

Healthier Hospitals Agenda





OVERVIEW

In the last several years, health care leaders have begun to understand that addressing the global ecological crisis is a core component in the prevention of chronic disease. They also have become aware—in fact gravely concerned—that the health care sector contributes significantly to pollution and the resulting ecological and public health crisis.

The Healthier Hospitals Initiative (HHI) was created by the founding hospital members—Advocate Health Care; Catholic Healthcare West; Hospital Corporation of America, Inc; Kaiser Permanente; MedStar Health; and Partners Healthcare Systems, Inc.—on the principle that hospitals have a responsibility to minimize the adverse environmental impacts of their operations on patients, staff and the natural environment. Sustainability initiatives implemented throughout the health care sector and its supply chain to ameliorate this crisis will create a new framework for safer health care delivery in this decade.

Many recent studies have shown a strong linkage between environment and health. In our society, chemicals are pervasive. Our reliance on fossil-fuel based transportation and energy consumption contribute to chronic diseases that require lifetime treatments and further escalate health care costs. Government estimates are that managing chronic diseases in the U.S. population consumes approximately 75 percent¹ of all health care expenditures.

The health care sector has a large environmental footprint. Hospitals are the second most energy intensive buildings in the United States, using 836 trillion Btu of energy annually¹ and generating significant greenhouse gas emissions. Health facilities are also significant water consumers, and create 6,600 tons² of waste per day. Thus health care operations impact the health of the very communities they are designed to serve.

The Healthier Hospitals Initiative, a coalition of leading health systems and organizations committed to improving sustainability and safety across the health care sector, has created the *Healthier Hospitals Agenda* to chart a path to a healthier, more sustainable and more cost effective health care system. A distinguishing feature of HHI is CEO-level commitment to the initiative. By leveraging the influence and visibility of these individual health care leaders, positive changes will be timely and meaningful, and will have a reach well beyond the health care sector.

HHI is partnering with Health Care Without Harm, Practice Greenhealth, and The Center for Health Design to provide expertise and technical assistance to member hospitals and to develop and implement training and other programs that will help hospitals prioritize and implement the HHI Agenda recommendations. Services may include administrative services, provision of decision and analytic tools, staff training, workshops, and guided research and inquiry.

Health Care Without Harm supports the development of evidence-based practices and policies that can be implemented to reduce the environmental harm of health care practices. The organization also helps hospitals engage with manufacturers to help them reduce the environmental impact of materials, equipment and supplies used in health care operations. Practice Greenhealth provides hands-on guidance to hospital personnel and has developed a number of tools, including a waste management tracking tool and an on-line clean energy purchasing program, which can be used by hospitals to implement specific components of the HHI agenda. The two organizations hold a national conference, CleanMed, each year to provide education and training as well as bring health care sector representatives together to discuss ways to broaden the acceptance and implementation of sustainability and environmental health in health care. The Center for Health Design helps health care and design professionals to improve the quality of health care through the built environment using evidence-based design.

The *Healthier Hospitals Agenda* is based on the premise that a coordinated sector-wide approach to how we design, build and operate hospitals can improve patient outcomes and workplace safety, prevent illnesses, create extraordinary environmental benefits, and save billions of dollars. The Agenda utilizes evidence-based design and research data on environmental sustainability and community health to delineate a prioritized roadmap; it is a method for moving from good ideas implemented by individual facilities to a comprehensive system and sector-wide adoption of sustainable practices and cost reduction.

HHI's Agenda can help guide health care to a safer and more sustainable future—one that includes lower health care costs, new jobs, and significant improvements in environmental health and disease prevention. By investing in innovation to provide solutions and in research where an approach is not yet substantiated, we hope health leaders will join a growing social movement for change and contribute toward healthier hospitals and a healthier society.

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HEALTHIER HOSPITALS INITIATIVE AGENDA RECOMMENDATIONS

1. Improve Environmental Health and Patient Safety

1. Design and operate healthier and safer facilities for patients and employees
2. Purchase safer and more sustainable products and materials
3. Support the use of safer chemicals and green chemistry
4. Promote nutritious, sustainable food choices

1.1 Building

Research suggests there is a direct relationship between the built environment and therapeutic outcome, that is, that the design of a health facility can positively influence patient health, as well as caregiver performance and satisfaction. The health care industry is in the midst of the largest construction boom since the close of WWII. Health care construction is the third largest building sector in construction activity, and in many regions health systems have replaced manufacturing as the largest local employers. The health care sector has the market power to influence the construction industry to develop safer, healthier building materials.

