



Transforming Health Care for the 21st Century

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President and Co-Founder
Health Care Without Harm



21st Century Chronic Diseases

The lifetime risk of cancer is 1 in 2 for men and 1 in 3 for women. 1 in 12 and 1 in 11 respectively will develop invasive cancer before the age of 60. (ACS 2005)

The risk of breast cancer has tripled from more than 1 in 20 to 1 in 7 in the last forty years. (ACS 2003)

Non-Hodgkin's Lymphoma has nearly doubled since the 1970s. (RPCI 2005)

Endometriosis, linked to dioxin exposure, now affects 10-15% of the US female population. (Holloway 1994, Suchy & Stepan 2004)



21st Century Chronic Diseases

Asthma rates doubled between 1980 and 1995.

(Mannino 2002)

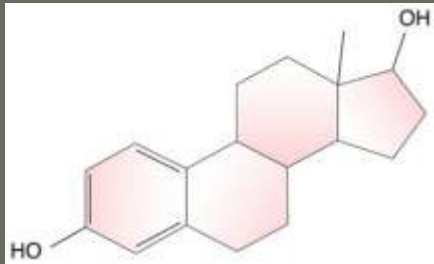
127 million Americans are overweight; 60 million are obese. (AOA 2006)

Between 1997 and 2004 diabetes incidence increase 45% among 18-44 year olds (CDC 2005)



Revolution in Environmental Health Sciences

Babies in the womb and young children are more vulnerable than adults.



Chemical exposure at critical windows of development can manifest health effects later in life.

Chemicals can interact in synergistic ways in our bodies.

Chemical exposures in incredibly small doses impact the hormonal system and disrupt normal development.



Body Burden Profile: Pollution in Newborns

A benchmark investigation of industrial chemicals, pollutants, and pesticides in human umbilical cord blood.



Though scientists once thought that the womb protected developing babies from pollution, a study of umbilical cord blood from newborns found an average of 200 industrial chemicals, pesticides and other pollutants in 10 newborns. Of 287 chemicals detected, 180 have been linked to cancer, 217 are neurotoxins and 208 are linked to birth defects.



ENVIRONMENTAL WORKING GROUP

THE POWER OF INFORMATION



IS IT IN US?

TOXIC TRESPASS, REGULATORY FAILURE & OPPORTUNITIES FOR ACTION



[Home](#) [Project Results](#) [Media](#) [Participants](#) [Contact Us](#) [Chemicals](#) [What We Can Do](#) [What You Can Do](#)

A PROJECT ON CHEMICAL CONTAMINATION IN OUR BODIES



What would it feel like to learn you are contaminated with toxic chemicals that permanently damage laboratory animals? What would it feel like to learn those chemicals come from the shampoo, soda cans, baby bottles, and thousands of other products you and your family use every day?

Collaborative for Health and the Environment



Advocate for research into how to minimize and eliminate future exposure to toxic substances, traumatic brain injury and other known contributors to Parkinson's disease.



No more than 10 percent of breast cancers are genetic, and science increasingly points to toxic chemicals and radiation as factors in the sharp rise of breast cancer incidence. Through public education, policy initiatives, outdoor challenges and other innovative campaigns, the Breast Cancer Fund mobilizes the public to secure the changes needed to stop this devastating epidemic.



The American Lung Association Health House program has developed a guide to identify pollutants throughout your home, as well as steps you can take to reduce exposure

Collaborative for Health and the Environment



Since 1992, the Endometriosis Association, an international nonprofit, has pioneered research linking PCBs (part of a chemical family called dioxins) to the development of endometriosis, a painful and debilitating disease afflicting 5.5 million women in the U.S. and Canada.



Healthy Children Project – to bridge the gap between our knowledge of environmental factors that impact developing fetuses, the newborn or young children and the actions we are taking to minimize or eliminate those factors.



Canadian
Cancer
Society

Soci t 
canadienne
du cancer

The Canadian Cancer Society believes that Canadians should not be exposed to cancer-causing substances at home, at work, or in their environment.

