demand management program to include more than 775 participants who carpool, bike, walk, telecommute or use public transportation, and identified more than 80 individuals to act as sustainability champions. Historically, as the WorkSMART program has improved environmentally sustainable practices in one area, it has also helped to discover more process improvement opportunities elsewhere within the organization, helping to continue the sustainability cycle.

Engaged Leadership

TENET HEALTHCARE CORPORATION: Org Structure/Green Team Development

In 2012, Tenet Healthcare Corporation started working on a systematic approach to implement sustainability initiatives across its 49 hospitals. These hospitals were at varying levels of engagement in sustainability, and Tenet saw an opportunity to standardize sustainability management practices across the system while permitting each hospital to identify its sustainability goals.

Tenet developed a sustainability advisory council with representatives from each of its four regions who were charged with driving Tenet's sustainability initiatives. Tenant also formed hospital green teams that met to guide the hospital's sustainability efforts. The council worked with the green teams to select the most relevant HHI Challenges, effectively using the HHI Challenges to guide each hospital's sustainability program goals. Council members meet on a monthly basis, and each is responsible for providing the support, tools and guidance required by the hospitals in their region to achieve their HHI goals. The council also presents monthly sustainability sharing calls open to the entire system, and designed to ensure information is shared consistently and timely.

At the end of 2012, Tenet reported an overall increase in recycling rates, healthier food offerings and reprocessing spend which correlated to a decrease in supply expense for single-use medical devices. Its regional facilities have seen successes in achieving their HHI-related sustainability goals.



SUCCESS STORIES: Sustainability in Action

Healthier Food

RADY CHILDREN'S HOSPITAL: SSB Elimination, Healthy Beverages

In 2012, Rady Children's Hospital's greatest achievement was an initiative to reduce sales of sugar-sweetened beverages (SSB) and to educate their patients, staff and visitors about healthy beverage choices. To achieve this objective, Rady embarked on a three-month planning period that involved researching case studies nationwide, conducting an employee survey, and forming a multi-disciplinary advisory group and smaller work team to collect baseline data. This effort included rekeying the cash registers and retraining food service cashiers.

Based on its findings, Rady tailored a "Rethink Your Drink" campaign to meet the needs of its system. In addition to utilizing a red-yellow-green stoplight beverage labeling concept to rate the health of various beverages, they also conducted educational sessions, policy development and environmental changes. SSB's were eliminated from catering and patient menus. *Rethink Your Drink* flyers and posters were

UNION HOSPITAL: Local/Sustainable Procurement

Union Hospital adopted a Healthy Foods Program to achieve a sustainable and healthier environment for its community. It has adopted practices that have helped to achieve its sustainable food goals, including using seasonal menus to take advantage of cost savings, reducing the amount of meat purchased to reduce costs, and replacing higher-cost prepared and processed foods with fresh, whole ingredients.

In 2012, Union Hospital converted its kitchen to nearly 100 percent from-

scratch cooking, eliminating processed foods, trans fats and artificial flavorings. This increased kitchen teamwork, and improved patient diets at the hospital. Since the organization has more control over what goes into its food, it is able to provide greater variety to patients with special diets. For example, the hospital can now replace low-sodium processed items with lower-sodium and fat items made in-house, where the exact amount of fat, sodium and seasoning is controlled. The addition of a vacuum sealer helps Union Hospital added to the patient and staff room service menu and admissions packet, and the campaign was incorporated into hospital functions.

Within the first quarter of this initiative, Rady has met its 30 percent reduction goal as per HHI's Healthier Food Challenge. The hospital continues to examine the purchasing trends of employees and visitors, design educational materials, and expand outreach efforts into the community.

to extend the local harvest season by purchasing fresh ingredients in season locally, prepping them and freezing them, allowing Union Hospital to serve local, sustainable foods to patients, employees and visitors year round.

Union Hospital has increased its percentage of sustainable local purchases for meat, poultry, vegetables, fruits and dairy from 18 percent to 56 percent between 2009 and 2012. Union Hospital's Healthy Foods Program is not only sustainable, but also healthier.

VANGUARD: SSB Elimination, Sustainable Foods

Vanguard Health Systems has developed sustainability programs focused on environmental conservation as a preventative health measure, with the impacts intended to create healthier patients, staff and communities. In addition to reducing waste, conserving energy and managing purchasing, Vanguard has made a strong commitment to environmental and human health through sustainable and healthy foods

"Giving Healthy Living the Green Light"

A variety of healthy food and beverage programs have been implemented in Vanguard hospitals nationwide. One example is illustrated through a program at Vanguard's MetroWest Medical Center (MWMC), which participated as a signer of the Healthy Food in Health Care Pledge. MWMC developed the "Giving Healthy Living the Green Light" lecture series to educate staff and community members about the connection between food, health and the environment. It also has implemented the Healthy Beverage Campaign that uses a red-yellow-green stoplight labeling system based on sugar and caloric content to reduce obesity by encouraging healthy beverage choices.

Additionally, MWMC has partnered with a local certified organic farm to provide sustainably-grown produce to the hospital community via a winter and summer community-supported agriculture (CSA) program. MWMC received two grants that allowed for 10 clinic families to receive weekly produce during the winter season; and 19 families during the summer season. Participating families received recipes and educational resources about nutrition, sustainable eating and the link between diet and chronic diseases.

Leaner Energy

POUDRE VALLEY HOSPITAL: Energy Reduction through Employee Engagement

When Poudre Valley Hospital enrolled in HHI's Leaner Energy Challenge, it recognized that it needed to target behind-the-scenes operational changes such as retro-commissioning and lighting improvements, as well as include employees in its conservation efforts. University of Colorado Health North of which PVH is a part, rolled out their Energy Reduction Challenge in 2012 as a six-week employee engagement initiative designed to help employees understand and curb their individual energy use.