Reductions in energy use of 18 to 20 percent are achievable using current standard technology coupled with minor capital expenditures costing one to two percent. Upfront expenses are paid back to the institution in three to five years which equals considerable savings over the life of the buildings.



Initiatives

- Utilize the *Green Guide for Health Care* (GGHC) for design, construction, and operations
- Select building materials based on the Pharos database
- Build all new construction and major renovations to U.S. Green Building Council's LEED silver standard or equivalent
- Utilize an evidence-based design process for planning, design, and construction (EDAC, Ripple Database)

1.2 Purchasing

Hospitals have tremendous purchasing power that can not only compel manufacturers to provide safer, more environmentally sustainable products; they can ultimately shift the markets so that these products are more widely available to all consumers. The combined purchasing volume for health care group purchasing organizations in 2010 was estimated at \$110 Billion, a 31 percent increase over 2009. Thus, the health care sector collectively has considerable influence on the manufacturers that produce products intended for health care use.

Initiatives

- Endorse and/or follow the HHI Environmentally Preferable Purchasing (EPP) Guidance Document
- Implement a sustainable purchasing agenda that considers the environmental impact of all aspects of purchasing, from packaging to ultimate disposal
- Utilize a sustainable and certified computer purchasing program (such as EPEAT and Energy Star) for computer and electronic needs
- Require suppliers to disclose chemical ingredient and safety testing data for product purchases and give preference to suppliers and products meeting these specifications. Limit hospital purchases to products meeting these specifications.
- Utilize purchasing power to obtain environmentally responsible products at cost competitive prices and to convince manufacturers and producers to expand the availability of these products



1.3 Chemicals

Toxic chemical exposures begin even before birth and continue to build up in our bodies throughout our lives. Many of these chemicals have been linked to serious illnesses, including asthma, infertility, learning disabilities, Parkinson's disease and cancer. These chemicals are also a major source of indoor air pollution, which the EPA now ranks among the top five environmental risks to public health. Chemicals are ubiquitous in the hospital environment. The health care sector is the single largest user of chemicals. In 2002, health care spent over \$106 billion in direct purchases of chemicals and chemical products, more than double the amount spent by the second largest consuming industry sector.⁴

Initiatives

- Develop chemicals and materials policy and protocols to protect public health
- Seek policies to require disclosure and chemical testing of ingredients
- Sign the *Business-NGO Guiding Principles for Chemicals Policy* and adopt and implement a facility-specific chemicals action plan with benchmarks and timelines
- Address the use of chemicals of concern, in particular, halogenated fire retardants, PVC, DEHP and BPA and seek safer alternatives and substitutes

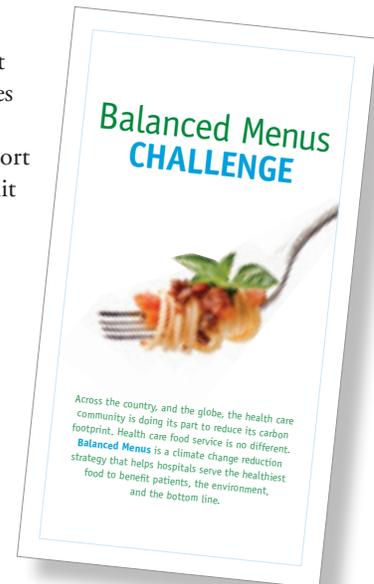
1.4 Food

Our nation's diet is contributing significantly to our chronic obesity epidemic, especially among children. The U.S. spends \$147 billion⁵ each year to treat obesity, \$116 billion⁶ more to treat direct costs of diabetes, and hundreds of billions more to treat cardiovascular disease and cancer that many suspect are related to the Western diet. In addition, food production contributes greatly to climate and environmental degradation. Globally, livestock for meat and dairy production is estimated to contribute approximately 18 percent⁷ of total greenhouse gas emissions, and runoff from animal farms and fertilized fields are polluting waters. Serving healthy foods from sustainable sources is a key way for hospitals to provide

patients and employees with healthier food choices while supporting an overall change in the way food is produced, processed and transported to our tables.