Global Warming is Happening



“Warming of the climate system is unequivocal” (IPCC, 2007)

- Global temperature is up 1.3°F since 1900
- 11 of the warmest years on record all occurred in the 15 years
- Summer Arctic sea ice extent is now shrinking 7.4% per decade
- Mountain glaciers and snow cover have declined in both hemispheres

Climate Change and Human Health



Weather Disasters



Allergies



Infectious Disease



Heat Stress



@ PJS Franks

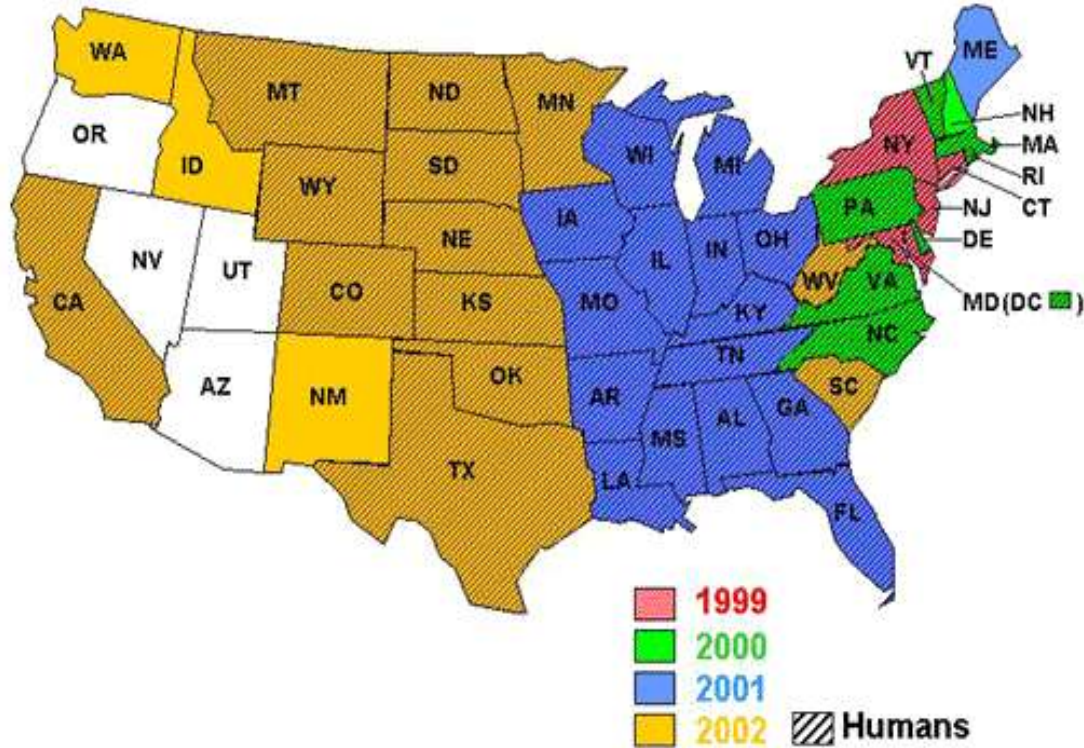
Red Tides



Asthma

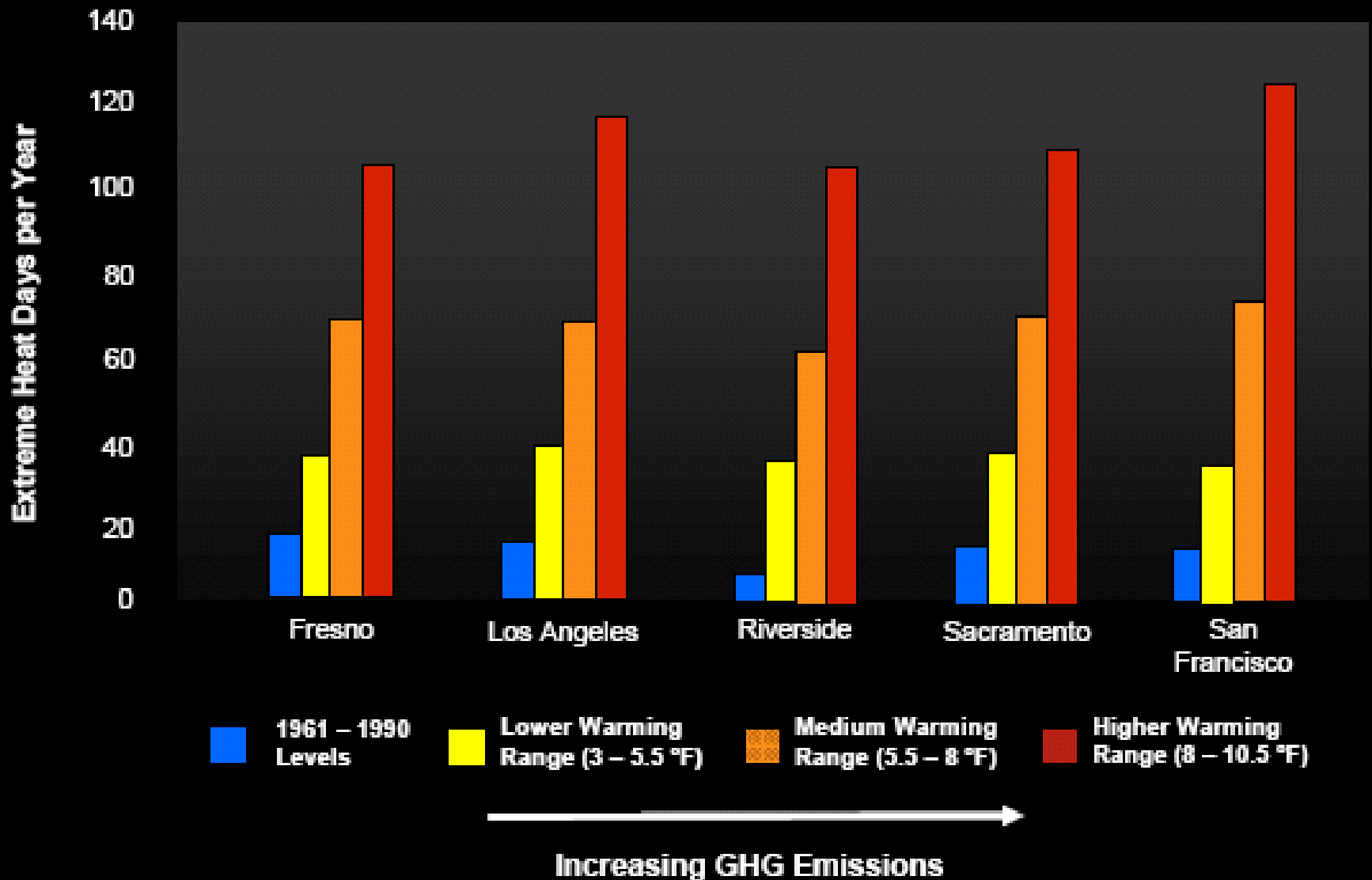
Spread of Disease Vectors

West Nile Virus in the United States, 1999 - 2002



Malaria, West Nile Virus, Lyme Disease and Dengue Fever are predicted to continue to increase with climate destabilization.

Increase in Extreme Heat Days



California Heat Wave 2006

- Daytime temperatures >100 degrees for two weeks
- Record night time highs
- 1 million people without electricity
- Death toll estimates 150-450
- 16,000 excess ER visits and 1,000 excess hospitalizations
- 25,000 cattle and 700,000 chickens died





Environmental Impacts of Healthcare Practices

Dioxin & Incineration: In 1995, medical waste incinerators were the largest source of dioxin and were responsible for 10% of mercury emissions.

Pharmaceutical Waste: At least 250 million pounds of pharmaceutical waste is generated annually from hospitals and long-term care centers.

Indoor Air Quality: Poor air quality has been identified as the most frequent cause of work-related asthma in healthcare workers.

Energy: Healthcare is the second most energy intensive sector in commercial buildings.





NURSES' HEALTH

A Survey on Health &
Chemical Exposures

A first ever national survey of nurses' exposures to chemicals, pharmaceuticals and radiation on the job suggests there are links between serious health problems such as cancer, asthma, miscarriages and children's birth defects and the duration and intensity of these exposures.