The UCH North Green Team worked with its utility provider's Outreach and Education Coordinator to develop

nd Education Coordinator to develop As a result, PVH used 25,678 kWh

THE OTTAWA HOSPITAL: Energy Service Contract/Operational Savings

The Ottawa Hospital (TOH) has a strong focus on energy management as part of its goal to provide a healthy environment for patients, staff and community through cost-effective sustainable initiatives. In 2012, TOH enrolled in HHI's Leaner Energy Challenge to highlight and share these energy accomplishments, and to identify additional best practices.

In 2005, TOH had an onsite energy plant but it was under pressure to reduce costs and improve efficiency. Faced with an aging infrastructure, the engineering team hired a firm to implement a new \$18M energy service contract that included the installation of building automation systems, lighting retrofits and the change-out of small boilers and other electrical equipment. These changes saved more than \$3M per year, yielding a six-year payback period and reducing total natural gas consumption by 30 percent

promotional materials and an imple-

mentation strategy for the Energy Re-

duction Challenge. The challenge was

promoted via green team meetings and

UCH North's intranet webpage. During

ees were asked to turn off lights when

the course of the challenge, employ-

leaving a room, turn off monitors at

the end of a shift, and unplug ener-

gy "vampires" before leaving for the

weekend. Participants were rewarded

with \$5 café coupons. Before and after

the challenge, UCH North used online

surveys to gather employee feedback

on the impact of the program and to

collect ideas for future programming.

In 2011 and 2012, TOH continued its efforts by investing in projects such as air-cooled lab systems, LED exit signs and chiller upgrades, with savings of less than its four-year average for the same time period, saving over \$1,500 and reducing CO2 emissions by nearly 40,000 pounds per. Annually PVH would see electricity savings of \$13,797. According to ENERGY STAR for Healthcare, this is equivalent to \$275,940 in patient revenue for a hospital with a five percent operating margin.

Turn off lights when leaving a room, turn off monitors at the end of a shift, and unplug energy "vampires" before leaving for the weekend.

\$120,000. Beyond the operational savings, TOH has worked with its Energy Service Contract partner on a plan to engage and educate employees, and held an employee barbecue to celebrate TOH's energy achievements.

Since the early 1990s, TOH has realized approximately 17 million kWh in energy savings—enough to power nearly 6,000 Canadian homes for a year. TOH's HHI Energy Challenge has encouraged the hospital to move the needle even further on energy conservation.

BON SECOURS: Developing an Energy Efficiency Strategy

The amount of energy used by U.S. hospitals is costly and contributes to environmental pollution that negatively impacts health. Bon Secours Health System developed an Ecological Stewardship Plan with a goal of reducing its carbon footprint and minimizing these impacts by improving energy efficiency through operational and behavioral changes.

To achieve this, Bon Secours developed an energy task force charged with engaging internal and external stakeholders. Internally, an energy policy was adopted; a communication campaign was launched to educate

employees and leadership about energy conservation; and an Ecological Stewardship Plan was implemented. The energy task force partnered with stakeholder groups such as engineering, facilities management and vendors to identify potential capital improvement projects such as central energy plant upgrades. Where possible Bon Secours purchased only ENERGY STAR-rated electronics and pursued energy-saving strategies such as chiller optimization, energy-efficient lighting, steam trap maintenance, temperature monitoring, efficient generator testing, and continuous monitoring and energy

auditing. The facilities' energy utilization is reviewed at monthly green team meetings.

Many Bon Secours hospitals have seen savings. A shining example is Bon Secours St. Francis; which achieved more than a 20 percent reduction in energy, \$150,000 in energy rebates and \$850,000 in cost savings. They also received an ENERGY STAR designation for one hospital and significantly increased employee and leadership engagement. Bon Secours continues to improve its energy performance.

SUCCESS STORIES: Sustainability in Action

Leaner Energy

GUNDERSEN HEALTH: Energy-Efficient Equipment



Gundersen Health System is committed to sensible investments in renewable energy projects such as biofuels, wind and solar power—that will enable them to power their buildings with clean renewable resources.

As a comprehensive health care network with facilities in western Wisconsin, northeastern Iowa and southeastern Minnesota, Gundersen Health System cares for patients in 19 counties. Not including campus growth, Gundersen's energy costs were increasing at more than \$350,000 annually in 2007, making energy reduction a priority. Gundersen set a goal of being 100 percent energy independent, meaning they produce as much renewable energy as they use, Gundersen uses energy-saving practices along with energy-efficient equipment, medical technologies, office supplies and building materials to improve the performance of their facilities.

Gundersen completed comprehensive energy audits at several campuses. Using those findings, the health system teamed up with Focus on Energy and engineering consultants to perform retrocommissioning. This process examined the heating and cooling systems, lighting and employee behavior, and used low-cost or no-cost measures to improve efficiency and reduce energy demand. Activities that helped reduce energy included:

- Air handlers in three buildings were scheduled to run only when needed.
- The zone scheduling led to a

reduction of more than \$78,000 in energy costs and saved more than 1.2 million kilowatt hours a year. Paybacks were realized quickly.

- Reprogramming cooling system controls reduced energy consumption by about 1.1 million kilowatt hours a year.
- Chiller/tower optimization led to annual savings of approximately \$65,000.
- Changes to the way Gundersen's boilers are used led to a cost savings of nearly \$64,000 annually and energy savings of just more than 74,000 therms.

By 2009, Gundersen achieved a 25 percent improvement in energy efficiency and more than \$1M in annual savings.

PARTNERS HEALTHCARE: Strategic Energy Master Plan

In 2008, energy price increases led Partners HealthCare to re-examine its \$100 million annual energy costs across 15 facilities, and efforts to contain annual energy increases of 1.5 percent. Much of this energy was carbon-based and subject to price swings. This, combined with incentives to improve the efficiency of existing systems and to install renewable energy systems, provided the impetus for Partners to develop a Strategic Energy Master Plan. Developed by a team of hospital and Partner representatives and a consultant, the plan's goal was to reduce energy consumption, identify and evaluate renewable energy sources, increase energy efficiency through

onsite cogeneration, and implement recommendations.