Initiatives

- Implement the HCWH Healthy Food in Health Care Pledge to work toward developing sustainable food systems in health facilities, which includes a commitment to:
 1. Introduce meat and dairy products from suppliers that do not use growth hormones or non-therapeutic antibiotics and support policy change to limit non-therapeutic antibiotic use in agriculture.
 2. Adopt the *Balanced Menu Challenge*, a voluntary program to reduce meat purchases by 20 percent and support climate change mitigation through menu changes.
 3. Make changes in hospital menus and practices to support healthier food purchases by buying local and organic produce, creating fast food free zones, eliminating sugar-based soft drinks in vending machines, composting food waste, and eliminating bottled water.
 4. Adopt the Green Guide for Health Care Food Credits and develop benchmarks for the transition of food service operations.



2. Reduce Health Care's Use of Natural Resources and Generation of Waste

1. Reduce the consumption of energy, Support the transition to renewable energy sources
2. Conserve water
3. Minimize waste and emissions; decrease /eliminate incineration
4. Address pharmaceutical waste
5. Improve transportation strategies for patients and staff

2.1 Energy

Hospitals are the second most intensive energy using buildings in the U.S.⁸ The health care sector spends about \$6.5 billion⁹ on energy each year, and that number is increasing. Most of the environmental and public health harm produced by energy consumption is from the burning of fossil fuels to create the electricity used to power equipment and buildings. Reductions in energy use and transitioning to more environmentally sustainable forms of energy sources are directly associated with reductions in hospital admissions and treatments for chronic illnesses such as asthma, lung and heart disease, in addition to reductions in greenhouse gases that pollute the atmosphere and contribute to climate change.

Initiatives

- Design and implement an energy conservation and efficiency program that will reduce annual energy consumption.



- Investigate the purchase of clean energy, and if available, plan to purchase at least five percent clean energy at the next available opportunity
- Investigate production of renewable energy on-site and include generation of renewable energy on all new building plans
- Encourage use of public transportation by all staff and/or visitors
- Implement EPA Energy Star recommendations on reducing energy consumption by 25 percent

2.2 Water

Preserving access to fresh and clean water is increasingly becoming the focus of international concern. A water use study published in 2002 showed a range of water use from 68,750 to 298,013 gallons¹⁰ per year per bed for



hospitals in the size range of 133 to 510 beds. System-wide conservation practices have been shown to cut water use by 20 to 30 percent¹¹—which can mean a savings of up to \$100,000 a year for some facilities. In addition, many water conservation techniques can be directly linked to reduced energy consumption, resulting in even greater cost savings.

Initiatives

- Eliminate seal and cooling water on medical air compression and vacuum pumps, replace flush valves on toilets and urinals, retrofit water faucets and refrigeration systems
- Eliminate the purchase of bottled water except where absolutely necessary
- Switch from radiological imaging equipment to digital imaging

2.3 Waste

The nation's hospitals generate approximately 6,600 tons¹² of waste per day. With waste disposal costs up to \$68 per ton¹³, and an estimated annual health care cost of solid waste disposal at approximately \$15 billion annually, disposal of solid waste greatly adds to the hospital operating budget. Most hospital waste is non-infectious and non-hazardous, and resembles waste taken from any office building or hotel. By improperly sorting waste, hospitals are paying additional charges to dispose

of medical waste, which can be two to three times the cost of disposing of non-medical waste. Burning of medical waste generates a number of hazardous gases and compounds, including hydrochloric acid, dioxin/furan, and the toxic metals lead, cadmium, and mercury. The disposal of solid waste produces greenhouse gas emissions, including methane, a greenhouse gas 21 times more potent than carbon dioxide. By reducing waste, hospitals not only avoid disposal costs and environmental hazards, they reduce the amount of raw materials, energy, and processing needed to replace the used products.

Initiatives

- Implement a comprehensive waste reduction program
- Target a 30 percent waste reduction goal or more through Reduce, Reuse, Recycle programs
- Implement a regulated medical waste reduction (RMW) plan using proper EMW segregation techniques with the goal of RMW comprising no more than 15 percent of the facility's total waste
- Implement a program to use reprocessed medical equipment



2.4 Pharmaceutical Waste

Today, pharmaceutical waste can be found in trace amounts in soil and groundwater throughout the world. This waste comes from a variety of sources, including hospitals, whose pharmacies stock between 2,000 and 4,000 different items.¹⁴ Levels of pharmaceuticals in the environment are likely to rise in years to come, as the population ages and the demand for pharmaceuticals grows, especially for chronic diseases. Meanwhile, government oversight has not kept up with modern society's increasing dependence on pharmaceutical drugs. Research supports the elimination of drain disposal, but dumping pharmaceutical waste in landfills can also lead to environmental contamination. To add to the confusion, regulations for pharmaceutical disposal are in many cases out-dated and contradictory. Health systems can play an essential role in reducing pharmaceutical waste by reducing the amount of drugs prescribed and by addressing the waste problem in their own facilities and at the state and national level.