The survey included 1,500 nurses from all 50 states.

http://www.ewg.org/sites/nurse_survey/analysis/summary.php

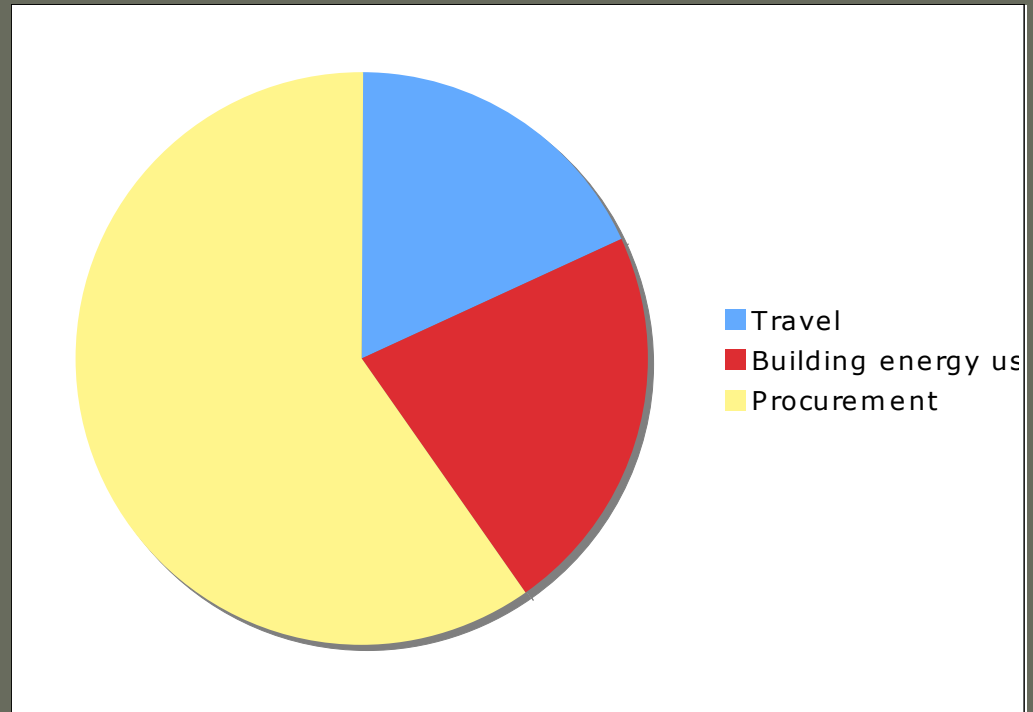
What is the carbon footprint of healthcare?