To identify conservation opportunities, the team evaluated the mechanical/electrical infrastructure, and collected and benchmarked energy source consumption and cost data. It also analyzed opportunities for cogeneration and alternative energy installations.

As a result, 230 energy conservation measures were recommended, with the potential to reduce energy consumption by 28 percent. The estimated cost of implementing this plan was \$61M with an average payback of 3.7 years, representing a 27 percent annual return on investment. As of September 2012, Partners has achieved a 16 percent overall reduction in energy consumption cogeneration facilities are in design or construction at three hospitals, and an effort is underway to locate and finance off-site photovoltaic installations.

230 energy conservation measures were recommended, with the potential to reduce energy consumption by 28 percent.

Less Waste

BOSPITAL CORPORATION OF AMERICA: Standardized Approach to C&D Debris Recycling

With renovations and construction constantly underway at Hospital Corporation of America's (HCA) approximate 160 acute care facilities located in 22 states, the diversion of construction and demolition waste from landfills offered an opportunity for big impact by adopting a standardized approach to construction and demolition waste management.

HCA's project management team developed C&D debris recycling speci-

fication language in line with the HHI's goals and included it in all significant renovation and new construction projects. While markets for the recycled debris vary regionally, materials such as ceiling tiles, cement, cabinetry, bricks, carpeting and others were successfully segregated for recycling and landfill diversion, yielding a big win for environmental improvement at HCA.

By focusing on better managing the waste created during the course of

C&D projects, 34 HCA hospitals prevented more than 59,000,000 pounds of C&D debris from entering landfills in 2012 alone. This was an average of 87.59 percent recycling rate, exceeding the HHI goal of 80 percent.

Year	Lbs C&D Recycled	Total Lbs C&D	Percent C&D Recycled	Hospitals
2012	59,047,025	67,411,131	87.59%	34

UNIVERSITY HOSPITALS HEALTH SYSTEM: RMW Reduction

Since 2008, University Hospitals Health System (UH) has been working to reduce regulated medical waste (RMW) it produced. In 2008 and 2011, red bag audits were conducted in five clinical divisions at UH Case Medical Center and UH Ahuja Medical Center by representatives from the Office of Sustainability, Environmental Services, Pediatrics and Nursing. These audits indicated that the amount of RMW was significantly higher than need be. The organization launched an educational campaign complete with a "red bag toolkit." In 2012, UH partnered with a consulting firm to develop and implement a waste management program. It conducted employee education and engagement that included multimedia communications and ongoing waste training and audits. UH continued to use its "red bag toolkit" as a resource for waste reduction, and used the toolkit content in mandatory safety in-service training for clinical staff. Additionally, new UH employees received a demonstration and presentation on waste segregation focused on red bag waste minimization. These efforts improved the quality of waste segregation at UH, yielding "cleaner" single-stream recycling and cardboard containers at waste docks. As a result, UH Case Medical Center and UH Bedford Medical Center achieved 6.2 percent and 5 percent RMW rates respectively. The organization's focus on waste segregation also helped it expand recycling, launching single-stream recycling programs and swapping out more than 1,000 trash bins for green-lined recycling bins.

ADVOCATE HEALTH CARE: Engaging Employees in Waste Reduction

Advocate Health Care has identified employee ("associate") engagement as a key driver of waste reduction, energy conservation and preservation of environmental health. Advocate proved the power of this belief as it sought to reduce the quantity of regulated medical waste (RMW) and other waste produced within its facilities. To reduce its waste, Advocate adopted a multi-faceted approach to include associates in its environmental efforts by building a culture of conservation throughout the organization. An online training module helped educate associates about the program, demonstrating how they could reduce Advocate's waste and explaining the environmental and health benefits. An Environmental Stewardship Dashboard was developed as a way to track waste and energy performance by site. Advocate created accountability for improving these outcomes by sharing the Dashboard with green teams and executives and by tying managers' performance goals to these outcomes (measured by the weighted average of energy and waste goals). Further, Advocate created the Environmental Stewardship Awards, to recognize employees' outstanding sustainability efforts. Through its associate engagement efforts, the organization achieved a record average of 1.7 pounds of RMW per adjusted patient day (APD) across its facilities in 2012. To date, more than 60 individuals have received Advocate's Environmental Stewardship awards.

SUCCESS STORIES: Sustainability in Action

Less Waste

DIGNITY HEALTH: Waste Management

In 2012, Dignity Health partnered with its waste vendor Stericycle to implement an Integrated Waste Stream Solutions (IWSS) program in 12 of their facilities. This program tracks and reports data on several of Dignity Health's waste streams, including solid, hazardous, pharmaceutical, regulated medical and recyclable wastes.

Implementing the IWSS program has helped Dignity Health verify the accuracy of their data and enhance the timeliness of the data collection process, while the results of regular waste audits helped pinpoint specific successes and failures. As a result of their efforts to understand and manage their waste profile, Dignity Health has been able to better engage employees by providing relevant, targeted education, and also has been able to identify the locations and waste streams with the biggest opportunity for improvement.

Dignity Health's efforts to more closely manage their waste streams have achieved significant financial and environmental outcomes. Within a year of implementing the IWSS system, Dignity saw an increase in recycling of over 220,000 lbs, moving from a 29.5 percent to 31.2 percent recycling rate. At the same time, the organization also saw a significant increase in the levels of employee engagement in its waste stream management practices.



PORTLAND VA MEDICAL CENTER: General Waste Reduction

Portland VA Medical Center (PAVMC) realized that many products were being taken from locked sterile supply cabinets and unintentionally wasted since, once removed, they could not be put back—even the unopened, unused supplies. Some items were being recycled, but many were being placed in the trash or red bag waste streams due to risks related to infection control.

