



# Accelerating the Transition to Climate-Smart Health Care

Georgia Clinicians for Climate Action  
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Amy Collins, MD  
Senior Clinical Advisor for  
Physician Engagement

Jessica Wolff, MBA, MSN  
U.S. Director  
Climate and Health



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.

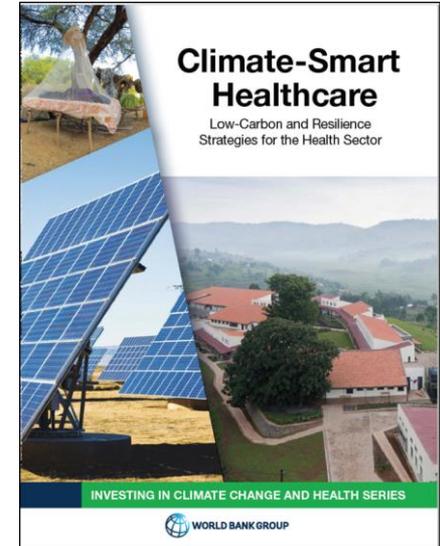
# Health Care Without Harm

# 1996

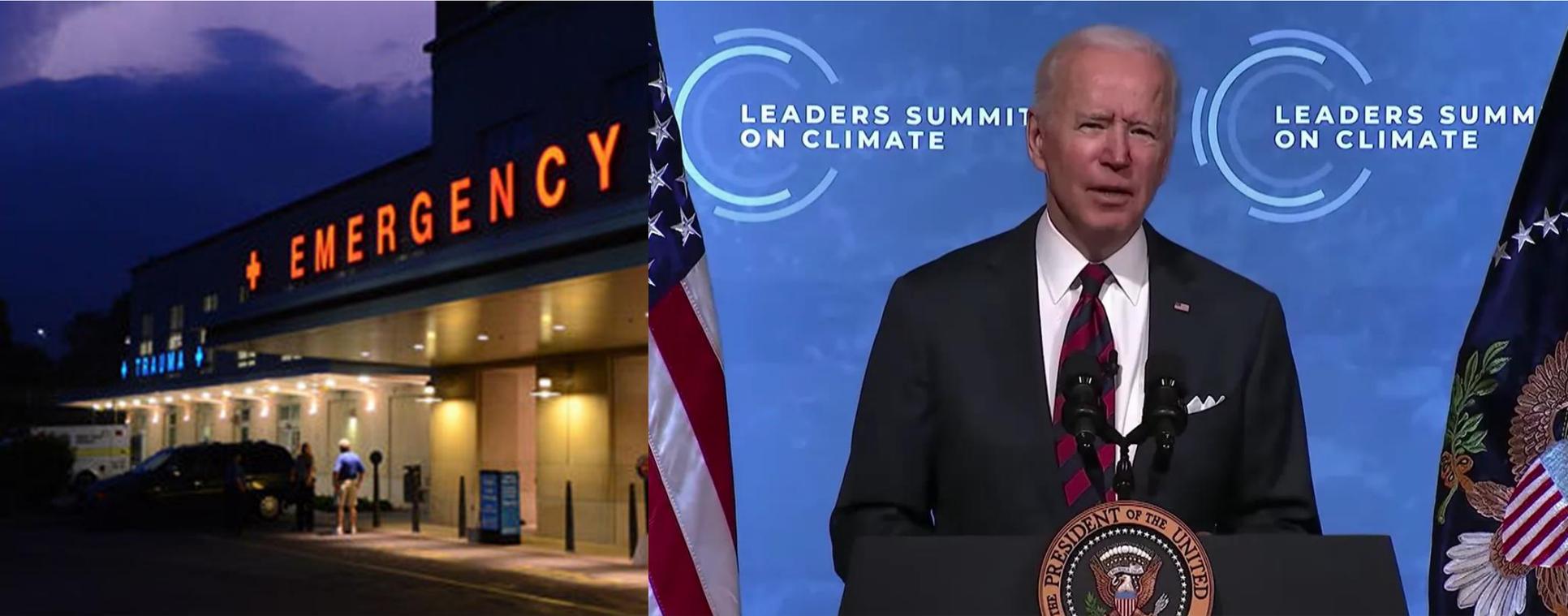
Health Care Without Harm works to transform health care worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability and becomes a leader in the global movement for environmental health and justice.