Travel 18%

Bldg energy 22%

Procurement 59%





The Campaign for Environmentally
Responsible Health Care



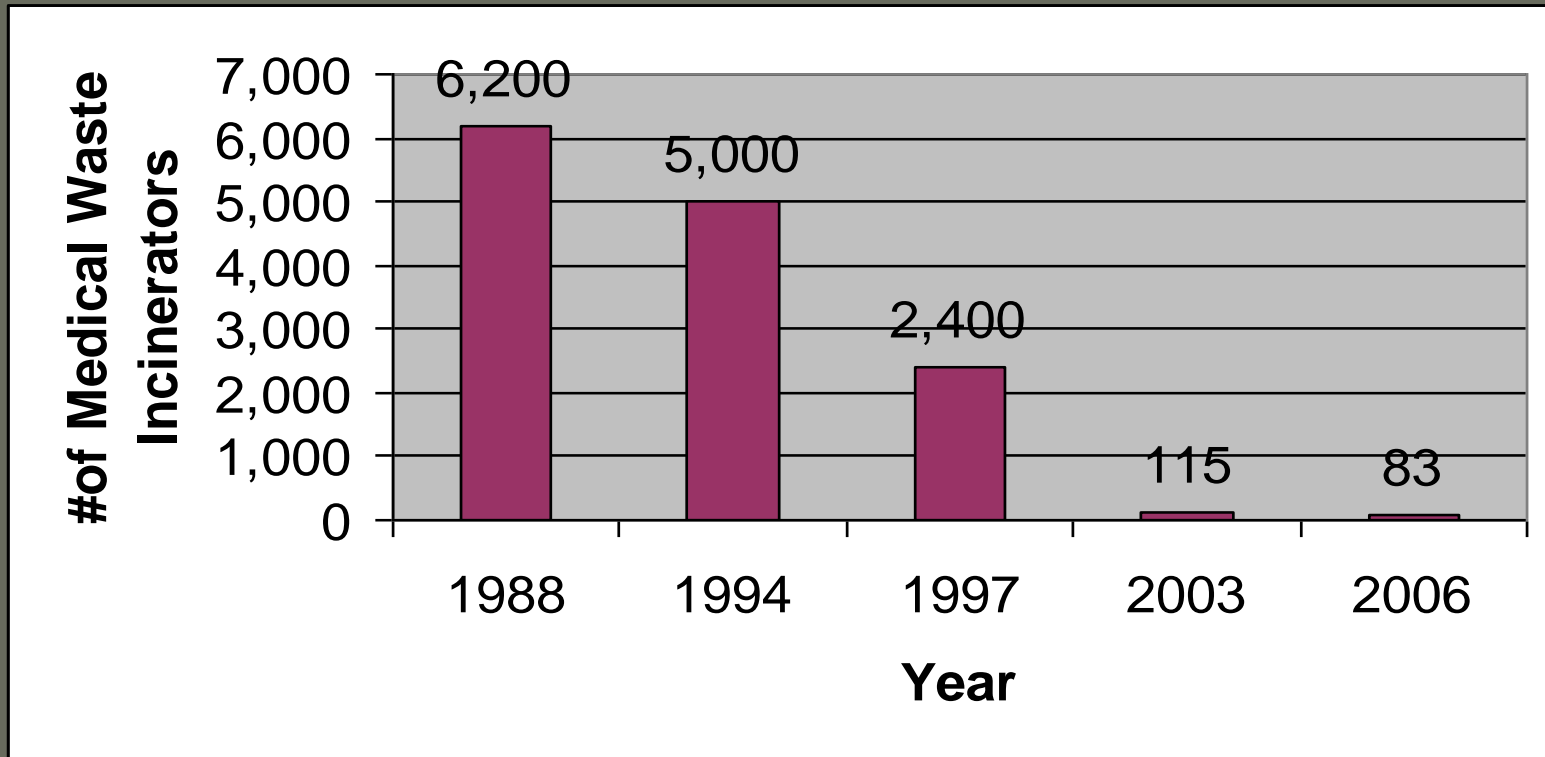
- Making the link between the environment and health
- Evolving the Hippocratic Oath
- Leveraging the purchasing power of health care
- Activating health messengers for broader societal transformation
- Implementing a disease prevention agenda



- Practical assistance in designing, building and operating high performance healing environments
- Programs for Clean Energy, Environmental Purchasing, Sustainable Operations & Green Building
- Eleven staff people
- Members: 1000 hospitals
50 companies



Decline in Medical Waste Incinerators in the U.S.



SOURCES: **1988**: "Hospital Waste Combustion Study-Data Gathering Phase," USEPA, December 1998; **1994**: "Medical Waste Incinerators-Background Information for Proposed Standards and Guidelines: Industry Profile Report for New and Existing Facilities," USEPA, July 1994; **1997**: 40 CFR 60 in the Federal Register, Vol. 62, No. 178, September 15, 1997, page 48350; **2003**: "Status of Current HMIWI Efforts," presentation by Fred L. Porter, USEPA, at the Medical Waste Institute, June 2003; **2006**: USEPA medical waste incinerator inventory, February 17, 2006.



Decline in Mercury Use in Healthcare



5,000 U.S. health care facilities have pledged to go mercury-free; all major pharmacy chains stop selling mercury thermometers

29 states have passed laws restricting mercury-based products

European Union enacted ban in 2007.

Philippines and Argentina first developing countries to pass mercury-free legislation

HCWH and WHO in global partnership to eliminate mercury from healthcare



HCWH – WHO Partnership



Phase mercury out of the health care industry, globally.

Replace mercury in health care with viable, cost-effective alternatives and safely dispose of mercury as it is phased out of the health care system.

Contribute to broader coalition, governmental and inter-governmental efforts to eliminate environmental contamination from mercury, including binding global treaty.

