Accelerating the Transition to Climate-Smart Health Care

Health Leaders Fellowship Program
Ecology Center
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U.S. Director of Climate and Health
Health Care Without Harm | Practice Greenhealth
As the only sector with healing as its mission, health care has an opportunity to use its ethical, economic, and political influence to create ecologically sustainable, equitable, and healthy communities.
Health Care Without Harm

1996

Health Care Without Harm works to transform health care worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability and becomes a leader in the global movement for environmental health and justice.

36,000

Our reach includes 36,000 hospitals and health centers in 60 countries worldwide.
HCWH Network – Sister Organizations

**MEMBERSHIP ARM**
The leading nonprofit membership and networking organization for sustainable health care, Practice Greenhealth delivers environmental solutions to more than 1,100 members, lending support to create better, safer, greener workplaces and communities.

**WORLDWIDE NETWORK**
Global Green and Healthy Hospitals is a worldwide network of hospitals, health systems, and health organizations aimed toward building a global community committed to sustainable health care and healthy communities.

**GREEN PURCHASING**
Created by Practice Greenhealth, Health Care Without Harm, and leading health systems committed to sustainability, Greenhealth Exchange is a purchasing cooperative that makes buying products and services that are good for people, the planet, and the bottom line much easier.
Our approach | By embedding sustainability into health care operations, we drive the health care sector from within to lead broader societal change.

| Innovate | We identify and pilot opportunities for health care to implement economical, science-based solutions to environmental health problems. |
| Scale | We educate, build implementation tools, train health care professionals, and scale solutions across our national and global health care networks. |
| Transform | We aggregate the influence and purchasing power of health care to drive the marketplace toward sustainability and policies that will create worldwide change. |
Health Care Without Harm Video: Do No Harm

Climate change is a medical emergency.
“We have a moral mandate to respond, and the power to be a tipping point towards a better future.”
Climate Change, Health and Health Care
Climate change and our health | Climate change causes widespread harm to our health.
". . . Our racial inequality crisis is intertwined with our climate crisis. If we don’t work on both, we will succeed at neither."

- Ayana Elizabeth Johnson
How Our Health is Harmed by Climate Change: Impacts Differ by Geographic Region

This graphic illustrates key impacts of climate change on health and is based on reports from the U.S. Global Change Research Program. For more information, visit www.globalchange.gov.
Observed and Projected Temperature Change

Michigan

- Orange: Observations
- Gray: Modeled Historical
- Red: Higher Emissions
- Green: Lower Emissions

Temperature Change (°F)

Year

1900 1925 1950 1975 2000 2025 2050 2075 2100
Projected Change in Number of Days Over 90°F
Period: 2041-2070 | Higher Emissions: A2

Data Source:
NOAA NCDC/CICS-NC

Change in Number of Days Per Year

0 10 20 30 40 50 60 70 80 90
Heat Wave Days Projected to Increase

More than 270,000 people living in Michigan are especially vulnerable to extreme heat.

*Especially vulnerable people are under 5 years old or 65 and older, living in poverty.*
Projected Change in Number of Heavy Precipitation Days
Period: 2041-2070 | Higher Emissions: A2

GLISA
Data Source:
NOAA NCDC/ICS-NC

Change In Number of Days Per Year
0.0 0.5 1.0 1.5 2.0
GREAT LAKES WARMING
LAKE MICHIGAN

Average annual surface water temperature since 1995 (°F)
Source: NOAA's Great Lakes Environmental Research Laboratory
FIGURE 2. COUNTIES IN MICHIGAN WHERE BLACKLEGGED TICKS WERE REPORTED (FEWER THAN SIX TICKS OF A SINGLE LIFE STAGE) OR ESTABLISHED (SIX OR MORE TICKS OR TWO LIFE STAGES) IN 1996 AND 2015.

Figure adapted from Eisen et al., Journal of Medical Entomology 53 (2016).
U.S. 2019 Billion-Dollar Weather and Climate Disasters

- Missouri River and North Central Flooding: March 14–31
- Central Severe Weather: May 16–18
- Southeast, Ohio Valley and Northeast Severe Weather: February 23–25
- Rockies, Central and Northeast Tornadoes and Severe Weather: May 26–29
- Hurricane Dorian: August 28–September 6
- Mississippi River, Midwest and Southern Flooding: March 15–July 31
- Southern and Eastern Tornadoes and Severe Weather: April 13–14
- California and Alaskan Wildfires: Summer–Fall 2019
- Arkansas River Flooding: May 20–June 14
- Texas Hail Storm: March 22–24
- Texas Tornadoes and Central Severe Weather: October 20
- Tropical Storm Imelda: September 17–21

This map denotes the approximate location for each of the 14 separate billion-dollar weather and climate disasters that impacted the United States during 2019.
On the front line of climate change
Health care’s climate footprint is equivalent to 4.4% of global net emissions

**THIS PAPER**
- Establishes the first-ever global estimate of health care’s climate footprint.
- Is based on full global coverage of spending data, together with detailed information from 43 countries.
- Identifies key sources of health care emissions while allowing for a comparison between nations and among many regions of the world.
- Makes a set of recommendations to align global health goals with global climate goals.
### Health Care’s Climate Footprint

