Webinars
Series of scientific webinars that provide a forum for discourse on scientific issues.
Live and On-Demand
Case Conferences
Journal Clubs
Grand Rounds
CE Available

Online Courses
Evidence-based online courses on a variety of children's environmental health topics.
Interactive and Self-Paced
CE Available

Resource Catalog
Fact sheets, journal publications, reports, and other resources for parents, community members, patients and healthcare professionals

Topics included:
Air Quality, Pesticides, Natural Disasters, BPA, Mold, Lead, Mercury

www.pehsu.net/nationalclassroom.html
Climate-Smart Healthcare: Protecting Our Children, Protecting Our Future

Laura Anderko PhD RN, Georgetown University
Gary Cohen, Health Care Without Harm and Practice Greenhealth
Acknowledgements

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Acknowledgements

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Region 3 Pediatric Environmental Health Specialty Unit

http://kidsandenvironment.georgetown.edu
kidsandenvironment@georgetown.edu
Learning Objectives

1. Describe at least one way that climate impacts the health of children.

2. Define climate-smart healthcare.

3. Identify two climate-smart approaches that healthcare systems can adopt to reduce contributions to greenhouse gases.

4. List two core co-benefits of Climate-smart healthcare.
INCREASING MAGNITUDES OF WARMING INCREASE THE LIKELIHOOD OF SEVERE AND PERVERSIVE IMPACTS
Impact of Climate Change on Human Health

- Injuries, fatalities, mental health impacts
- Asthma, cardiovascular disease
- Heat-related illness and death, cardiovascular failure
- Malaria, dengue, encephalitis, hantavirus, Rift Valley fever, Lyme disease, chikungunya, West Nile virus
- Forced migration, civil conflict, mental health impacts
- Respiratory allergies, asthma
- Extreme heat
- Changes in vector ecology
- Extreme weather
- Tropical disease incidence
- Rising CO2 levels
- Increasing allergens
- Rising sea levels
- Water and food supply impacts
- Water quality impacts
- Cholera, cryptosporidiosis, campylobacter, leptospirosis, harmful algal blooms
- Environmental degradation
Impact on Birth Outcomes
Low Birth Weight, Prematurity, Sudden Infant Death
Congenital Zika Syndrome

Congenital Zika syndrome is a pattern of birth defects in babies infected with Zika during pregnancy.

- Small head size (microcephaly)
- Problems with vision and hearing
- Problems with feeding (difficulty swallowing)
- Damage to the brain
- Seizures
- Problems moving limbs and body

Congenital Cataracts
Impact on Children’s Health
Air Quality Impacts
Vector-borne Diseases
Temperature-related illness and death
Extreme weather events

Credit: NASA/ASTER
Northern California wildfires with vegetation in red and charred land in dark gray.
Mental health and well-being
Gary Cohen, Health Care Without Harm and Practice Greenhealth
BE WORRIED. BE VERY WORRIED.

Climate change isn’t some vague future problem—it’s already damaging the planet at an alarming pace. Here’s how it affects you, your kids and their kids as well.

EARTH AT THE TIPPING POINT
HOW IT THREATENS YOUR HEALTH
HOW CHINA & INDIA CAN HELP SAVE THE WORLD—OR DESTROY IT
THE CLIMATE CRUSADERS
Photos: Associated Press, NBC (North Bay fires image)
Annual Global Deaths (Millions)

- Indoor Air Pollution: 4.3 million
- Outdoor Air Pollution: 3.7 million
- HIV/AIDS: 1.5 million
- Tuberculosis: 1.5 million
- Malaria: 0.6 million

Global fossil fuels subsidies: $5.3 trillion

- 6.5% of global GDP
- More than health spending of all the world's governments

More than half of these subsidies are externalities

- Health care costs for treating victims of air pollution
- Lost income from ill health and premature deaths

Ending these subsidies would:

- Prevent 1.6 million premature deaths/year
- Significantly reduce health care costs
- Reduce CO2 emissions by 20%

Source: International Monetary Fund 2015
What is the role of the health sector in addressing climate change?
By moving toward low-carbon health systems, health care can become more climate resilient/prepared, mitigate its own climate footprint, and provide leadership in society.
Health Care’s Environmental Impact

- **Medical Waste:** In 1995 medical waste incineration was the largest source of dioxin emissions in the US, responsible for 10% of mercury air emissions.

- **Toxic Chemicals:** Health care is one of the largest users of toxic chemicals in the US economy.

- **Energy:** Health care is the second most energy intensive sector; U.S. hospitals have more Greenhouse Gas emissions than Britain.

- **Unhealthy Food:** Hundreds of hospitals serve unhealthy food to their patients and employees.

- **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.
Our mission is to transform health care worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability and a leader in the global movement for environmental health and justice.
Decline of Medical Waste Incinerators (U.S.)

Source: EPA
Mercury As Messenger

- Seventeen year global campaign.
- Global treaty signed in October 2013
- A global network of hospitals, health systems and ministries of health.
Building the Climate-Smart Framework

- Partner with World Bank to create climate smart healthcare framework
- Leverage Development agencies to finance climate smart healthcare in global south
- Model country level implementation
- Leverage other banks and donors to adopt climate smart aid strategy
Implementing Global Climate-Smart Purchasing Standards