Mercury





Market shift away from use of PVC Medical Devices

2005 – Catholic Healthcare West (CHW) awards a five year \$70 million contract to B. Braun Medical Inc. for the supply of PVC/DEHP-free IV bags, solutions and tubing to the systems 40 hospitals in California, Arizona and Nevada.

2006 - Hospira's new IV container is PVC/DEHP free and weighs 40-60% less than other flexible IV containers, resulting in significant waste reduction.

2007 – Consorta, which buys supplies for 400 hospitals, awards contract to Hospira for PVC-free IV systems.





Progressive Company Chemical Policies

Calls for avoiding the use of carcinogens, mutagens, and reproductive toxins, and persistent bio-accumulative toxic chemicals (PBTs). KP will work to achieve this policy for our own facilities, and we want to broadcast our intent in order to drive innovation in the marketplace.



- Signal market to greener/safer product innovation
- Build momentum using healthcare's opinion leader status



Safer Chemicals Healthy Families

1. **Quick Action** on the Worst Chemicals
(PBT's for example, and extensively studied known bad actors like formaldehyde.)
2. **Information** for All Chemicals
(Comprehensive hazard and exposure information. Make it public to inform the market, and boost public confidence.)
3. **Protection** for the Most Vulnerable
(Health-based standard. Best/latest science and methods. Ensure everyone is included in the protections.)

www.saferchemicals.org



IMAGINE...

Cancer treatment centers built without materials linked to cancer

Pediatric clinics free of chemicals that trigger asthma

Hospitals with healthy food, fresh air, sunlight

...

150 hospital pilots

Basis for LEED for Healthcare

www.gghc.org



Addressing Climate Change in the Health Care Setting

Opportunities for Action

Online at:
www.noharm.org/us



Seven elements of a climate-friendly hospital

1 Energy efficiency

Reduce hospital energy consumption and costs through efficiency and conservation measures.

2 Green building design

Build hospitals that are responsive to local climate conditions and optimized for reduced energy and resource demands.

3 Alternative energy generation

Produce and/or consume clean, renewable energy onsite to ensure reliable and resilient operation.

4 Transportation

Use alternative fuels for hospital vehicle fleets; encourage walking and cycling to the facility; promote staff, patient and community use of public transport; site health-care buildings to minimize the need for staff and patient transportation.

5 Food

Provide sustainably grown local food for staff and patients.

6 Waste

Reduce, re-use, recycle, compost; employ alternatives to waste incineration.

7 Water

Conserve water; avoid bottled water when safe alternatives exist.



HCWH and WHO Climate Partnership



Project Objectives & Strategies

To engage Ministries of Health to develop initiatives for climate adaptation and mitigation by the health sector.

To inspire the health care sector to advocate for climate friendly policies at the national and international levels

