

HCA Sustainability Plan

Overall Policy

HCA is a responsible and concerned citizen of all communities where it operates. Therefore, the minimum standard for HCA's environmental stewardship is meeting or exceeding all environmental legal and regulatory standards. In addition, HCA will protect and preserve the environment through, at a minimum, the following practices:

- HCA will encourage the recycling of materials where recycling is commercially practical and the minimization, consistent with the law, of waste streams which require additional processing.
- HCA facilities will consider the effect on the indoor environment before introducing a new product into the facility.
- HCA will encourage the continued reduction of energy usage throughout its facilities.
- HCA will evaluate, and where appropriate, incorporate environmentally-preferable alternatives when designing new construction and major renovations.

HCA is also a member of Practice GreenHealth (PGH), an organization as described below. As a PGH member, HCA seeks to:

- Achieve virtual elimination of mercury in its facilities.
- Reduce the quantity and toxicity of health care waste – from manufacturing, purchase and use of products and materials, to improved end-of-life management.
- Minimize the use and exposure to hazardous chemicals, including persistent, bio-accumulative and toxic (PBT) substances.
- Reduce health care's environmental footprint through resource conservation and other measurable environmental improvements.
- Integrate sustainable design and building techniques with environmentally-sound operational practices to create true healing environments.

Organizational Structure

Sustainability Steering Committee – The Sustainability Steering Committee provides the overall guidance for HCA's Sustainability Program. The Committee is chaired by the Senior Vice President and Chief Ethics and Compliance Officer. It includes representatives from Operations, Quality, Finance, FacilitiGroup (Facilities Management and Engineering), HealthTrust - our Group Purchasing Organization, Design and Construction, Public Relations, Human Resources, the HCA Foundation, and Risk and Insurance. The Committee meets on a quarterly basis.

Sustainability Coordinators – Sustainability Coordinators have been appointed at all hospitals. They are responsible for the implementation of the Program at their hospital. A job description has been published and distributed to all hospitals. All Sustainability Coordinators have access to the Practice GreenHealth site.

Task Forces – Four task forces have been established to work on environmental issues with company-wide application. They are Energy and Water chaired by Brian Weldy, VP, FacilitiGroup Infrastructure Solutions; Construction and Major Renovation chaired by Greg Stein, VP, Design and Construction; Environmentally Preferable Purchasing chaired by Missy Eslinger, Assistant Vice President, Value Analysis, Supply Expense Management, HCA Corporate Supply Chain; and Waste Stream chaired by Anna Ward, Sustainability Manager. These task forces identify and research ideas within their areas of responsibility.

Sponsorships and Memberships

Practice GreenHealth – HCA and all HCA facilities are members of Practice GreenHealth (PGH). PGH is the nation's leading membership and networking organization for healthcare institutions that are committed to implementing sustainable, eco-friendly practices. PGH provides webinars, checklists and other tools at no additional cost to its members.

Healthier Hospitals Initiative – HCA is a founder of the Healthier Hospitals Initiative (HHI). HHI's goal is to use a coordinated approach to achieve sustainability throughout the health care sector, which will prevent environment-related illness, create extraordinary environmental benefits, and save billions of dollars in health care expenses. The basic tenets of the HHI agenda are to improve environmental health and patient safety, reduce use of natural resources and generation of waste, and institutionalize sustainability and safety. As a member of HHI, HCA receives access to various sustainability tools. HealthTrust, HCA's Group Purchasing Organization, is a Supporting Organization of HHI. In 2015, HHI transitioned into Healthier Hospitals, a free program of Practice GreenHealth.

Greening the Operating Room – HCA is a founding sponsor of the Greening the OR initiative. Greening the OR seeks to identify key interventions that can reduce waste, energy, worker exposure to hazardous chemicals and save money. This initiative is an attempt to collect data on these interventions and share them as a means to encourage widespread adoption across the sector. HCA is the first health system to recommend that all of its hospitals commit to Greening the OR.