Initiatives

- Prescribe small initial quantities for new prescriptions
- Do not provide samples of medications to patients as these often end up in the waste stream
- Inform consumers about safe disposal methods of unused or expired medications
- Work with pharmaceutical companies to develop more effective medication delivery systems that are absorbed more readily in the body and decrease excretion into the environment
- Develop training programs for health care providers to optimize their prescribing practices

2.5 Transportation

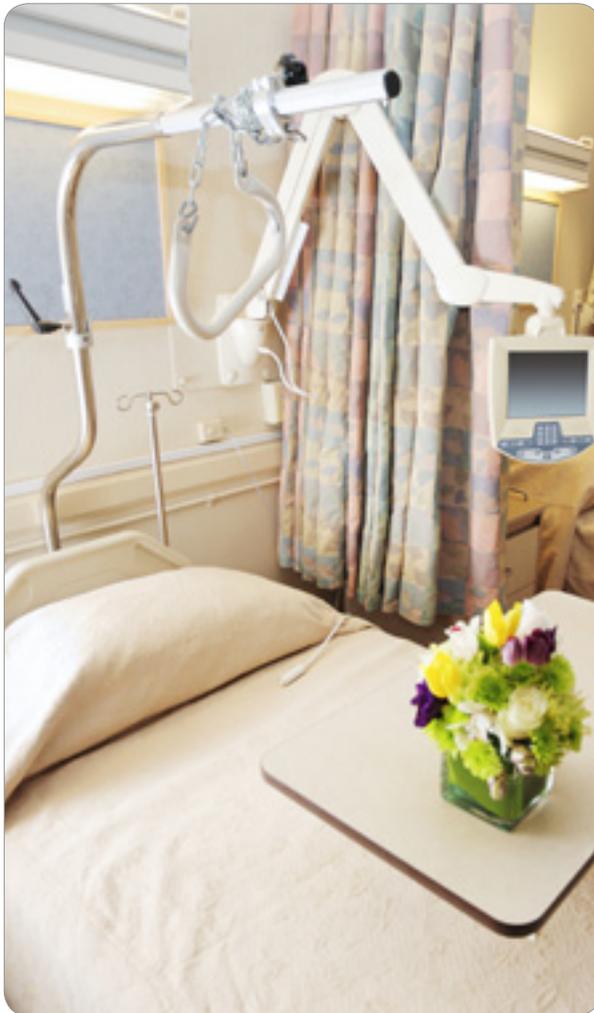
Hospitals make use of transportation for staff, patients and visitors, and for the considerable amount of goods used by the facility. As the largest employer in many communities, hospitals can help reduce local auto emissions by encouraging the use of public transportation and carpooling, or walking and biking to work. Minorities, households in rural areas, disabled, and low-income Americans often face access to care hurdles because many cannot drive and public transportation is often unavailable, inaccessible or unreliable. One report found that people with reliable access to health care visited their doctor 2.29 times more frequently for serious illness and 1.92 times more frequently for regular checkups than those who did not.¹⁵

Initiatives

- Cut transportation emissions by effective siting and programming medical care delivery (e.g., near public transportation)
- Implement programs to encourage staff and patients to use bicycles, public transportation, and carpools
- Optimize fleet efficiency and renewable fuels; use SmartWay certified operators for contracted fleet programs
- Purchase from local suppliers, and/or suppliers who use fuel-efficient transportation

3. Institutionalize Sustainability and Safety

1. Make sustainability and safety a strategic imperative
2. Promote environmental health literacy internally and through community programs
3. Invest in sustainability research and innovation
4. Engage in public policy to promote sustainability and safety



3.1 Sustainability as a Strategic Imperative

Health care executives committed to a safety and sustainability agenda will see better results when they integrate these principles into all areas of their organization and its activities, internally and externally. This means making safety and sustainability a key organizational priority through leadership, education, goal setting, and accountability, as well as all external relations and communications. It amounts to a major change in the culture of the organization. Providing a central dedicated staff member with management support and backing helps ensure that sustainability concepts are implemented facility-wide and applied to all departments.