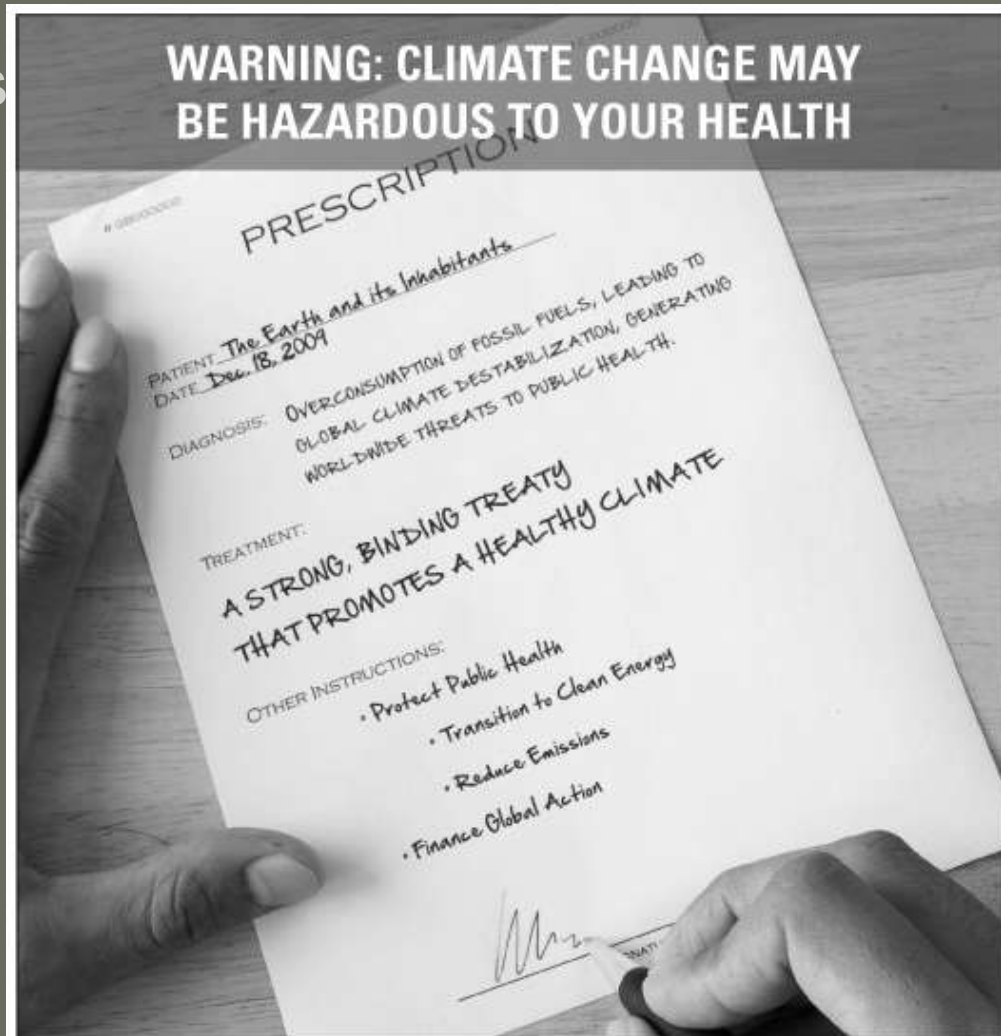
To provide hospitals and health care systems with the tools to assess and improve their energy efficiency and other climate-related practices.

To leverage significant purchasing power of healthcare systems to achieve climate-related environmental improvements in the upstream health care supply and construction chain;

More than 100 Organizational endorsements from orgs representing millions of health professionals from more than 120 countries

Partial list:

American Nurses Association (USA)
 American Public Health Association (USA)
 Associação Médica Brasileira (Brazil)
 BALIFOKUS (Indonesia)
 Brazilian Association on Collective Health - Abrasco (Brazil)
 California Public Health Association – North (USA)
 Canadian Association for Physicians for the Environment (Canada)
 Catholic Healthcare West (USA)
 Comité Pour Le Développement Durable en Santé (France)
 Community Research and Development Centre (Nigeria)
 European Respiratory Society (Europe)
 Family Medicine Academic Society (Armenia)
 Fédération Inter-Environnement Wallonie (Belgium)
 Health and Environment Alliance (Europe)
 Health Care Foundation Nepal (Nepal)
 Health Care Without Harm (Global)
 International Council of Nurses (Global)
 International Society of Doctors for the Environment - ISDE (Global)
 Mauritius Nursing Association (Republic Of Mauritius)
 Medici per l'ambiente (Switzerland)
 Norwegian Nurses Organisation (Norway)
 Physicians for Social Responsibility (USA)
 Public Health Institute (USA)
 Royal College of Physicians (London)
 SDM College of Medical Sciences and Hospital (India)
 Swedish Doctors for the Environment – LfM (Sweden)
 Swedish Medical Association (Sweden)
 Tanzania National Nurses Association (Tanzania)
 The Campaign for Greener Healthcare (UK)
 The Center for Health Design (USA)
 Toxics Link (India)
 World Federation of Public Health Associations (Global association)



As health sector leaders representing the interests of millions of health professionals in more than 120 countries, we call the world's decisionmakers to endorse this Prescription for a Healthy Planet and take decisive action in Copenhagen.

This advertisement is part of a global initiative, co-led by Health Care Without Harm and the Health and Environment Alliance to mobilize the health sector to address the health impacts of climate change.