# 43,000

Our reach includes 43,000 hospitals and health centers in 72 countries worldwide.



United States committed to cut its greenhouse gas emissions by 50 to 52 percent relative to 2005 levels by 2030



## MORE DANGER DAYS

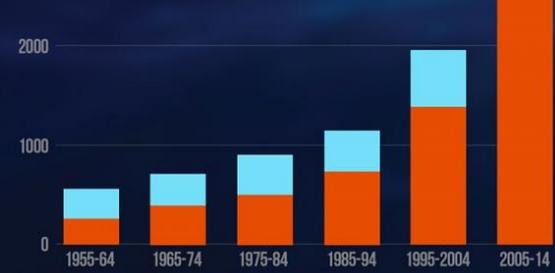
HEAT INDEX ABOVE 105°



Annual average danger day count based on current emissions trends. Projected length and frequency: Climate Central analysis of CMIP5 model ensemble mean.

CLIMATE CENTRAL

## NATURAL + HUMAN-CAUSED COASTAL FLOOD DAYS United States



Orange shows human-caused global sea level rise effects. Floods tallied across 27 sites, must top NWS 'nuisance' thresholds. Source: Kopp et al. 2016 (PNAS), NOAA, & Climate Central.

CLIMATE CENTRAL

ATLANTA

## MOSQUITO SEASON GROWING

THEN  
**140**  
DAYS

On average per year  
1980-1989

NOW  
**157**  
DAYS

On average per year  
since 2006

Source: Yamane and Eklair (2011), NICEL, National Institutes of Health, Deyoung Data, Oak Ridge National Laboratory

CLIMATE CENTRAL



## GEORGIA WILDFIRES

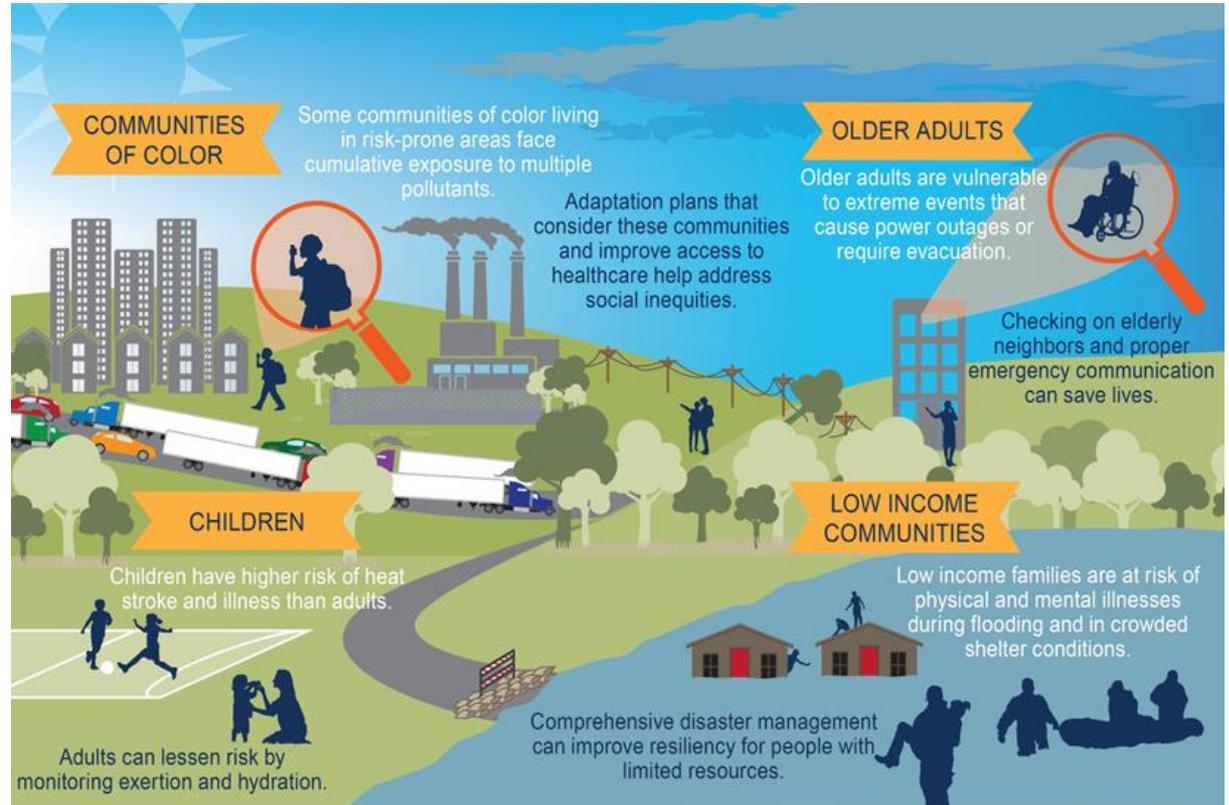
More than 4.6 million people living in Georgia, or 48 percent of the state's population, are living in areas at elevated risk of wildfire.