Inspiration struck PAVMC's Intensive Care Unit team when staff members

realized how much waste and recycling was leaving just one patient room after discharge. A group of ICU nurses decided to re-examine the contents of their supply carts to identify extra or unnecessary supplies. They looked at the old configuration and developed a sleeker, trimmed-down supply list and set up the cart drawers, resulting in easier stocking going forward.

The results of this evaluation yielded a savings of \$8 per patient, which

equates to approximately \$6,600 per month or nearly \$80,000 annually. This effort saw such significant results that it is being expanded from the ICU to other hospital units. As these units begin restructuring their supply carts and eliminating the extra waste, the Portland VA Medical Center looks forward to continuing to increase its waste-related cost savings through the HHI Less Waste Challenge.

STANFORD UNIVERSITY MEDICAL CENTER: Recycling/Landfill Avoidance

Stanford University Medical Center's waste management program includes landfill diversion tactics such as recycling, composting and source reduction. In addition to its established single-stream recycling program, Stanford continues to activate recycling programs. In August 2012, Stanford partnered with the Healthcare Plastics Recycling Council to conduct a study on the potential for capturing plastic materials from clinical areas. After measuring the potential recycling volumes extrapolated to annual patient throughput, Stanford has developed a new target goal of "Chasing 100"-an

additional 100 tons of diversion.

The composting of kitchen and cafeteria waste, "Operation Clean Sweep" decluttering events, office supply swap meets, the digitalization of printed forms and manuals, electronic paystubs and online purchase requisitions and check request systems all help Stanford move closer to their goal—to divert waste from the landfill in the most economic and regulatory compliant manner feasible. The composting program is projected to divert 118 additional tons per year from the landfill, while the conversion to an online work-order management system

is saving 106,000 sheets of paper annually. The development of a LEAN 5S Sustainability Guide has been essential in helping staff evaluate the 3R's and energy saving efforts as they embark on LEAN operating practices. In 2012. Stanford partnered with Key Green Solutions to implement a sustainability dashboard software program that allowed the organization to see how much it was saving by keeping waste out of the landfill, minus any costs of diverting the waste. As a result, Stanford achieved more than \$750,000 in cost avoidance in 2012, with a landfill diversion rate of more than 35 percent.

Sponsoring Health System

Safer Chemicals



BEAUMONT HEALTH SYSTEM: Healthy Interiors

Beaumont Health System has several programs that support all six HHI Challenges. Beaumont's green team sets measurable goals to help achieve all of these Challenges. Beaumont's Healthy Interiors efforts represent an example of a successful collaboration between a hospital and business partner to create a healthier hospital environment. After enrolling in HHI, Beaumont reached out to its furniture supplier Haworth to discuss how they could meet the requirements of the Safer Chemicals Challenge. Haworth helped Beaumont benchmark its current furniture purchases with a thorough analysis of

its purchases. The data showed that some of Beaumont's largest purchases, in terms of dollars spent, were on Haworth's older products, many of which didn't meet the Healthy Interiors requirements. Haworth was able to identify newer products in these categories that met the goals of the Challenge, allowing Beaumont to successfully avoid halogenated flame retardants, perflourinated compounds, vinyl and formaldehyde.

Beaumont's centralized procurement process for furniture and furnishings which limits the individuals making purchases, was essential to Beaumont's success. Its system-wide furniture procurement is managed by an interior design team, and this team was able to build environmental requirements into its product specifications. This process helped filter out the produce options that did not meet the minimum requirements. As a result, Beaumont exceeded the requirement of 25 percent of purchases being free of the specified chemicals of concern, achieving rate of 43 percent in 2012.

UNIVERSITY OF CALIFORNIA SAN FRANCISCO MEDICAL CENTER: Green Cleaning

University of California San Francisco Medical Center (UCSF) recognizes the importance of making evidence-based decisions related to its environmental initiatives. So when the opportunity arose to participate in a 2012 study focusing on the link between sterilants, disinfectants and adverse health effects in health care workers, UCSF Medical Center was eager to contribute its experience and expertise. As a result of the study, UCSF realized that harsh cleaners were impacting their air quality and worker safety, and set a goal of standardizing chemical use and transitioning to safer, healthier cleaners where possible.

After the study, UCSF's Zero Waste and Toxics Reduction Work Groups assessed current cleaning and disinfection practices, piloted healthier alternatives, and standardized products. The team selected the Green Seal-certified Hillvard for all-purpose cleaners, glass cleaners, carpet and upholstery cleaners, and bathroom cleaners, fulfilling the goals identified in HHI's Safer Chemicals Green Cleaning Challenge. It also selected Green Seal certified products for floor cleaners and laundry soaps. The team purchased its cleaners in bulk and diluted the products on site. Staff were trained in the safe use of products and methods to prevent

worker exposure to the chemicals.

The use of microfiber mops was a component of UCSF Medical Center's strategy, contributing to reduced water use and increased staff satisfaction. The organization's design strategies resulted in the use of fewer chemicals due to its selection of flooring that does not require waxing or stripping. The transition did not increase UCSF Medical Center's cleaning costs and demonstrated a healthier outcome.

Staff were trained in the safe use of products and methods...

KAISER PERMANENTE: DEHP and PVC Elimination

Kaiser Permanente (KP) is committed to protecting the health of its members and communities through many mechanisms, including demonstrating a preference for products that do not contain harmful substances. KP has partnered with its suppliers to target two substances in particular: the plasticizer DEHP (di 2-ethylhexyl phthalate) and PVC (polyvinyl chloride). Traditionally, DEHP has been used to make medical plastics such as PVC IV bags and tubing softer and more pliable, but has been found to leach from the medical plastics into the air or liquids passing through them. A wide body of research has shown that DEHP exposure may cause damage to the reproductive and developmental systems of prepubescent children, including developing fetuses. PVC plastic, when manufactured or incinerated, creates dioxin, a known carcinogen.