David Benton
 Chief Executive Officer,
 International Council of
 Nurses

Dr. Michael Gill
 Co-chair, Climate and
 Health Council

Monika Kosinska
 Secretary General,
 European Public Health
 Alliance

Prof. Nikos Sifskas
 President, European
 Respiratory Society

Dr. Paulo M. Buss
 President, World
 Federation of Public
 Health Associations

Genon Jensen
 Executive Director, Health
 and Environment
 Alliance

**Doz. Dr. Hanns
 Moshammer**
 President, International
 Society of Doctors for the
 Environment

Dr. Peter Wilk
 Executive Director,
 Physicians for Social
 Responsibility

Gary Cohen
 President and Founder,
 Health Care Without
 Harm

Graham Jukes
 Chief Executive,
 Chartered Institute of
 Environmental Health

Dr. Michael Wilks
 President, Standing
 Committee of European
 Doctors

www.climateandhealthcare.org





Healthy Food

- Antibiotic-free meat/poultry
- rBGH-free milk
- Organic and other certified foods
- Certified coffees
- Locally-sourcing food
- Fast-food free zone
- Farmers' markets
- Hospital gardens
- Compost & reduction of food waste
- Hospital food policy
- Vending machine use

Menu of Change

Healthy Food in Health Care

A 2008 Survey of Healthy Food in Health Care Pledge Hospitals





Research Agenda

Projects in development:

The business case for greener and safer hospital designs

Evidence-based design evaluation

Effectiveness of greener cleaners

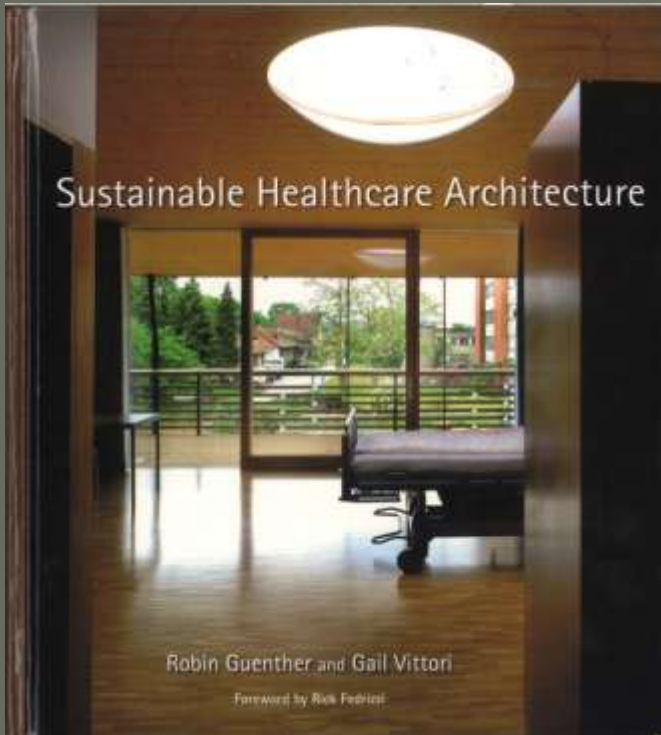
Safer alternatives to vinyl flooring

Research paper on pharmaceutical waste issues

Displacement ventilation in patient rooms



Regenerative Health Care



The hospital can situate itself within the ecology of its community and act as a force for healing.

Beyond 'less harm' – the RESILIENT, adaptable, and transformable hospital of tomorrow

Resource Intensive Buildings

Net Zero Resource Use

Regenerative Buildings

RESILIENCE

A young girl with dark hair, wearing a light-colored sweater, is shown in profile, blowing a dandelion seed head. The background is a bright, sunny outdoor setting with green grass and a blue sky. The dandelion seeds are captured in mid-air, creating a soft, ethereal atmosphere.

21st Century Healthcare: Environmental Health Agenda

- Understand the public health & environment impacts of health care
- Focus on preventing disease
- Transform Markets
 - Green Chemicals
 - Healthy Design
 - Sustainable Agriculture
 - Green Energy
 - Safer Materials
- Engage in Public Policy to Support Healthy People, Healthy Communities & a Healthy Planet

CleanMed Conference

- Baltimore
- May 11-13nd, 2010
- Features environmental leaders in the health care sustainability movement:
 - Manufacturers
 - GPOs
 - Health Care Systems
 - Hospitals
- www.cleanmed.org



Right to Environmental Health and Access to Health Care