<https://statesatrisk.org/>

CLIMATE CENTRAL

*"... 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



4th National Climate Assessment

# On the front line of climate change





One of the most important synergies between COVID-19 and the climate crisis is the centrality of the health sector at the epicenter of the response.



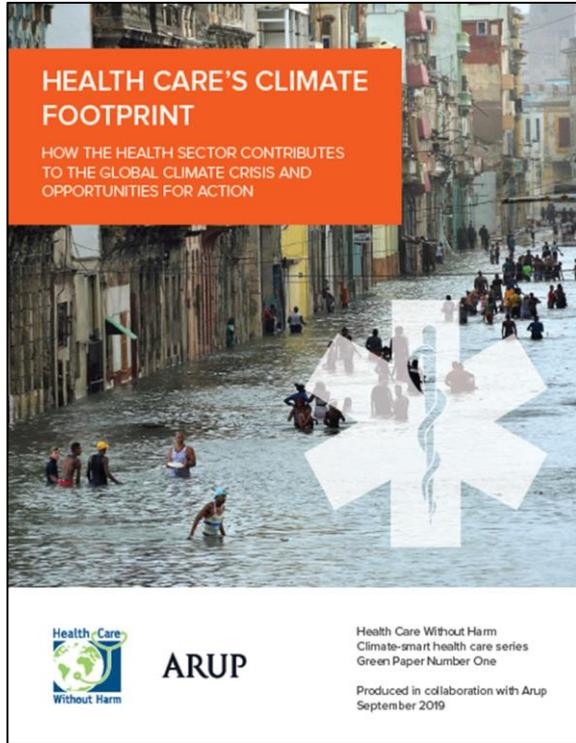
# Climate-Smart Health Care



# Climate-Smart Health Care



# Health care's climate footprint is equivalent to 4.4% of global emissions



<https://noharm-uscanada.org/ClimateFootprintReport>

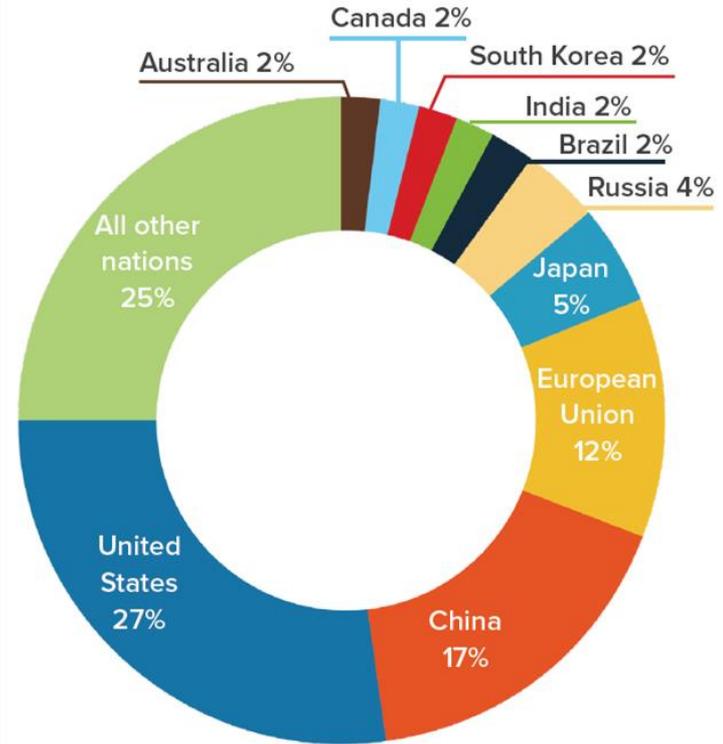


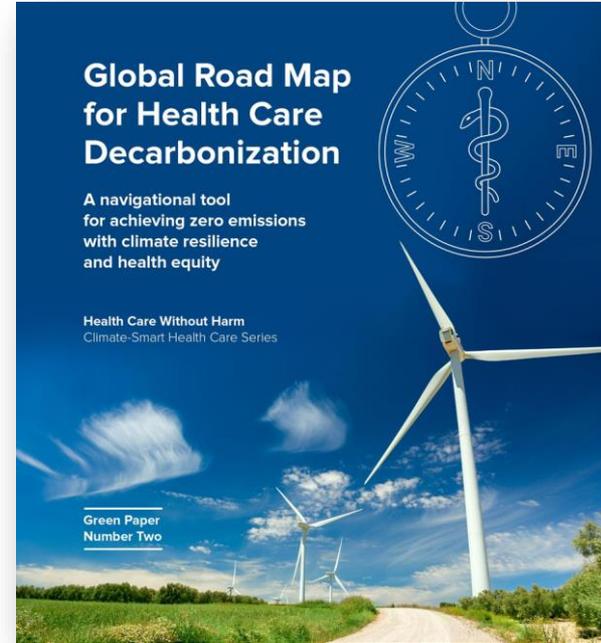
Figure 8: Top ten emitters as percentage of global health care footprint.

# Global Road Map for Health Care Decarbonization

Charting a global health care course to zero emissions by 2050

