



SUSTAINABLE PITTSBURGH



CHAMPIONS FOR SUSTAINABILITY

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*Champions for Sustainability  
Member Workshop Summary Series*

Vol. 4 No. 2  
August 2011

# **Improving Healing Environments: Strategic Environmental Solutions**

*Part 2 of 5-Part 2011 Healthcare and Sustainability Series*

**Workshop Date:  
July 21, 2011**

Champions for Sustainability (C4S)  
A Program of Sustainable Pittsburgh  
425 Sixth Avenue, Suite 1335  
Pittsburgh, PA 15219  
Phone (412) 258-6642  
Fax (412) 258-6645  
[www.sustainablepittsburgh.org](http://www.sustainablepittsburgh.org)

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## Steering Committee

Phyllis Barber (Steering Committee Co-Chair) Sustainability Coordinator Environmental Management Highmark	Mike Kane Executive Director Community Foundation for the Alleghenies
Dr. Eric Beckman Co-Director Science & Technology Mascaro Sustainability Initiative	Deborah Lange, Ph.D. Executive Director Steinbrenner Institute for Environmental Education and Research Carnegie Mellon
Beth Edwards General Manager The Mall at Robinson The Mall at Robinson Management Office	Dr. Irene E. McGee Vice President Health, Safety, Environment and Quality Bayer Material Science LLC
Bill Flanagan Executive Vice President, Corporate Relations Allegheny Conference on Community Development	Allison Robinson, Ph.D. Director, Environmental Initiatives UPMC
Benson Gabler Manager of Corporate Sustainability PNC Financial Services Group	Jerry Swart (Steering Committee Co-Chair) Managing Director Environmental Services Department FedEx Ground
Scott Golla Principal Corporate Environmental Engineer Westinghouse Electric Company LLC	
Lee Hipps Director of Nonprofit Technology Practice Ceeva, Inc.	
Drew Johnston Global Facilities Director Medrad, Inc	
David Kahley President & CEO Progress Fund	

## Executive Summary

This workshop featured interactive work sessions with healthcare experts in energy, waste, infection control/green cleaning, and green building operational areas. Each session provided access to cutting edge solutions to these environmental issues facing healthcare facilities. According to the US Environmental Protection Agency, "Hospitals make significant contributions to their communities by providing a wide variety of services. They are also major employers, with healthcare comprising approximately 16% of the national and regional economy. Hospitals operate all day everyday, making their environmental footprint large in many communities. Hospitals generate approximately 7,000 tons per day of waste, including infectious waste, hazardous waste, and solid waste." Addressing these issues presents opportunities for also improving the environment in which healing takes place. This workshop provided an opportunity for health organization leaders to learn how they can address the key challenges of energy, waste, infection control, and facility design in practical and strategic ways.

## C4S Workshop Series

Champions for Sustainability engages its members by convening a series of events and workshops for its membership approximately six times per year. Each workshop event explores a strategic topic of interest for the membership. Events make accessible current trends and challenges, provide access to tools, knowledge, and examples, and engage the membership in assessments and reflections to help craft the regional practice of sustainability. This publication series summarizes and makes accessible the most important outcomes from these workshop events.

## About C4S

Champions for Sustainability brings together companies large and small, from many different industries, entrepreneurs, community leaders, university researchers, educators, and other social ventures to put sustainability into practice. C4S aspires to be the most effective region-based collaboration of leaders accelerating the practice and policy of sustainability in business and civic circles. Champions for Sustainability provides value to firms and organizations that seek sustainable solutions to operational practices through convening, networking, and direct consulting.

## Memberships and Information:

- Champions for Sustainability [www.C4SPgh.org](http://www.C4SPgh.org)
- Sustainable Pittsburgh [www.sustainablepittsburgh.org](http://www.sustainablepittsburgh.org)

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## 1. About the Sustainable Healthcare Series

Leading healthcare organizations are increasingly recognizing the business case benefits and improved individual health outcomes of choosing sustainability as a strategy for operations and management. Benefits include healthier patients because of better environmental conditions and an emphasis on wellness, and bottom line wins associated with more efficiently operated facilities and institutions.

Sustainable Pittsburgh's sustainable business network, Champions for Sustainability (C4S) has launched a series of workshops that advance the mutually reinforcing agendas of sustainability and healthcare. The emphasis for each event involves articulating the health outcomes, healthcare benefits, and business case, as well as best practices, resources, examples, and how to get started.