In 2007, KP's National Product Council and IV Sourcing and Standards Team began transitioning to DEHP-free IV administration sets and working with suppliers to identify viable alternatives. In 2012, the organization committed to purchasing IV solution bags that are 100 percent free of PVC and DEHP, and tubing that is DEHP-free. Given the 4.9 million IV tubing sets and 9.2 million solution bags KP purchases each year, this conversion affects nearly 100 tons of medical products and is expected to save almost \$5M annually.

SUCCESS STORIES: Sustainability in Action

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Safer Chemicals

MEDSTAR'S FRANKLIN SQUARE MEDICAL CENTER: Green Cleaning

In 2012, MedStar's Franklin Square Medical Center (FSMC) committed to HHI's Less Waste and Safer Chemicals Challenges. FSMC had been working on improving its waste profile for years by reducing regulated medical waste and increasing recycling, but implementing a green cleaning program was a new challenge. Before the development of this program, FSMC's housekeeping department used a separate cleaner for nearly everything. By standardizing its chemical cleaners, the facility was able to make a global shift to Green Seal-certified, eco-preferred options for bathroom cleaners, neutral

cleaners and glass cleaners, and to reduce employee confusion and achieve significant financial savings. In addition, FSMC implemented a chemical-free floor stripping technology, adopted a chemical-control floor waxing process, and switched from reusable to microfiber mops—all of which have contributed to budget savings and other environmental benefits.

The goal of FSMC's green cleaning program was to improve indoor air quality and employee satisfaction, but the measures taken to implement it also have contributed to a \$192,000 reduction in the organization's 2012 housekeeping supply budget. As one of HHI's founding sponsors, MedStar has succeeded in achieving many sustainability best management practices. MedStar continues to challenge itself to find new, innovative ways to further its sustainability mission and expand its sustainability program.

The goal of FSMC's green cleaning program was to improve indoor air quality and employee satisfaction.

Kaiser Permanente's mission is to improve the health of our members and communities we serve. To make that a reality, our efforts at prevention, fostering wellness, and building healthy communities must take into consideration the work of creating healthy environments.

-RAYMOND J. BAXTER, PHD, SENIOR VICE PRESIDENT, COMMUNITY BENEFIT, RESEARCH AND HEALTH POLICY PRESIDENT, KAISER PERMANENTE INTERNATIONAL HEALTH





Smarter Purchasing

CATHOLIC HEALTH INITIATIVES' (FRANCISCAN HEALTH SYSTEM): SUD Reprocessing

Catholic Health Initiatives' (CHI) Franciscan Health System (FHS) is an excellent example of the successful roll out a single-use medical device (SUD) reprocessing program. Although CHI has many environmentally sustainable programs designed to reduce costs and provide a healthier environment for patients, staff and visitors, its SUD program has one of the largest financial impacts. Almost all CHI facilities use some degree of reprocessing and to CHI is on track to save \$8M annually. As part of CHI's success story, FHS has reprocessed single-use medical devices since the 1980's with no real success until the 2000's when it switched reprocessing vendors to better fit the needs and system workflow. Throughout implementation, FHS faced issues of physician and staff resistance and interference from original equipment manufacturers. Achieving buy-in from senior leadership, demonstrating previous wins, and highlighting the benefits that come from cost savings, helped FHS manage staff resistance and created a policy against the "bashing" of reprocessing by vendors.

Today, FHS reprocesses most noninvasive devices such as pulse-ox probes and bed alarms, as well as invasive devices such as trocars and energy devices. They continue to add new products to the program monthly, and have started to purchase almost all energy devices reprocessed. As a result, FHS will save about \$2 million in 2013. Now that's what we call a win-win.

BETH ISRAEL DEACONESS MEDICAL CENTER: SUD Reprocessing

Beth Israel Deaconess Medical Center's (BIDMC) single-use device (SUD) reprocessing program helps the organization tackle HHI's Smarter Purchasing Challenge while also reducing medical waste, and associated costs.

To launch this effort required countless meetings, several committees and many staff involved in the process. A decision was made to implement the program in one of two BIDMC's campuses to make front-end coordination easier during the first year. To help counteract the effects of previous negative experiences with SUD reprocessing, the hospital's team worked with its vendor partner to educate staff about what products could be reprocessed and how they should be prepped. In-services were held for each new product brought into the program before it was introduced, staff was educated about the reprocessing process and the FDA's requirements for reprocessed products and those interested were provided the 510k's for each device. Beth Israel's reprocessing program didn't differentiate the inventory available – if people wanted a product from the OEM, they had to first use the stock of reprocessed devices.

Since its launch in 2009, the repro-

cessing program has doubled dollar savings and waste diverted. BIDMC completed the buy-back of its first two identified reprocessed SUD categories, tourniquet cuffs and arthroscopic shaver blades, within the first few months of the launch. In 2012, the SUD reprocessing program generated approximately \$375,000 in savings and diverted nearly 10,000 pounds of medical waste from landfills and/or incinerators.

...program generated approximately \$375,000 in savings...

HOAG MEMORIAL HOSPITAL PRESBYTERIAN: OR Kit Reformulation

This evaluation process allowed Hoag to reduce waste and cost from outdated

surgical packs

Hoag Memorial Hospital Presbyterian took on the challenge of reformulating its operating room packs (kits) after its current surgical pack vendor decided to significantly increase pricing. Hoag's Supply Chain Team put out a request for proposals to three other vendors, and after several reviews and a site visit by Hoag's supply chain and OR management teams, identified Professional Hospital Supply as an ideal partner.

New prototype packs were assembled based on the previous vendor's component list for each pack, and these prototypes were then delivered to Hoag for live reviews with each department's clinical leaders to identify any adjustments that needed to be made on the component level. This evaluation process allowed Hoag to reduce waste and cost from outdated surgical packs, while giving the hospital a chance to create new packs that would reduce case pick time and OR room setup.