## Seven high impact actions

1. Power health care with 100% clean, renewable energy
2. Invest in zero emissions buildings and infrastructure
3. Transition to zero emissions, sustainable travel and transport
4. Provide healthy, sustainable food
5. Incentivize and produce low-carbon pharmaceuticals
6. Implement circular health care and sustainable health care management
7. Establish greater health system effectiveness



<https://healthcareclimateaction.org/roadmap>

# Health care contributes to climate change

8.5% of U.S. greenhouse gas emissions. Hospitals contribute one-third of those emissions.

Energy use for heating, cooling, lighting, & water use

Waste anesthetic gases

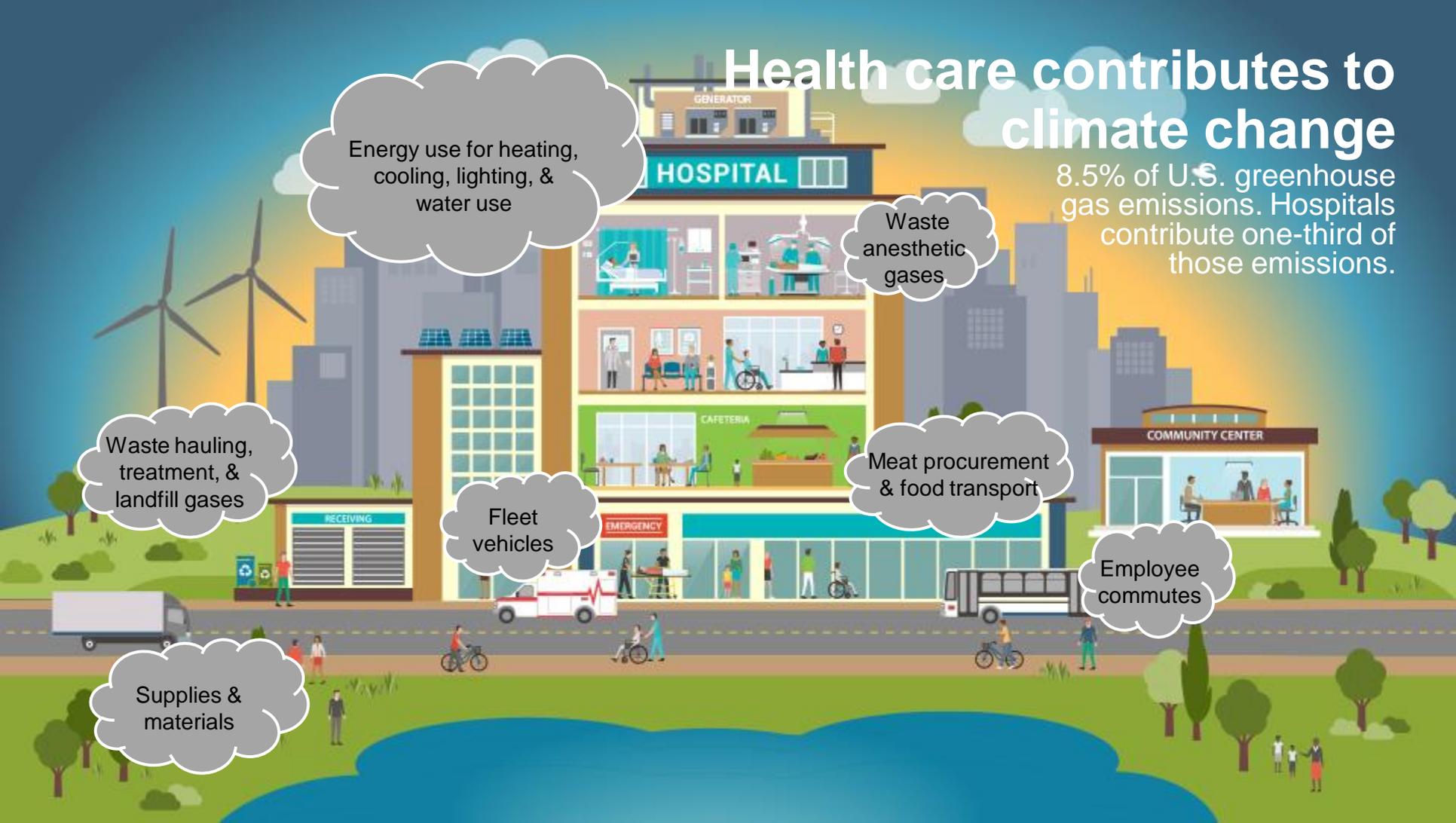
Waste hauling, treatment, & landfill gases