According to the US Environmental Protection Agency, "Hospitals make significant contributions to their communities by providing a wide variety of services. They are also major employers, with healthcare comprising approximately 16% of the national and regional economy. Hospitals operate all day everyday, making their environmental footprint large in many communities. Hospitals generate approximately 7,000 tons per day of waste, including infectious waste, hazardous waste, and solid waste."

The emphasis for each event involves articulating the health outcomes, healthcare benefits, and the business case for sustainability in the healthcare field. The programs will also focus on sharing best practices, resources, examples, and how to get started.

Future programs in the series will focus on such topics as: Strategic Operational Environmental Solutions (Energy, Waste, Procurement, Buildings) on July 21, 2011; Sustainability Standards and Regulations for Healthcare on October 6, 2011; Sustainable Product and Service Procurement on November 3, 2011; and Information Management for Sustainability and Healthcare on December 1, 2011.

## 2. Sustainable Healthcare Series Planning Committee

**Phyllis Barber**  
*Sustainability Coordinator*  
*Environmental Management*  
*Highmark*

**Holly Cairns**  
*PA Department of Environmental*  
*Protection*

**Rachel Filippini**  
*Executive Director*  
*Group Against Smog and Pollution*  
*(GASP)*

**Angela Garcia**  
*Deputy Director*  
*Global Links*

**Artis Hall**  
*PA Department of Health*

**Erin Hart**  
*Health Benefit Services Manager*  
*American Healthcare*

**Michelle Naccarati-Chapkis**  
*Executive Director*  
*Women for a Healthy Environment*

**Valerie Patrick**  
*Sustainability Coordinator*  
*Bayer Materials Science*

**Brian Pinter**  
*Kane Regional Centers*

**Allison Robinson**  
*Director, Environmental Initiatives*  
*UPMC*

**Virginia Thompson**  
*EPA Region 3*

**Blythe Toma**  
*Quality Assurance Manager*  
*Allegheny County Medical*  
*Examiners Office*

**Karen Wolk Feinstein**  
*Director*  
*Jewish Healthcare Foundation*

**Jeaneen Zappa**  
*Sustainability Coordinator*  
*Allegheny County*

### 3. Event Summary

Title: Improving Healing Environments: Strategic Environmental Solutions

Date: Thursday, July 21, 2011

Time: 7:30 am – 3:00 pm

Location: Fairmont Pittsburgh

Cost: \$105 for C4S/Sustainable Pittsburgh Members, \$125 Nonmembers, Students: \$25.00

#### 3.1 Agenda

7:30 am Registration Begins

8:00 am Plenary Speaker:

9:00 am Concurrent sessions on Energy and Waste

A. Energy Workshop: Operational Strategies for Saving Energy

B. Waste Panel Discussion: Operational Strategies for Reducing Healthcare Waste

11:00 am Sharing of Workshop/Panel Session 1 Outcomes

11:30 am Lunch

12:30 pm Concurrent Sessions on Green Cleaning/Infection Control and Green Buildings

C. Green Cleaning/Infection Control Panel Discussion

D. LEED for Healthcare Facilities / Green Building Workshop

2:30 pm Sharing of Workshop/Panel Session 2 Outcomes

3:00 pm Adjourn

#### 3.2 Event Speakers

##### Plenary Speaker:

Karen Wolk Feinstein, Ph.D.  
President and CEO  
Jewish Healthcare Foundation

**Panelists:**

## Energy Workshop

- Drew Chidester, Senior Director, Energy and Environmental Engineering/Affairs, UPMC
- Sam McMahon, System Energy Coordinator, UPMC

## Waste Panel

- Angela Garcia, Deputy Director, Global Links
- Ned Eldridge, CEO, eLoop, LLC
- Judith Focareta RN, MEd, Coordinator, Environmental Health Initiatives, Magee-Womens Hospital of UPMC

## Green Cleaning/Infection Control Panel

- Janet E. Stout, Ph.D., Specialty Pathogens Laboratory
- Mary B. Swanson, Senior Environmental Scientist, Green Seal, Inc.

## LEED For Healthcare Workshop

Marc Mondor, evolveEA

**3.3 Speaker Biographies****Drew Chidester**

*Sr. Director, Energy and Environmental Engineering/Affairs, UPMC*

Drew Chidester is UPMC's Senior Director of the Energy and Environmental Engineering Department. This Corporate department was established in April 2010. Drew's Civil Engineering background, operations management experience in Industrial, University, and Healthcare facilities and his exemplary performance on the subject disciplines during his 20 year tenure as Director of Engineering and Maintenance at UPMC's flagship Shadyside Hospital made him a natural for the new assignment.