Climate Corps Fellow – For the last six years, in conjunction with the Environmental Defense Fund, HCA sponsored a Climate Corps fellow to work on energy-related matters. These Masters' Degree candidates work on projects which are designed to both save money and reduce resource usage. Lighting options, an energy performance improvement standard, and energy usage have been focuses in the past. It is anticipated that another Climate Corps fellow will work with HCA in the summer of 2016.

Communications and Leadership

Intranet Websites – There are two intranet websites related to the Sustainability Program. ECHO, Environmentally Conscious Healthcare Operations, contains an overview of sustainability activities and results for the company. It also contains links to external resources. PharmWaste contains tools and education on implementing an appropriate pharmaceutical waste disposal program at hospitals and other settings including, physician practices and imaging centers.

Other Communications – Emails are periodically sent to sustainability coordinators regarding certain programs or events. WebEx presentations took place in 2015 and 2016. An additional method of communication available to facilities is HCAFi, a resource for webinars on facility infrastructure, energy management and facility implementation of HCA's Environmental Waste Management Plan.

Leadership – HCA personnel frequently present at sustainability conferences. There was one HCA presenter at the 2014 CleanMed conference. One sustainability presentation from HCA, and one sustainability presentation moderated by HCA, took place during The HealthTrust University annual meeting in 2014. HCA also frequently provides documents for posting and sharing on the Practice GreenHealth website and as part of the Healthier Hospitals Initiative. HCA, through its Group Purchasing Organization, HealthTrust, was a leader in establishing uniform environmental attribute questions for contracts with healthcare entities. These standardized questions were published and disseminated industry wide in conjunction with other health care entities and PGH. HCA actively participates with HealthTrust in addressing the availability of local or sustainable foods through HealthTrust becoming a Supporting Organization of the Healthier Hospitals Initiative at the GOP level. HCA also serves on HealthTrust's Environmental Sustainability Network (ESN), which works at a national level with industry leaders and educates vendors about expectations related to environmental choices. In addition, six HCA hospitals and HealthTrust each received a Practice GreenHealth 2015 Environmental Excellence Award.

Data Collection Efforts

Carbon Reduction Commitment – The United Kingdom requires any company of HCA International's size to calculate its energy usage, which is then translated into greenhouse gas equivalents. This effort has started for HCA UK facilities and Greenhouse Gas information for energy used at the facilities (scope 1) and energy purchased by the facilities (scope 2).

Greenhouse Gas Data – Under consideration is the means and need to establish a methodology to identify and collect Greenhouse Gas information company wide for scopes 1 & 2. If this data is collected, the data would be published with year to year comparisons.

Waste Stream Data – Data on the various dispositions of solid waste is being collected for U.S. hospitals as part of the Integrated Waste Management contracts. In addition, construction debris data is being collected for new construction projects. As part of the HHI Less Waste Challenge, this information is shared with an external organization. The three-year initiative known as HHI ended in 2015; however, HCA reports information to HHI in 2016 reflective of the 2015 year. Waste data from facilities winning a Practice GreenHealth Environmental Excellence Award is used by Practice GreenHealth to compile their annual benchmarking report.

Waste Stream

Pharmaceutical Waste Disposition – PharmEcology has been contracted to identify the proper disposition of pharmaceutical waste. Pharmaceuticals in the water is an area of increasing publicity and interest. There are specific rules on the disposal of some pharmaceuticals and best practices that discourage sewerage for all others. This program was implemented at hospitals. Educational materials were developed to assist hospitals with capturing and disposing Operating Room back table irrigation containing pharmaceuticals. The pharmaceutical waste program was implemented for Physician Practices, H2U Clinics and Imaging Centers. The implementation program for Ambulatory Surgery Centers has been developed. The programs continue to be evaluated.