Fleet vehicles

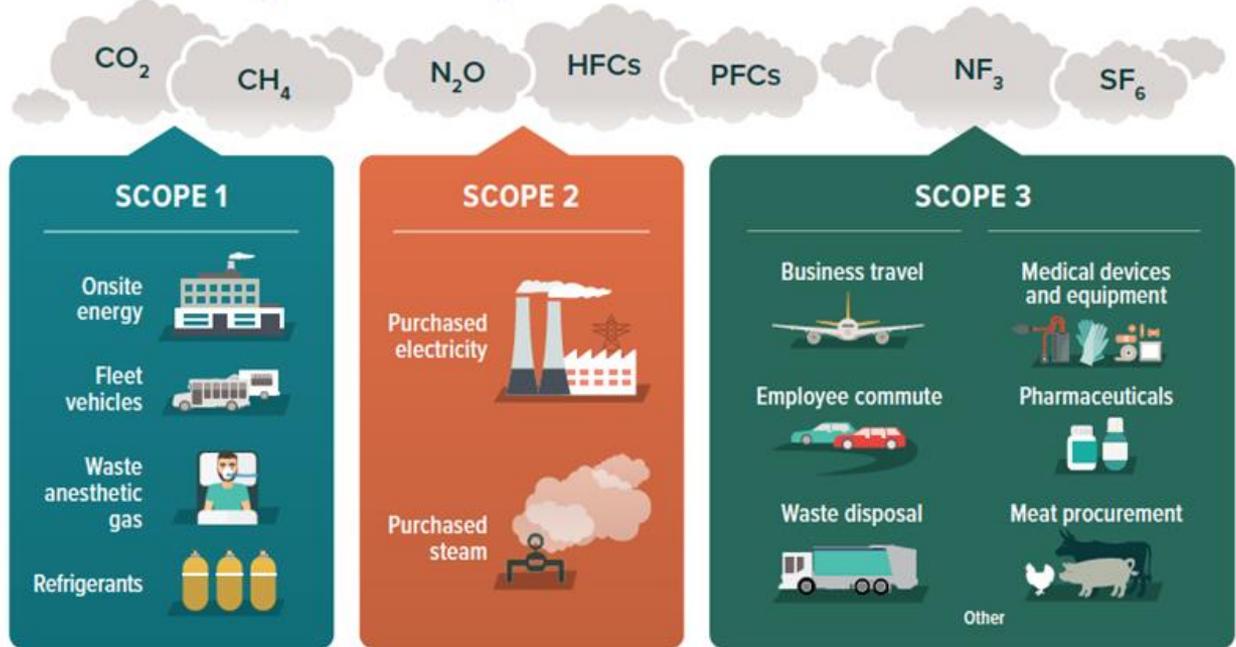
Meat procurement & food transport

Employee commutes

Supplies & materials



## Common greenhouse gas emission sources in health care



Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF<sub>3</sub>), and sulphur hexafluoride (SF<sub>6</sub>)