In Western Pennsylvania UPMC operates more than 450 clinical facilities, 20 of which are major hospitals. For Drew and the new department, this means providing energy and environmental engineering operational oversight on over 15 million square feet of clinical and support floor space. The Department was an immediate success. Since the Fall of 2010, UPMC's energy expenditures have gone from \$100 Million to a budgeted \$85 Million for the Fall of 2012. Drew's mantra for the department (and coincidentally the basis of today's presentation) is: "The cleanest and lowest cost energy unit is the one not used."

**Ned Eldridge**

*CEO, eLoop, LLC*

Ned Eldridge is President of eLoop LLC, an IT sustainability company providing effective data destruction services while promoting sustainability through the proper reuse or recycling of IT assets. An entrepreneur since 1989, Ned has worked on merger and acquisition projects that have brought tremendous value to shareholders, and he truly understands how to bring value to his customers. For end-of-life recycling, eLoop LLC has established a network of strategic partners that share the Basal Action Network ([www.ban.org](http://www.ban.org)) philosophy and



adheres to the highest standards in the world for recycling. eLoop LLC is the only e-Steward in Pennsylvania to operate a Department of Environmental Protection Permitted demanufacturing Center.

**Karen Wolk Feinstein, Ph.D.**

*President and CEO*

*Jewish Healthcare Foundation*

Dr. Feinstein is President and Chief Executive Officer of the Jewish Healthcare Foundation (JHF) and its two supporting organizations, the Pittsburgh Regional Health Initiative (PRHI) and Health Careers Futures (HCF). Appointed the Foundation's first CEO in 1990, she initially focused on health issues endemic to aging, women's health and underserved populations. She has since made JHF and PRHI leading voices in patient safety, healthcare quality and workforce issues. When Dr. Feinstein founded PRHI, it was the nation's first community-wide collaborative devoted to making an entire region's healthcare institutions safer, more efficient and more diligent in applying best practices through the use of industrial quality engineering principles. PRHI was a forerunner in adapting Lean practices to health care. Dr. Feinstein founded HCF to assist the healthcare industry in attracting and retaining employees, particularly nursing professionals.

She serves on numerous community and nonprofit boards; has previously held executive posts at other nonprofits, including United Way; and served on the faculties of Boston College and Carnegie Mellon University. She also is a Past President of Grantmakers In Health and was the editor of the Urban and Social Change Review. Dr. Feinstein earned her bachelor's degree at Brown University, her master's at Boston College and her doctorate at Brandeis University.

**Judith Focareta, RN, M. Ed.**

*Coordinator, Environmental Health Initiatives, Magee-Womens Hospital of UPMC*

Since 2005, Ms. Focareta has served as the Champion and Coordinator of Environmental Health Initiatives at Magee-Womens Hospital of UPMC. In this role, she directs all sustainability and environmental health programs, coordinates activities of the Green Team, acts as a resource for members, identifies and applies for grants to fund environmental health programs, and represents Magee-Womens Hospital as an expert speaker at national and local professional conferences. For over 30 years she has served as a maternal/child health educator. Ms. Focareta holds a Master of Education in Health Education from Penn State University and a B.A. in Psychology from LaRoche College. She is the owner and operator of MainStay Bed and Breakfast, an establishment that specializes in green and sustainable practices.

**Angela Garcia**

*Deputy Director, Global Links*

Angela Garcia is Deputy Director of Global Links, a Pittsburgh-based medical relief and development organization dedicated to promoting environmental stewardship and improving health in developing countries. Angela joined Global Links in 2000, and is currently responsible for overseeing the day-to-day operations of the organization, focusing especially on educating the local healthcare community and general public to the benefits of repurposing still useful medical equipment and supplies that otherwise would end up in landfills. She develops and nurtures relationships with local hospitals and other suppliers of medical materials, critical to achieving Global Links' dual environmental and humanitarian mission. She serves as international liaison between Global Links and the global health community including government, hospital and NGO officials, both in the field and long-distance. Recently, she has been working on identifying new opportunities for community-based medical collections, as well as establishing a network of potential recipients in the Greater Pittsburgh region. Angela is an honors graduate of the College of Wooster with a B.A. in French and Spanish.

**Sam McMahon**

*System Energy Coordinator, UPMC*

Mr. McMahon's responsibilities include the acquisition of unregulated electric generation and natural gas and pro-active involvement in state and federal legislative and regulatory energy initiatives for UPMC. Recruited from retirement, Sam's extensive energy background has been of great value to UPMC. He previously served as the Director of Energy for PPG Industries, on the board of Electric Consumers Resource Council (ELCON), and as president of the national Industrial Energy Group (IEG). Following his time at PPG, he became a principal of Industrial Energy Services Company and worked as the Southeast Region Vice President of DukeSolutions, a Duke Energy subsidiary, specializing in energy conservation initiatives for large industrial consumers.