Integrated Waste Management – Waste Management and Stericycle both had successful pilots to manage all waste streams at a guaranteed savings over current spending. Dual source contracts have been awarded to both vendors. The vendors will achieve savings by renegotiating disposal prices and increasing recycling rates. The

expected annual savings of this contract is in excess of \$6 million. This project also includes tracking of various waste streams' poundage. There will also be training provided to employees on proper disposal and recycling practices. In 2014, there were 48,095,210 pounds recycled. In 2015, there were 49,775,178 pounds recycled.

Rechargeable Battery Recycling – This is a program that recycles, at no cost to the facility, rechargeable batteries that no longer can hold a charge. In 2015, 10,439 pounds of rechargeable batteries were recycled rather than being landfilled. The provider of this program continues to explore opportunities for increased recycling from our hospitals.

Cardboard Recycling – A checklist was developed and sent to every hospital to explore the feasibility of recycling cardboard. Most facilities already recycle to some extent. The other facilities are encouraged to begin cardboard recycling (upfront costs are offset by later savings).

Polystyrene Reduction / Increased Composting – In conjunction with the Environmentally Preferable Purchasing Task Force, alternatives to polystyrene for takeout food containers are being considered. These alternatives do not biodegrade under ordinary landfill conditions. Normal consumer level composting also does not break down these alternative products. Consumer-level composting also does not work with meats, fats, oils and greases. Because of these limitations, any normal composting program would require the separation of food waste left on a plate into compostables and non-compostables. Commercial composting generates the higher heats necessary to break down the polystyrene alternatives and also allows all food waste to go into the same container for composting. Unfortunately, the haul distance for many commercial composters makes this alternative unworkable. The Task Force will work on identifying alternative products, commercial composting locations, commercial composting on site, and where it makes sense, encouraging local governments to get into the commercial composting business.

Mercury Reduction – Almost all facilities have significantly reduced the amount of mercury-containing devices within the facility. The feasibility of creating a policy to describe the virtual elimination of mercury in our facilities and eliminate bulb crushing will be considered.

Other Recycling Opportunities – As solutions are developed in one area of recycling, the Task Force will move to the next area that appears appropriate.

Duplex Printing – We will work on identifying opportunities to set default printer and copier settings to duplex (print on both sides). This will cut paper use by nearly 50%.

This setting has already been implemented at HCA Corporate. This approach currently has limited utility when the paper is to be filed with a two-hole top punch as is common in most clinical settings.

Integrated Pest Management – HCA was the first health system to develop specifications designed to decrease the amount and toxicity of chemicals used to control pests. These specifications were developed in conjunction with both a vendor and environmental services consultant. These specifications have been made available to other health systems through the Practice GreenHealth website.

New Construction

Pursuit of LEED Status – HCA's Nashville Data Center has received LEED Certified status along with the Medical Office Building at Reston Hospital Center receiving Silver status. Currently HCA is in the final stages of LEED registration for two newly completed hospitals in Texas. Medical Center of Alliance and Pearland Medical Center are both targeting LEED certified accreditation. There are also three projects in construction slated to be LEED accredited. Capitol View development in Nashville has already been pre-certified as LEED Silver, Medical City Dallas vertical expansion and the new facility for Oviedo Regional Hospital in Orlando, Florida are targeting Certified accreditation. Additional projects in the early design phase in Reston and Richmond, Virginia, and in Dallas, Texas have been identified as potential LEED candidates.

Environmental Building Scorecards – The LEED process or other building scorecards may be used to determine which sustainability options to incorporate in new buildings. In most instances, HCA will use the LEED scorecards as a guide, without making a specific effort to achieve LEED certification. Rather, those items from the scorecard which make economic and environmental sense will be implemented. This will generally avoid the substantial administrative costs associated with pursuing certification.

Recycling or Reuse of Construction and Demolition Waste – In the first Quarter of 2011, a recycling program was instituted for new construction projects. In 2014, 26,550 tons of debris were recycled, constituting 75% of all debris. Asphalt accounted for 6% of this weight. In 2015, 72,404 tons of debris were recycled, constituting 76% of all debris. Asphalt accounted for 3.2% of this weight.