Scope 3 Other: These are the most common emissions for health care, but there are other relevant categories in Scope 3. To review all 15 categories covered in Scope 3, visit the [GHG Protocol Scope 3 Guidance](#).

Source: Practice Greenhealth

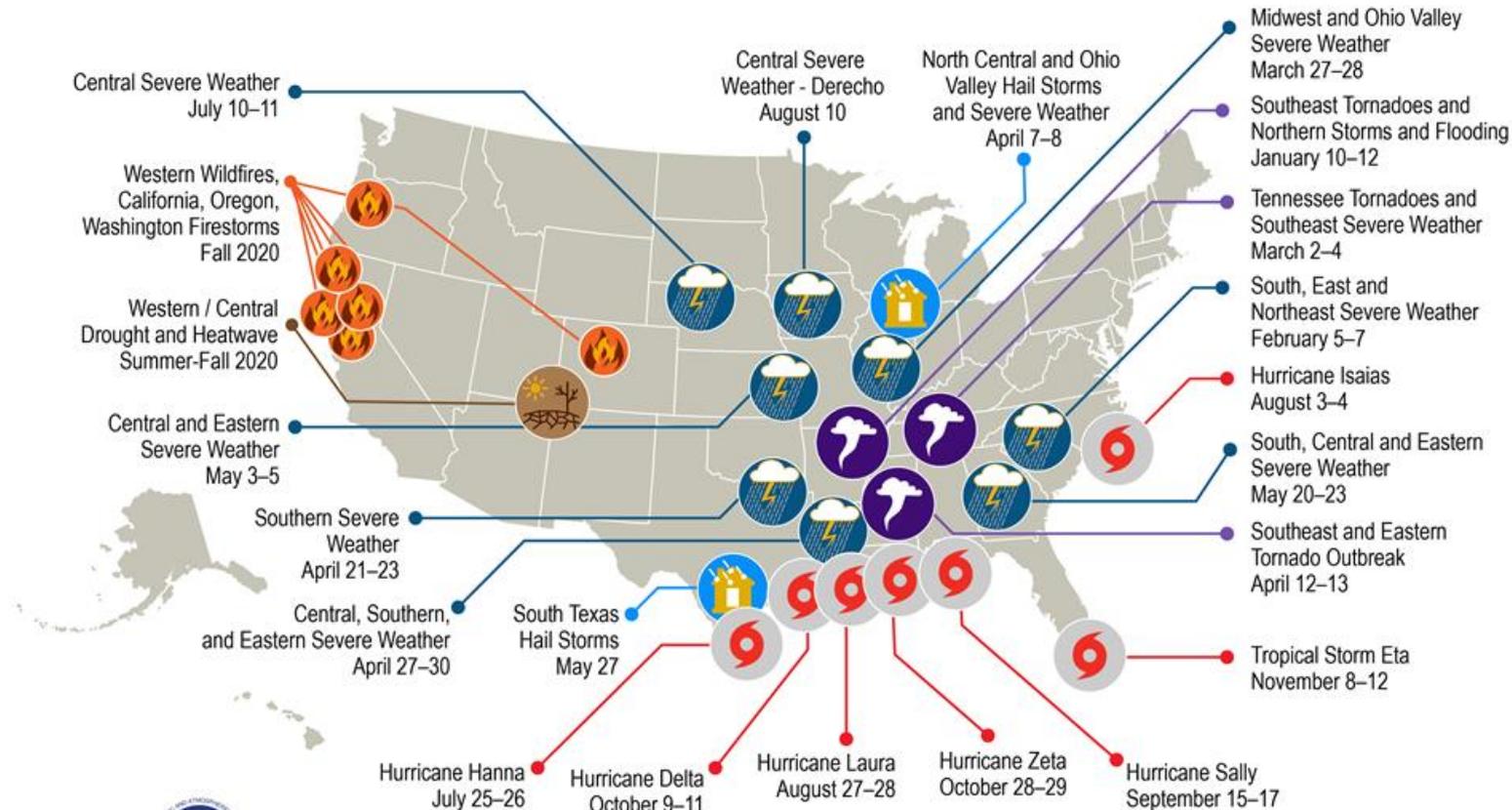
82% of health care emissions in the U.S. are Scope 3\*  
(Note: This is a sector-wide statistic, not individual hospitals)