**Marc Mondor, AIA, LEED Faculty**

*Principal, evolveEA*

Marc Mondor takes pride in seeing potential for design innovation where others do not. He has over ten years of architectural experience and has been an integral part of Pittsburgh's sustainable design movement since the mid 1990's. Marc's consulting work has led to many innovative firsts, including the nation's first LEED certified supermarket (for Giant Eagle), the first LEED Gold certified place of worship (for the Unitarian Universalist Community), the first LEED Commercial Interiors Gold office space (for the Coro Foundation) and is currently working on what is to be the first LEED certified project in Africa (with HSBC Bank Egypt). Current clients include Giant Eagle, Carnegie Mellon University, Dick's Sporting Goods, HSBC, IBM, Phipps Conservatory, the Pittsburgh Opera, Point Park University, Supervalu, Wegmans, WPXI, UPMC and several school districts. Marc has lectured nationally and is one of 60 national professionals to be named to be USGBC's LEED Faculty.

Marc has brought change to the region by serving on the boards of the Food Marketing Institute, Friendship Development Associates, the East End Growth Fund and Three Rivers Association for Sustainable Energy (TRASE). Marc received his Bachelor of Architecture degree from California Polytechnic State University at San Luis Obispo and studied sustainable design in Scandinavia. Marc is a Registered Architect and a LEED Accredited Professional.

**Janet E. Stout, Ph.D.**

*Director, Specialty Pathogens Laboratory*

Dr. Stout is the Director of the Special Pathogens Laboratory in Pittsburgh, PA and concurrently a Research Associate Professor in the Department of Civil and Environmental Engineering University of Pittsburgh. Dr. Stout has authored approximately 100 peer reviewed papers and book chapters in the area of Legionnaires' disease, infection prevention and waterborne pathogens. The focus of her research has been development of prevention strategies and evaluation and development of new disinfection approaches. Dr. Stout received her BS in Biology from Clarion State College, Clarion, Pennsylvania and her Masters and PhD degrees in Microbiology from the University of Pittsburgh.

**Mary B. Swanson**

*Director, Green Seal, Inc.*

Mary conducts product certification reviews and works on developing new standards. Prior to joining Green Seal, Mary worked as a research scientist with the University of Tennessee's Center for Clean Products and Clean Technologies. Mary's work there included Green Seal research support, so her experience with Green Seal goes back to 1994. Overall, Mary has over 20 years experience in environmental research and consulting, with a focus on evaluating the fate and effects of chemicals released to the environment, developing tools for evaluating cleaner products and cleaner technologies, and hazardous waste site remediation. She earned a Master of Science degree in Environmental Engineering from the University of Minnesota in 1988 and a Bachelor of Science degree

in Natural Resources/Water Chemistry from the University of Wisconsin-Stevens Point in 1984.

## 4.0 Workshop Report Results—Participant Information

### 4.1 Event Attendees:

The following organizations had representatives attend this workshop:

Berner International  
Chatham University  
City Paper  
ClearChoice-Energy  
Colker Company  
DEP  
eLoop, LLC  
evolve EA  
Global Links (x2)  
Greenseal  
Group Against Smog and Pollution  
Healthy Start, Inc.  
Jewish Healthcare Foundation (x2)  
Magee-Womens Hospital of UPMC (x2)  
Optimus Technologies  
PFPG Energy  
Rubbermaid  
Sizewise (x2)  
Specialty Pathogens  
Sustainable Pittsburgh (x6)  
The Children's Institute of Pittsburgh  
University of Pittsburgh Civil Engineering (x2)  
UPMC (x7)  
Women for a Healthy Environment

A total of 41 people attended the event, involving 24 separate organizations, of which 16 organizations (28 people) were directly involved in healthcare services, products, or systems.

## 4.2 Workshop Discussion Worksheet Results

1. In your opinion, what are some ways for which a focus on sustainable healthcare, practices and policies can help regional healthcare practitioners to become more innovative?

**System Efficiency:**

- Implement a system that rewards & incorporates efficiency
- Make aware the inefficiencies in systems/specialties (waste or energy misuse)

**Sustainable Procurement:**

- Introduce more sustainable products into care practices (purchasing power)
- Pushing the envelope with science based innovation

**Management & Systems Approach:**

- Systems engagement to be incorporated for benefits of patients and communities
- Mandated attendance by managers
- Payment reform (pay to sustain health not just medical procedures)

**Advertising/Marketing:**

- Increased advertising and media

2. In your opinion, what is the region's most pressing priority in terms of getting greater participation in sustainable healthcare initiatives going in our region? What are your reasons for this view?