As a result, Hoag was able to evaluate all of its kits, shifting from 61 custom packs hospital-wide through its old vendor, to 28 custom packs hospital-wide through its new vendor. Since the implementation of this program, Hoag has realized \$46,038 in savings and eliminated more than 86,000 single sterile pulls—translated to 86,000 less items that are ordered, opened and disposed of.

INOVA HEALTH SYSTEM: OR Kit Reformulation

Inova Health System's sustainability goal has shifted from managing waste to preventing waste from being created. By targeting the products and services it was purchasing, Inova was able to minimize financial and physical waste throughout its supply chain.

One area of opportunity was Inova's operating rooms (ORs) a resource- and waste-intensive area in every hospital. In 2012, Inova formed a team of OR directors from its five hospitals to review their OR packs or kits, with a goal of reducing waste and standardizing the purchasing process.

Before OR kit reformulation and standardization, there were 138 kits used in Inova's five facilities, 97 were the responsibility of the OR kit review committee and the remainder were the responsibility of other departments.

As of January 2013, the committee reviewed 61 kits and developed 17 packs to replace them, resulting in a 62 percent reduction. This number is expected to climb once the Committee evaluates the remaining kits. These reductions will occur automatically as product inventory is replaced with the new version. Though waste and cost data is currently being calculated, Inova estimates additional reductions and cost-savings through these smarter purchasing decisions.

HHI 2012 Milestone Report Conclusion

The 2012 HHI Milestone Report paints a picture of an industry in motion. Together, hospitals are moving toward a vision of healthier patients and healthier communities, through healthier hospitals.

Sharing their broad range of experience, the HHI enrollees that contributed to the data pool represent facilities of different sizes, located in urban and rural areas from across the U.S. They include hospitals new to environmental sustainability, and others who have worked for years to achieve sustainability goals. This diversity allowed HHI to shape this 2012 Milestone Report as a snapshot of the industry's progress towards a healthier, more sustainable future.

Several of the six HHI Challenge categories such as recycling, regulated medical waste reduction, energy management and single-use device reprocessing, had high levels of participation. These areas represented early wins and financial savings for HHI enrollees. In fact, this data indicates that there are literally billions of dollars that may be saved through untapped opportunities for hospitals through HHI.

Many HHI enrollees in the high-participation categories were actively involved in sustainability with programs and tracking systems in place before HHI launched. This indicates a broad depth of experience with these sustainability practices, making them an approachable first step for organizations that are just starting out in sustainability practices.

HHI's Engaged Leadership Challenge experienced strong enrollee participation, indicating that sustainability is an increasingly important priority by health care leaders.

Other Challenge categories saw varied rates of participation, mostly because enrollees were still working on implementing and tracking programs. Enrollees that shared data in these categories told impactful success stories sharing their business cases and the environmental and health impacts of their actions. The millions spent on healthier products and services illustrate the power of what the health care industry can achieve when working together. A mix of beginners and seasoned veterans reported data for all six HHI Challenge areas, proving that even categories with lower participation are reachable for organizations of all sizes, geographic locations, and experience levels.

Most noteworthy, a high-level of cross-industry collaboration has made HHI a success. Health care facilities, their business partners and content experts have moved beyond the traditional competitiveness and joined together as an industry to share their successes and failures, challenges and opportunities, and best practices and lessons learned.

HHI is a platform to facilitate collaboration, provide enrolled facilities access to tools, resources and connections, and form unconventional partnerships.

This Initiative is about strength in numbers. The more hospitals that participate, the greater the data set, the more powerful the message and the greater the impact. The magnitude of the achievements shared by HHI enrollees in the first Milestone Report sets an exciting stage for the future, as HHI moves toward its goal of enrolling 2,000 hospitals by 2014.

The time is now. The resources are there. The change is happening. The results are clear. Visit **www.healthierhospitals.org** to find out how you can *help lead communities to a healthier future.*