[\\*Health Care Pollution and Public Health Damage in the United States: An Update](#)

# Climate-Smart Health Care



# U.S. 2020 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 22 separate billion-dollar weather and climate disasters that impacted the United States during 2020.



ARE OUR HEALTH CARE FACILITIES AND COMMUNITIES RESILIENT TO EXTREME WEATHER?



# A Lesson in Preparedness: Texas Medical Center

## 2001: Tropical Storm Allison

☐ Not prepared

## 2017: Hurricane Harvey

☐ Open for business

<https://noharm-uscanada.org/safehaven>

### Texas Medical Center: Learning from the past

#### 1. The event: Devastation during Hurricane Allison

- 1,000-year historic flood with 3 feet of rain
- 22 dead, \$5B in damages to county
- Widespread systems failure and property damage at TMC
- Lost \$2B in TMC research (e.g., 60K tumor samples, 30K research animals)

#### 3. The rebuild: \$50M in infrastructure upgrades

- Hazard Mitigation Plan
- Flood Management Group
- Sustainable design measures
- Engagement of stakeholders
- On-site utility plant
- Flood alert system

#### 5. The focus now

- Mitigating future business continuity risks by sharing lessons learned with local authorities
- Advocating for improved regional resilience measures like elevating streets and improving flood protection



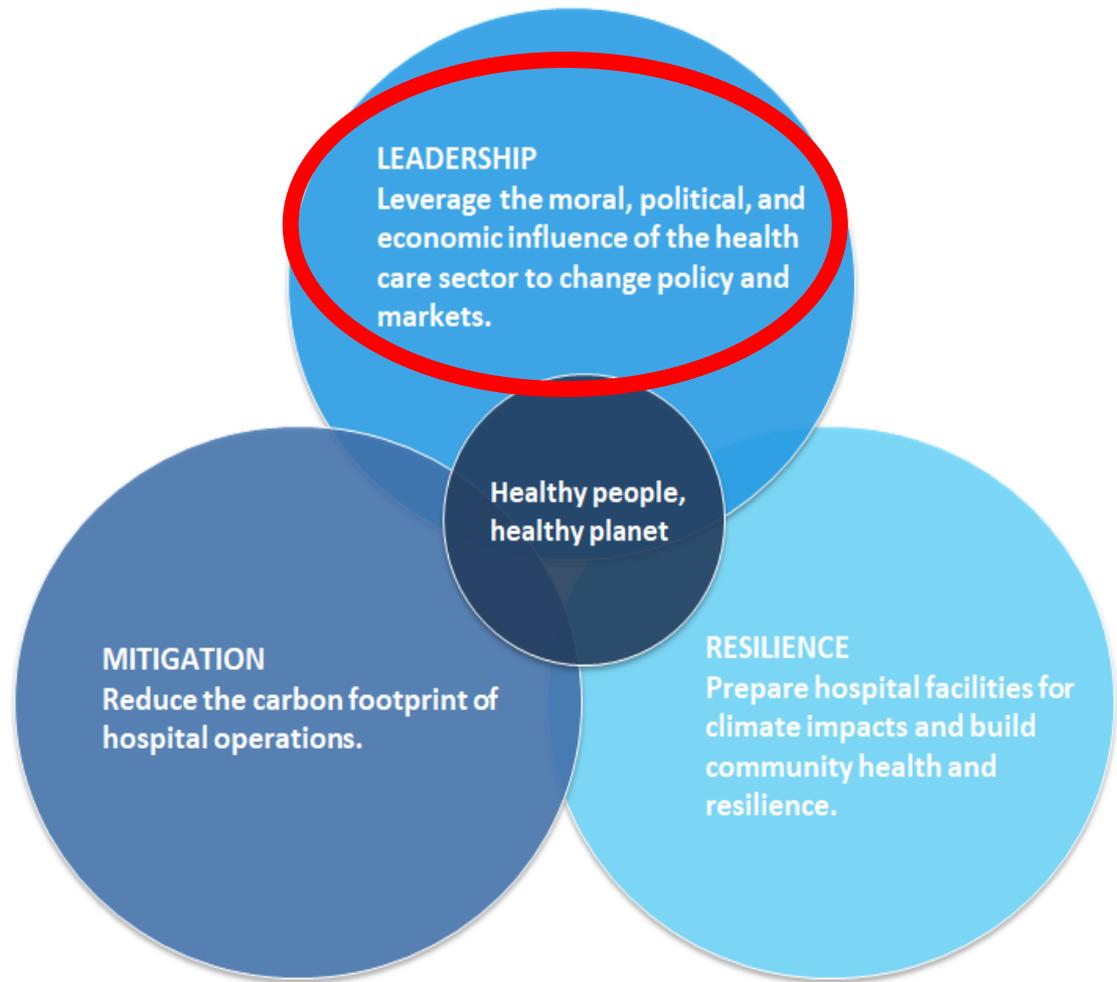
#### 2. The lessons: Protocols & infrastructure