**Hierarchical Participation in Sustainable Initiative:**

- Top-down approach needs to value sustainability
- Senior leadership needs to understand total cost of implementation & not just initial cost (more benefits beyond cost)

**Education & Workshops:**

- Evidence-based education about risks/benefits
- Interactive workshops based on implementation based initiatives
- Education about "green products" –What/how they improve health and environment

**Impacts to bottom line:**

- Present examples of the bottom line/impact on operations and service
- Bottom line is key to operational and institutional changes
- Overall economic concerns and not progressive thinking.
- Systems approach

### ***Sustainability and Healthcare: Making the Business Case***

3. What strategies should the region pursue to foster a sustainable healthcare sector cluster?

**Green Programs:**

-Support cross-departmental “green teams” into making, evaluating & implementing sustainable practices.

-Organize a “Green Seal” certified healthcare program-

**Collaboration:**

-Collaboration & best practices

-Form a collaborative committee of healthcare providers & healthcare benefactors.

-Provide sustainable mentoring

**Demonstrations of Sustainability in Healthcare:**

-Showcase models of sustainability in healthcare

-Quantitative results related to top officials of healthcare facilities

**Lack of interest:**

-Unsure of commitment in healthcare for sustainability

4. What are barriers to the adoption of sustainable healthcare solutions? What can be done to overcome those barriers?

**Barriers**

**Education & Finance:**

-Money

-Lack of education & false assumption that “greening is to expensive”

-Profit motive and payment system discourage sustainable solutions

**Leadership:**

-Inter-departmental cooperation & support from senior leadership

-Lack of awareness & industry wide collaboration

**Solutions**

**Education:**

-Education, modeling, mentoring

-Knowledge, education and change

-Supply chain education

**Marketing:**

-Provide personalities & viewpoints

-Relating sustainability as a value-added operations and services

### ***Sustainability and Healthcare: Making the Business Case***

5. What are some new breakthroughs in terms of technologies, policies, or information that you think are critical to achieving broader demand for sustainable healthcare solutions?

**Sustainability Competition:**

-Rank hospitals by relative sustainability to encourage competitors

**Technologies:**

-Electronic health records have potential to better coordinate patient care & reduce patient visits  
-Use of e-commerce to reach key decision makers

**Resource Economics:**

-Water conservation and infection control issues as related to cost of re-admissions and services  
-Energy demand and cost of comfort  
-Improved understanding among supply chain administrators

6. What are some resources that the organizers should work to bring to the region in order to better serve your and the region's interests related to a sustainable healthcare cluster?

**Research and Modeling:**

-Forum for case studies/ research projects/ success stories  
-Testing and implementing new models of care and payment structures

**Regional Impact/Resources:**

-Explaining how healthcare impacts the regional community and the potential impacts of practicing  
-Pittsburgh possess numerous resources

**Networking:**

-Ability to network outside of event

### ***General***

7. What motivated you to participate in today's event?

**Educational Opportunity:**

-Focused research on quantifying sustainability in hospital settings  
-Learning about sustainability  
-Further knowledge of sustainability in healthcare  
-Interest in quality improvements and cost containment in healthcare.

**Solutions:**

-Sharing best practices

**Duties:**

-Administrative duties  
-Committee member/speaker

***Sustainability and Healthcare: Making the Business Case***

8. What expectations did you have for today's event? Were these expectations met?

**Information Gathering:**

- Learn about LEED for healthcare
- Learn about different initiatives across the region

**Brainstorming:**

- Stimulating discussion of topics
- Hearing new ideas and meeting new colleagues

**Expectations:**

- Exceeded expectations

9. What new information did you learn and/or new connections did you make at this workshop?

**Information:**

- LEED & quantifying benefits of sustainability projects related to energy
- Information on infection control
- Information on e-Waste disposal
- Global Links
- Proven healthcare reform technologies that can expect to hear more about

**Connections:**

- Reconnected with Global Links member & UPMC energy staff
- Meet with vendors/sales rep that could lead to increase waste recovery

10. What suggestions do you have for improving events like this one in the future?

**Marketing/Networking:**

- Reach out to other hospital networks in the regions-beyond UPMC
- Better marketing of the series
- More invites
- More networking

**Time management:**

- Less dense survey at the end of the day
- Breakout sessions were good, but shorter presentations would have left more time for Q& A
- Later start

**Miscellaneous:**

- Have wifi @ venue