<table>
<thead>
<tr>
<th>Rank</th>
<th>Health care country/region emissions by ranking</th>
<th>Total country/region emissions by ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>China</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>United States</td>
</tr>
<tr>
<td>3</td>
<td>European Union</td>
<td>European Union</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>India</td>
</tr>
<tr>
<td>5</td>
<td>Russia</td>
<td>Russia</td>
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<tr>
<td>6</td>
<td>Brazil</td>
<td>Japan</td>
</tr>
<tr>
<td>7</td>
<td>India</td>
<td>Brazil</td>
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<tr>
<td>8</td>
<td>South Korea</td>
<td>Canada</td>
</tr>
<tr>
<td>9</td>
<td>Canada</td>
<td>South Korea</td>
</tr>
<tr>
<td>10</td>
<td>Australia</td>
<td>Mexico</td>
</tr>
<tr>
<td></td>
<td>Mexico (11)</td>
<td>Australia (17)</td>
</tr>
</tbody>
</table>

Table 1: Top ten health care carbon emitters compared to total top ten emitters

![Diagram showing top ten emitters as percentage of global health care footprint.]

Figure 8: Top ten emitters as percentage of global health care footprint.
Business as usual scenario could triple health care’s emissions

Global health spending is rapidly growing at the same time that the world is committed to reducing greenhouse gas emissions.

A business as usual scenario could triple health care’s already significant contribution to emissions.
Climate-Smart Health Care
We envision health care as a climate-smart, innovative sector that protects public health from climate change and accelerates the transition to a low-carbon economy while improving community resilience, health equity, and access to care.
Climate-Smart Health Care

LEADERSHIP
Leverage the moral, political, and economic influence of the health care sector to change policy and markets.

Healthy people, healthy planet

MITIGATION
Reduce the carbon footprint of hospital operations.

RESILIENCE
Prepare hospital facilities for climate impacts and build community health and resilience.
U.S. Health Care Climate Council Members
Health Care Climate Council
Health system leaders driving the transformation to climate-smart health care

500 hospitals
75 million patients served annually
1 million employees
Over $215 billion in annual operating revenue
36 states
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Healthy people, healthy planet
Health care contributes to climate change

10% of U.S. greenhouse gas emissions. Hospitals contribute one-third of those emissions.

- Energy use for heating, cooling, lighting, & water use
- Waste anesthetic gases
- Meat procurement & food transport
- Waste hauling, treatment, & landfill gases
- Fleet vehicles
- Employee commutes
- Supplies & materials
- Employee commutes

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Join (or start!) a green team for large-scale planning efforts

Carpool, bike, walk, or take public transport

Choose local, sustainable foods & reduce food waste

Reduce OR energy use & waste

Include climate risks in emergency preparedness plans

Educate patients & colleagues

Reduce, reuse, recycle

Educate your community

Plant Trees

Carpool, bike, walk, or take public transport

How to take action

Reduce, reuse, recycle
The Health Care Climate Challenge mobilizes health care institutions around the world to protect public health from climate change.

200 participants representing 22,000 health care facilities in 33 countries
<table>
<thead>
<tr>
<th>Health System</th>
<th>GHG Reduction Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocate Aurora Health</td>
<td>100% renewable electricity by 2030</td>
</tr>
<tr>
<td>Boston Medical Center</td>
<td>25% by 2020, 100% by 2050</td>
</tr>
<tr>
<td>Cleveland Clinic</td>
<td>Carbon neutral by 2027</td>
</tr>
<tr>
<td>Dartmouth-Hitchcock Health</td>
<td>25% by 2020</td>
</tr>
<tr>
<td>Dignity Health</td>
<td>40% by 2020</td>
</tr>
<tr>
<td>Gundersen Health</td>
<td>Energy independence - 2014</td>
</tr>
<tr>
<td>Kaiser Permanente</td>
<td>Carbon net positive by 2025</td>
</tr>
<tr>
<td>Memorial Sloan-Kettering</td>
<td>50% by 2025</td>
</tr>
<tr>
<td>Montefiore Health System</td>
<td>50% by 2025</td>
</tr>
<tr>
<td>NYU Langone</td>
<td>50% by 2025</td>
</tr>
<tr>
<td>Ohio State Wexner Medical Center</td>
<td>Carbon neutral by 2050</td>
</tr>
<tr>
<td>Partners HealthCare</td>
<td>25% by 2020, 100% by 2050</td>
</tr>
<tr>
<td>Providence Health</td>
<td>Carbon negative by 2030</td>
</tr>
<tr>
<td>Rochester Regional Health</td>
<td>100% renewable electricity by 2025</td>
</tr>
<tr>
<td>Sutter Health</td>
<td>50% by 2025, 80% by 2030</td>
</tr>
<tr>
<td>University of California Health</td>
<td>Carbon neutral by 2025</td>
</tr>
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IS OUR HEALTHCARE INFRASTRUCTURE RESILIENT TO EXTREME WEATHER?
Superstorm Sandy and NYU Langone
A Lesson in Preparedness: Texas Medical Center