HHI Thanks the Following Enrollees for Providing Data

HCA Lake City Medical Center

HCA Las Colinas Medical Center

HCA Lee's Summit Medical Center

HCA Medical Center of Arlington

HCA Medical Center of Lewisville

HCA Medical Center of McKinney

HCA Memorial Hospital of Jacksonville

HCA Methodist Stone Oak Hospital

HCA Metropolitan Methodist Hospital

HCA North Suburban Medical Center

HCA Northside Hospital & Tampa Bay

HCA Ocala Regional Medical Center

HCA Osceola Regional Medical Center

HCA Orange Park Medical Center

HCA Overland Park Regional

HCA Parkland Medical Center

HCA Parkridge East Hospital

HCA Northeast Methodist Hospital

HCA Northwest Medical Center

HCA North Florida Regional Medical Center

HCA Medical Center of Plano

HCA Methodist Hospital

HCA North Hills Hospital

Heart Inst

Medical Center

Transplant Hospital

HCA Los Robles Hospital and

Medical Center

Advocate BroMenn Medical Cente Advocate Christ Medical Center Advocate Condell Medical Center Advocate Eureka Hospital Advocate Good Shepherd Advocate Illinois Masonic Medical Center Advocate Lutheran General Hospital Advocate South Suburban Hospital Advocate Trinity Hospital Advocate Good Samaritan Hospital Anne Arundel Medical Center Beaumont Hospital-Grosse Pointe Beaumont Hospital-Royal Oak Beaumont Hospital-Troy Beth Israel Deaconess Medical Center Bon Secours Baltimore Health System Bon Secours Charity Health System Bon Secours Hampton Roads Health System Bon Secours Kentucky Health System Bon Secours Memorial Regional Medical Center Bon Secours New York Health System Bon Secours Richmond Health System Bon Secours St. Francis Health System Bon Secours St. Petersburg Boulder Community Hospital CHI Carrington Health Center CHI Flaget Memorial Hospital CHI Franciscan Health System CHI Gardens At St. Elizabeth CHI Good Samaritan Health System CHI Jewish Hospital CHI Lake Wood Health Center CHI Lisbon Area Health Svcs. CHI Medalion Retirement Center CHI Memorial Hospital CHI Memorial North Park CHI Mercy Hospital ND CHI Mercy Hospital Valley City CHI Mercy Medical Center CHI Mercy Medical Center Iowa CHI Mercy Medical Center Oregon CHI Mercy Medical Ctr ND CHI Namaste Alzheimer Center CHI Nazareth Home CHI Nebraska Heart Hospital CHI Ortho Colorado Hospital CHI Our Lady of Peace CHI Penrose Main Hospital CHI Saint Francis Medical Center CHI St Joseph London CHI St Joseph Martin CHI St. Anthony Hospital CHI St. Anthony Hospital Oregon CHI St. Anthony Hospital Washington CHI St. Anthony North Hospital CHI St. Catherine Hospital CHI St. Clare Hospital CHI St. Clare's Health System CHI St. Elizabeth Health Systems CHI St. Elizabeth Hospital Washington CHI St. Francis Healthcare CHI St. Francis Hospital Washington CHI St. Gabriel's Hospital CHI St. Joseph Area Health Svcs CHI St. Joseph Berea Hospital CHI St. Joseph Health Ministries CHI St. Joseph Hospital CHI St. Joseph Hospital East CHI St. Joseph Hospital ND CHI St. Joseph Medical Center CHI St. Joseph Medical Ctr Pennsylvania CHI St. Joseph Medical Ctr Washington CHI St. Joseph Mt Sterling CHI St. Mary & Elizabeth Hospital CHI St. Mary Corwin Medical Ctr CHI St. Mary's Community Hospital CHI St. Mary's Healthcare CHI St. Rose Ambulatory Surgery Center CHI St. Thomas Moore CHI St. Vincent Infirmary CHI Summit Medical Center CHI TriHealth

CHI Villa Nazareth, Friendship, Inc & HCA Lakeview Hospital HCA Largo Medical Center Riverview Place CHI Villas at Sunny Acres CT Mental health Center Dignity Arroyo Grande Community Hospital HCA Lawnwood Regional Medical Center Dignity Bakersfield Memorial Hospital Dignity California Hospital Medical Center Dignity Chandler Regional Hospital Dignity Community Hospital of San Bernadino Dignity Dominican Hospital Dignity French Hospital Dignity Glendale Memorial Hospital and HCA Medical Center of Trinity Health Center HCA Medical City Dallas Hospital Dignity Marian Medical Center Dignity Mark Twain St. Joseph's Hospital HCA Menorah Medical Center Dignity Mercy General Hospital Dignity Mercy Gilbert Medical Center HCA Methodist Specialty and Dignity Mercy Hospital of Folsom Dignity Mercy Medical Center Merced -Dominican Campus Dignity Mercy Medical Center Merced-HCA MountainView Hospital Nevada Community Campus Dignity Mercy Medical Center Mt. Shasta Dignity Mercy Medical Center Redding Dignity Mercy San Juan Medical Center Dignity Methodist Hospital of Sacramento Dignity Northridge Hospital Medical Center Dignity Saint Francis Memorial Hospital Dignity Sequoia Hospital Dignity Sierra Nevada Memorial Hospital Dignity St. Bernardine Medical Center Dignity St. Elizabeth Community Hospital HCA OU Medical Center-Everett Tower Dignity St. John's Hospitals Dignity St. John's Pleasant Valley Hospital Dignity St. John's Regional Medical Center HCA Palms West Hospital Dignity St. Joseph's Hospital and Medical Center, PHX Dignity St. Joseph's Medical Center and HCA Plaza Medical Center Fort Worth Behavioral Health HCA Presbyterian/St Luke's Medical Center Dignity St. Mary Medical Center-LB HCA Rapides Regional Medical Center Dignity St. Mary's Medical Center-SF Dignity St. Rose Dominican Hospital-San Martin Dignity St. Rose Dominican Hospital-Siena Dignity St. Rose Dominican Hospitals-Rose de Lima Dignity Woodland Healthcare Gundersen Lutheran Health System HCA Allen County Hospital HCA Aventura Hospital and Medical Center HCA Blake Medical Center HCA Brandon Regional Hospital HCA Capital Regional Medical Center HCA Cartersville Medical Center HCA Centerpoint Medical Center HCA Central Florida Regional Hospital HCA Clear Lake Regional Medical Center HCA Coliseum Medical Center HCA Coliseum Northside Hospital HCA Colleton Medical Center HCA Columbia Hospital HCA Dauterive Hospital HCA Del Sol Medical Center HCA Denton Regional Medical Center HCA Doctors Hospital of Augusta HCA Doctors Hospital of Sarasota HCA Eastside Medical Center HCA Edward White Hospital HCA Englewood Community Hospital Inc. HCA Fairview Park Hospital HCA Fawcett Memorial Hospital HCA Fort Walton Beach Medical Center HCA Frankfort Regional Medical Center HCA Garden Park Medical Center HCA Grand Strand Regional Medical Center HCA Green Oaks Hospital HCA Greenview Regional Hospital HCA Gulf Coast Medical Center HCA Hendersonville Medical Center HCA Henrico Doctors Hospital-Forest HCA JFK Medical Center HCA Kendall Regional Medical Center HCA Kingwood Medical Center HCA Lafayette Regional Health Center