- Reduce toxicity of chemicals and materials in health products
- Reduce greenhouse gases in the supply chain
- Conserve resources (e.g. water in manufacturing)
- Leverage $5 billion of annual UN system procurement
- Spread through Global Green and Healthy Hospital Network
<table>
<thead>
<tr>
<th>Leadership</th>
<th>Prioritize environmental health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>Substitute harmful chemicals with safer alternatives</td>
</tr>
<tr>
<td>Waste</td>
<td>Reduce, treat and safely dispose of healthcare waste</td>
</tr>
<tr>
<td>Energy</td>
<td>Implement energy efficiency and clean, renewable energy generation</td>
</tr>
<tr>
<td>Water</td>
<td>Reduce hospital water consumption and supply potable water</td>
</tr>
<tr>
<td>Transportation</td>
<td>Improve transportation strategies for patients and staff</td>
</tr>
<tr>
<td>Food</td>
<td>Purchase and serve sustainably grown, healthy food</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>Safely manage and dispose of pharmaceuticals</td>
</tr>
<tr>
<td>Buildings</td>
<td>Support green and healthy hospital design and construction</td>
</tr>
<tr>
<td>Purchasing</td>
<td>Buy safer and more sustainable products and materials</td>
</tr>
</tbody>
</table>
# 2025 Environmental Stewardship Goals for Kaiser Permanente

<table>
<thead>
<tr>
<th>Goal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Climate Action</strong></td>
<td>Become “carbon net positive” by buying enough clean energy and carbon offsets to remove more greenhouse gases from the atmosphere than we emit.</td>
</tr>
<tr>
<td><strong>Sustainable Food</strong></td>
<td>Buy all of our food locally or from farms and producers that use sustainable practices, including using antibiotics responsibly.</td>
</tr>
<tr>
<td><strong>Waste Reduction</strong></td>
<td>Recycle, reuse or compost 100% of our non-hazardous waste.</td>
</tr>
<tr>
<td><strong>Water Conservation</strong></td>
<td>Reduce the amount of water we use by 25% per square foot of buildings.</td>
</tr>
<tr>
<td><strong>Safer Products</strong></td>
<td>Increase our purchase of products and materials that meet environmental standards to 50%.</td>
</tr>
<tr>
<td><strong>Managing Sustainability</strong></td>
<td>Meet international standards for environmental management at all of our hospitals.</td>
</tr>
<tr>
<td><strong>Collaboration</strong></td>
<td>Pursue new collaborations to reduce environmental risks to foodsheds, watersheds and air basins supplying our communities.</td>
</tr>
</tbody>
</table>
Gundersen Health System: First energy independent system in America

Gundersen’s Road to Energy Independence
Percent Fossil Fuel Energy Use Offset

![Graph showing Gundersen’s progress towards energy independence with key milestones and timelines.]

- **Start**
- **Conservation**
- **Biogas**
- **Wind**
- **Biomass Boiler**
- **New Hospital Load**
- **Geothermal**
- **Conservation**

Estimated Implementation Date:

Wind energy purchase part of Partners’ commitment to becoming net carbon positive by 2025.

Will reduce annual greenhouse gas emissions by 110 million pounds.

Surplus energy will be available to the communities the system serves

$54 million in economic benefit to the region
Less Meat, Better Meat

Meat and Poultry Raised without Routine Antibiotics
Percentage of facilities that purchase some portion of their meat and poultry produced without the use of routine non-therapeutic antibiotics.

54%

In 2015, hospitals purchased a median of 32 percent of their meat and poultry raised without the use of routine non-therapeutic antibiotics.
Multi-sector community-based partnership initiated by Emerald Cities Collaborative, Health Care Without Harm, and Democracy Collaborative

Launched 2015

**1st Initiative: MyCultiver**
Regional food systems project – led by Food Services Partners

**WHAT:** Part food hub, part aquaponic greenhouse, part meal production and distribution center

**WHERE:** Richmond, CA (ESOP)

**WHO:** Anchors for Resilient Communities (ARC)

**JOBS:**
Phase 1 – Hire 20 local residents for the new Richmond facility by March 2016
Phase 2 – Hire additional 50-70 jobs by 2017 calendar year
16 medical societies including:

- American College of Physicians (ACP)
- American Academy of Family Physicians (AAFP)
- American Academy of Pediatrics (AAP)
Incorporating Health into Energy Policy

Table A.1. Summary of Measures by Health Criteria

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>Healthy Food</th>
<th>Physical Activity, Walkability, Bikeability</th>
<th>Outdoor Air Quality</th>
<th>Indoor Air Quality</th>
<th>Improved Access</th>
<th>Green Space</th>
<th>Green Creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction Measures</td>
<td>LUT 5.1</td>
<td>EE 4.1</td>
<td>EE 1.1</td>
<td>LUT 1.1</td>
<td>EE 1.2</td>
<td>EE 4.1</td>
<td>EE 5.3</td>
</tr>
<tr>
<td>LUT 5.2</td>
<td>EE 4.5</td>
<td>EE 1.2</td>
<td>LUT 1.4</td>
<td>EE 5.1</td>
<td>EE 1.3</td>
<td>EE 4.5</td>
<td>EE 1.9</td>
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<tr>
<td>LUT 5.3</td>
<td>LUT 1.1</td>
<td>EE 1.3</td>
<td>LUT 1.5</td>
<td>LUT 5.1</td>
<td>LUT 1.6</td>
<td>EE 1.4</td>
<td>LUT 5.3</td>
</tr>
<tr>
<td>LUT 5.4</td>
<td>LUT 1.2</td>
<td>LUT 1.4</td>
<td>LUT 1.6</td>
<td>LUT 5.2</td>
<td>LUT 1.7</td>
<td>EE 1.9</td>
<td>LUT 5.3</td>
</tr>
</tbody>
</table>

Business | Nation & World

Oakland votes to ban coal shipments, citing health risks

Originally published June 28, 2016 at 1:57 am | Updated June 28, 2016 at 1:59 am

Transitioning away from fossil fuels to a low carbon economy:

- Fuels a clean energy/green chemistry revolution that creates millions of jobs
- Reduces health impacts from fossil fuels/toxic chemicals
- Lowers health care costs
- Helps solve the climate crisis
Thank you!