Alternative Energy Sources – Solar, wind and combined heat and power energy systems can be incorporated into new construction. An evaluation of the feasibility of these systems will occur for all future projects. A free-standing emergency room

completed in 2012 uses geothermal energy to reduce the energy cost for heating and cooling. Results on this installation are very good.

Energy & Water Usage

Recommissioning – There is an ongoing process to evaluate and help assure existing building systems such as heating, ventilating and cooling (HVAC) systems and other energy use within hospitals are operating at optimal energy efficiency. It is projected that recommissioning efforts will further improve the Energy Usage Index (EUI) by 5% reduction in energy consumption by the end of 2016.

Energy Operations Center – A center monitors building systems for HCA's portfolio of buildings in order to identify building system optimization opportunities. It is projected that by the end of 2016, 64 facilities will have real-time metering and 102 facilities will have Building Automation System integration. It is also projected that by the end of 2016, seven facilities will have applied fault detection diagnostics, which in turn will further advance the ability to discover and diagnose additional building energy savings.

Minimum Efficiency Standards – There will be an exploration of the minimally-accepted efficiency standards for systems installed in renovations and appliances purchased. Advances in LED lighting technologies lower cost and better energy efficiency is moving this form of lighting into HCA's design standards.

Alternative Energy Sources – Five solar panel arrays have been installed at sites in Tennessee. At three locations, assessments were conducted of the feasibility of using wind energy. Wind energy was not economically feasible for these locations at the time. The company continues to scan for new technologies or approaches to expanding alternative energy within our portfolio.

Water Usage – Water consumption efforts continue with improvements in energy efficiency that reduce needed water for cooling operations and water efficient fixtures. Where water-saving measures have been implemented, over 3,300 gallons of water is saved a year in each patient room.

Environmentally Preferable Purchasing

HealthTrust Contracting – The principles of Environmentally Preferable Purchasing (EPP) are built into the standardized Contracting Process used by HealthTrust, acting as the Group Purchasing Organization for HCA, and will be applied at the contract/category

level. While not all agreements cover goods or services with EPP relevance, the initial screening will be conducted on all agreements at the time of their regularly-scheduled expiration. HealthTrust has adopted the use of standardized question sets for patient care and electronic devices. These questions were developed for the healthcare industry by a GPO work group in which HealthTrust participated. Details about the work group and standardized questions can be found at the following link: <https://practicegreenhealth.org/gsc/standardized>. HealthTrust and HCA through the ESN are developing the use of standardized question sets for electronic medical devices. This is being coordinated with PGH. The standardized questions are being included in selected HealthTrust contracts to identify environmentally preferable attributes for the items covered in these agreements. This information is used in the source selection process.

Purchasing of Reprocessed Single-Use Devices – There is an existing program to use FDA-approved reprocessed single-use devices to reduce waste and save costs. In 2014, over 604 tons of waste was diverted from landfills and \$26.9 million in cost savings were achieved through the program. In 2015, over 650 tons of waste was diverted from landfills and \$37.2 million in cost savings were achieved through the program. The plan is to move cost savings reporting from vendor reported to supply chain calculated savings. Reporting under this method is anticipated by the end of 2016.

Purchasing of Reusables – Existing contracts provide the ability to purchase certain reusable items rather than disposable items. This applies to, among others: gowns, drapes, basin sets, instrument cases, and patient grounding pads.

Identify Both a Standard and Greener Alternative – As contracts are renewed, an effort is being made to ensure greener alternatives are made available for purchase.

Minimum Standards for Items to be Purchased – An exploration of the minimally-acceptable sustainability attributes for items to be purchased is being done for some items. For example, almost all computer-related purchases must be Electronic Product Environmental Assessment Tool (EPEAT) certified. Similarly, most consumer electronics offered for sale under contract must meet Energy Star criteria.

Improved Availability of Information regarding Green Attributes –The incorporation of sustainability attributes and the ability to compare products based on their attributes has been requested to be included in the new catalogue purchasing system being designed by HealthTrust.