HCA Raulerson Hospital HCA Redmond Regional Medical Center HCA Regional Medical Center Bayonet Point HCA Regional Medical Center of San Jose HCA Research Medical Center HCA Reston Hospital Center HCA Rose Medical Center HCA Sky Ridge Medical Center HCA Skyline Medical Center HCA South Bay Hospital HCA Southern Hills Medical Center HCA Spalding Rehabilitation Hospital HCA Specialty Hospital Jacksonville HCA St. David's Medical Center HCA St. David's South Austin Medical Center HCA St. Petersburg General Hospital HCA Summerville Medical Center HCA Summit Medical Center HCA Swedish Medical Center HCA The Regional Medical Center of Acadiana HCA Trident Regional Medical Center HCA Tristar Centennial Medical Center HCA TriStar StoneCrest Medical Center HCA Tulane Medical Center HCA Tulane-Lakeside Medical Cente HCA Twin Cities Hospital HCA University Hospital/Medical Center HCA Wesley Medical Center HCA West Florida Hospital HCA West Hills Hospital/Medical Center HCA Westside Regional Medical Center HCA Women's & Children's Hospital HCA St. David's Round Rock Medical Center Henry Mayo Newhall Memorial Hospital Hoag Hospital-Irvine Hoag Hospital-Newport Beach Inova Alexandria Hospital Inova Fair Oaks Hospital Inova Fairfax Hospital Inova Loudoun Hospital

John's Hopkins Hospital Kaiser Permanente Antioch Medical Center Kaiser Permanente Baldwin Park Medical Center Kaiser Permanente Downey Medical Center Kaiser Permanente Fontana Medical Center Kaiser Permanente Fremont Medical Center Kaiser Permanente Fresno Medical Center Kaiser Permanente Hayward Medical Center Kaiser Permanente Los Angeles Medical Center Kaiser Permanente Manteca Medical Center Kaiser Permanente Moanalua Medical Center Kaiser Permanente Modesto Medical Center Kaiser Permanente Moreno Valley Medical Center Kaiser Permanente Oakland Medical Center Kaiser Permanente Orange County-Anaheim Medical Center Kaiser Permanente Orange County-Irvine Medical Center Kaiser Permanente Panorama City Medical Center Kaiser Permanente Redwood City Medical Center Kaiser Permanente Richmond Medical Center Kaiser Permanente Riverside Medical Center Kaiser Permanente Roseville Medical Center Kaiser Permanente Sacramento Medical Center Kaiser Permanente San Diego Medical Center/Kaiser Foundation Hospital Kaiser Permanente San Francisco Medical Center Kaiser Permanente San Jose Medical Center Kaiser Permanente San Rafael Medical Center Kaiser Permanente Santa Clara Medical Center Kaiser Permanente Santa Rosa Medical Center Kaiser Permanente South Bay Medical Center Kaiser Permanente South Sacramento Medical Center Kaiser Permanente South San Francisco Medical Center Kaiser Permanente Sunnyside Medical Center Kaiser Permanente Vacaville Medical Center Kaiser Permanente Valleio Medical Center Kaiser Permanente Walnut Creek Medical Center Kaiser Permanente West Los Angeles Medical Center Kaiser Permanente Woodland Hills Medical Center Margaret Mary Community Hospital Martha Jefferson Hospital Mentefiore Medical Center Metro Health Hospital Mills-Penninsula Health Service Ministry Saint Joseph's Hospital Miriam Hospital Mission Hospital Orlando Health-Dr P Phillips Hospital Orlando Health-Lucerne Pavillion Orlando Health-Orlando Regional Medical Center Orlando Health-South Seminole Hospital Orlando Health-Winnie Palmer Hospital For Women and Babies Orlando Health-Arnold Palmer Hospital For Children Palomar Health-Downtown Campus Palomar Health-Palomar Medical Center Palomar Health-Pomerado Hospital Parkland Health & Hospital System-Dallas County Community Hospital Partners Healthcare Poudre Valley Hospita Providence Centralia Hospital

Inova Mount Vernon Hospital

Providence Holy Cross Medical Center Providence Holy Family Hospital Providence Hood River Memorial Hospital Providence Kodiak Island Medical Center Providence Little Company of Mary Hospital Providence Medford Medical Center Campus Providence Milwaukie Hospital Providence Mt Carmel Hospital-Main Building Providence Portland Medical Center Providence Prov. Will. Falls Medical Center Providence Center Providence Newberg Medical Center Providence Tarzana Medical Center Providence Valdez Medical Center Providence Saint Joseph Medical Center Providence Seward Medical Center Providence St. Joseph Medical Center Providence St. Patrick Hospital Campus Providence St. Peter Hospital Providence St. Vincent Medical Center Providence Colby Campus Providence Pacific Pavilion Campus Providence Sacred Heart Medical Center Providence Seaside Hospital & Clinic Providence SMMC Campus Providence St. Josephs Hospital Regina Medical Center Ronald Regan UCLA Medical Center Roval University Hospital Saskatoon City Hospital Seattle Children's Hospital St. Paul's Hospital Tenet Brookwood Medical Center Tenet Coral Gables Hospital Tenet Delray Medical Center Tenet Florida Medical Center Tenet Good Samaritan Medical Center Tenet Hahnemann University Hospital Tenet Hialeah Hospital Tenet North Shore Medical Center Tenet Palm Beach Gardens Medical Center Tenet Palmetto General Hospital Tenet Sierra Vista Regional Medical Center Tenet St. Mary's Medical Center Tenet West Boca Medical Center UCLA Medical Center Santa Monica UCSF UH Regional Hospitals-Bedford Medical Center UH Regional Hospitals-Richmond Medical Center Union Hospital of Cecil County Union Memorial Hospital University Health Network University of Maryland Medical Center Vanguard Children's Hospital of Michigan Vanguard Detroit Receiving Hospital & University Health Center Vanguard DMC Surgery Hospital Vanguard Haper University Hospital/Hutzel Women's Hospital Vanguard Rehabilitation Institute of Michigan Vanguard Huron Valley Sinai Hospital Vidant Bertie Hospital Vidant Chowan Hospital Virginia Mason Medical Center Yale-New Haven Hospital

Providence Alaska Medical Center

Healthier Hospitals

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