Hurricane Allison in 2001
→ Not prepared

Hurricane Harvey in 2017
→ Open for business
HCWH Resilience Summits

Resilience 2.0

Resilient Cleveland
Resilient Cleveland: Evergreen Cooperatives and Climate Neighborhood Ambassadors

Evergreen Energy Solutions  Green City Growers  Evergreen Cooperative Laundry

Climate Ambassadors: street-level environmental activism

Climate Ambassador  Slavic Village  Practice Greenhealth
Anchors in Resilient Communities (ARC)

A multi-stakeholder initiative that addresses the social determinants of health by leveraging the assets and capacities of Bay Area anchor institutions and community-based partners, with a focus on expanding community wealth and ownership, improving health outcomes, and strengthening the capacity of communities of color and low and moderate-income residents to be resilient in the face of climate and economic disruption.
Localizing the Food Economy
Procurement and Investment: A Powerful Combination

1) Aggregate demand for healthy food products
2) Increase community access to healthy foods
3) Create jobs for community residents
4) Increase markets for local producers
Food Processing Center

• 56,000 sq. ft - Food processing, Meal Preparation & Food Business incubator

• 200,000 healthy, locally-sourced, prepared meals for hospitals, school districts, senior centers, military personnel

• Community participation from the start – cooperative ownership model, job training, collaboration with existing food system infrastructure and production

• Starting with 20+ union employees – growing to 250+ employees

• Opening in Fall 2020
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April 19, 2019

Dear Senator,

Clean air is fundamental for good health, and the Clean Air Act promises all Americans air that is safe to breathe. The overlooked public health and environmental organizations urge you to oppose S. 381, the so-called “Doe Standards Implementation Act of 2017.” A vote in favor of this legislation would be the “toxics twins,” as it delays lifesaving standards to reduce ozone pollution or smog, and permanently weaken the Clean Air Act.

SOLVING THE CLIMATE CRISIS

The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America

Majority Staff Report

U.S. CALL TO ACTION
ON CLIMATE, HEALTH, AND EQUITY:
A POLICY ACTION AGENDA

2019

Climate change is one of the greatest threats to health America has ever faced—it is a true public health emergency. The health, safety, and wellbeing of millions of people in the U.S. have already been harmed by human-caused climate change, and health risks in the future are dire without urgent action to fight climate change. As former Surgeon Generals Richard Carmona and David Satcher said, “We’re all at risk and our leaders must lead on global warming. Now.” But the health crisis caused by climate change also presents a major health opportunity. Building healthy energy, transportation, land use, and agriculture systems now will deliver immediate and sustained health benefits to all and reduce future health risks from climate change.
State Policy Advocacy

“Transitioning our state quickly away from fossil fuels and toward renewable energy sources will not only help combat climate change, but it will also have immediate benefits in improving the quality of our air and our health.”

“Our stories are our patients’ stories: Ohio doctors know that to act on climate is to protect human health.”
Health systems committed to bring health care’s expertise, experience, and trusted voice to education, outreach, and the legislative and regulatory process for climate-smart policies related to energy, transportation, food, waste, and infrastructure and community resilience.
Join our Physician Network

As trusted leaders, physicians have a unique opportunity to advance health care sustainability and to influence public policy to protect the health of their patients.

Health Care Without Harm’s Physician Network supports emerging and established physician leaders in leveraging their influence and expertise to advance the growing health care sustainability movement and to create climate-smart health care. The Physician Network brings physicians together to share best practices and to inspire one another in advocating for a sustainable and healthy future.

While physicians take an oath to “do no harm,” the enormous environmental impact of health care operations in the United States is contributing to the burden of disease and harming the health of patients and communities. The health care sector produces an estimated 10 percent of U.S. greenhouse gas emissions, and hospitals consume more than 8 percent of the total energy use of all commercial buildings in the United States.

Leading hospitals have been working to reduce their environmental impact, and physicians can be powerful champions to support the transition to environmentally sustainable health care both inside and outside of their health care settings. As an article in the Annals of the American College of Physicians notes, “physicians and health organizations have obligations to use their influence, expertise, and resources to protect health, which includes promoting sustainability.”

Get involved
- Join our network.
- Join our Facebook group.
- Join a network with other physicians and sustainability leaders at GreenMed.
- Tell us about your sustainability work.

Physician Network goals

A campaign to engage 50,000 health professionals around climate change and health

NursesClimateChallenge.org
CLIMATE SUMMIT

WHAT IF IT'S A BIG HOAX AND WE CREATE A BETTER WORLD FOR NOTHING?

ENERGY INDEPENDENCE
• PRESERVE RAINFORESTS
• SUSTAINABILITY
• GREEN JOBS
• LIVABLE CITIES
• RENEWABLES
• CLEAN WATER, AIR
• HEALTHY CHILDREN
• ETC. ETC.
Thank you for listening

Questions?

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