Initiatives

- Develop and commit to a system-wide sustainability policy
- Dedicate staff resources at the executive/corporate and facility levels to address safety and sustainability issues organization-wide.
- Reflect sustainability in strategic and operating plans and budgets.
- Develop a task force consisting of representatives of various departments and professions within the organization to help guide and implement safety and sustainability efforts
- Have staff members in the facility department be trained in Leadership in Energy and Environmental Design (LEED) and evidence-based design accreditation and certification (EDAC).

3.2 Environmental Health Literacy Education

Public engagement in sustainability efforts helps garner support for these initiatives and also allows the public to benefit by emulating some of the practices—e.g., reducing exposures to chemicals and other substances that may be harmful to their health and the environment. Additionally, by providing education to clinicians and other health care providers about health impacts linked to climate change and toxic chemicals, these professionals can become powerful advocates for societal policies that can prevent diseases in the general population and reduce health care costs.

Initiatives

- Provide opportunities for educating staff and community on benefits of sustainable health care operations and how policies and procedures adopted by health sector contributes to public and environmental health

3.3 Sustainability Research and Innovation

Support for research on sustainability will more clearly identify the links between sustainability and health outcomes. Research can provide better guidance on which efforts can accelerate the adoption of new practices and procedures.

Initiatives

- Provide financial and leadership support for the organization's safety and sustainability efforts and invest in research to remove barriers to further innovation.



3.4 Public Policy

Some public policies regarding sustainable operations are outdated and do not take into account new scientific research and case study findings. Public policy support could drive development of sustainable products and help move the public debate to embrace more assistance, both in policy and financial support, to the health care sector to address sustainability issues and make clearer the link between health of people and health of the environment.

Initiatives

- Inform public policy about disease prevention and environmental health as core components of nation's future health strategies

ENDNOTES

1. http://www.healtheducationadvocate.org/factsheets/chronic_disease_factsheet_2009.pdf <http://www.cbsnews.com/stories/2007/10/03/health/webmd/main3324881.shtml>
2. <http://cms.h2e-online.org/ee/waste-reduction/>
3. <http://peasnerhealthcare.com/GPO2010Outlook.html>
4. Wilson, M., "Green Chemistry in California: A Framework for Leadership in Chemicals Policy and Innovation," California Policy Research Center, University of California, 2006, <http://coeh.berkeley.edu/FINALgreenchemistryrpt.pdf>.
5. July 27, 2009, teleconference with: Thomas R. Frieden, M.D., M.P.H. director, U.S. Centers for Disease Control and Prevention; Eric Finkelstein, Ph.D., director, RTI Public Health Economics Program, Research Triangle Park, NC; William H. Dietz, M.D., Ph.D., director, Division of Nutrition, Physical Activity, and Obesity, U.S. Centers for Disease Control and Prevention; July 27, 2009, *Health Affairs*, online. (<http://abcnews.go.com/Health/Healthday/story?id=8184975&page=1>)
6. U.S. Centers for Disease Control and Prevention (2007) <http://www.cdc.gov/diabetes/faq/research.htm>
7. UN Food and Agriculture Organization, *Livestock's Long Shadow*, 2006 (<http://www.fao.org/docrep/010/a0701e/a0701e00.htm>)
8. Department of Energy, U.S. Energy Information Administration (EIA) Commercial Buildings Energy Consumption Survey
9. Energy Star, Health Care: An Overview of Energy Use and Energy Efficiency Opportunities (www.energystar.gov)
10. Practice Greenhealth Green Guide for Health Care Series – Water Conservation Strategies
11. Practice Greenhealth Member Case Studies, 2009.
12. <http://cms.h2e-online.org/ee/waste-reduction/>
13. 2000, Joint Commission on the Accreditation of Health Care Organizations, <http://cms.h2e-online.org/ee/waste-reduction/>
14. http://www.practicegreenhealth.org/page_attachments/0000/0102/PharmWasteBlueprint.pdf
15. <http://t4america.org/blog/2009/07/17/improving-access-to-healthcare-by-improving-transportation-options/>



AGENDA CHECKLIST

1. Improve Environmental Health and Patient Safety

- 1.1 Building
- 1.2 Purchasing
- 1.3 Chemicals
- 1.4 Food

2. Reduce Health Care's Use of Natural Resources and Generation of Waste

- 2.1 Energy
- 2.2 Water
- 2.3 Waste
- 2.4 Pharmaceutical Waste
- 2.5 Transportation

3. Institutionalize Sustainability and Safety

- 3.1 Sustainability as a Strategic Imperative
- 3.2 Environmental Health Literacy Education
- 3.3 Sustainability Research and Innovation
- 3.4 Public Policy



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