- Housing of vital utility and mechanical controls in the complex's basements made it extremely vulnerable to flooding
- Insufficient infrastructural and engineering fortification against flood damage
- Lack of flood protocols made it difficult to coordinate an emergency response

#### 4. The rebound: Preparedness for Hurricane Harvey

- Largest amount of rainfall on an urban area in US history
- All 23 hospitals and emergency rooms in the complex stayed operational
- Storm gates protected all basements and subterranean parking on campus

# Climate-Smart Health Care



Health Care must leverage its influence, purchasing power, and political capital to achieve change quickly and at scale



**CLIMATE, HEALTH, AND EQUITY:**  
Recommendations for the Department of  
Health and Human Services

2021



**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.**

# How to take action

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

Reduce OR energy use & waste

Educate patients & colleagues

Educate your community

Reduce, reuse, recycle

Include climate risks in emergency preparedness plans

Choose local, sustainable foods & reduce food waste

Plant Trees

Carpool, bike, walk, or take public transport

# How do we support the health care sector in creating climate-smart health care?

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- Climate and health program initiatives
- Other Health Care Without Harm program initiatives (food, purchasing)
- Practice Greenhealth
- Clinician engagement

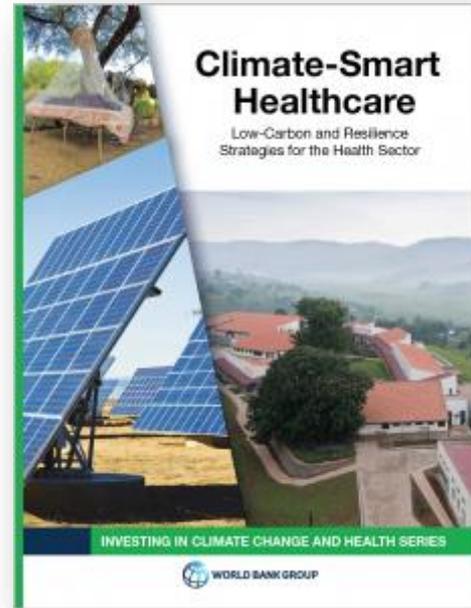


# What is climate-smart health care?

## low carbon + resilient health care

- Sustainable building design and construction
- Renewable energy/energy efficiency
- Waste minimization/sustainable waste management
- Sustainable transport and water policies
- Low carbon procurement for pharmaceuticals, medical devices & food
- Resilience strategies

<https://noharm-global.org/issues/global/climate-smart-health-care>





# CLIMATE ACTION: A Playbook for Hospitals



<https://climatecouncil.noharm.org>



# Health Care Climate Challenge

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Mobilizes health care institutions around the globe to protect public health from climate change

Over 300 participants representing 22,000 hospitals and health centers from 36 countries

<https://noharm-uscanada.org/healthcareclimatechallenge>



# Healthy Food in Health Care

## Climate-friendly food strategies



- Less meat, better meat -> less emissions
- Food waste
- Sustainable food purchasing

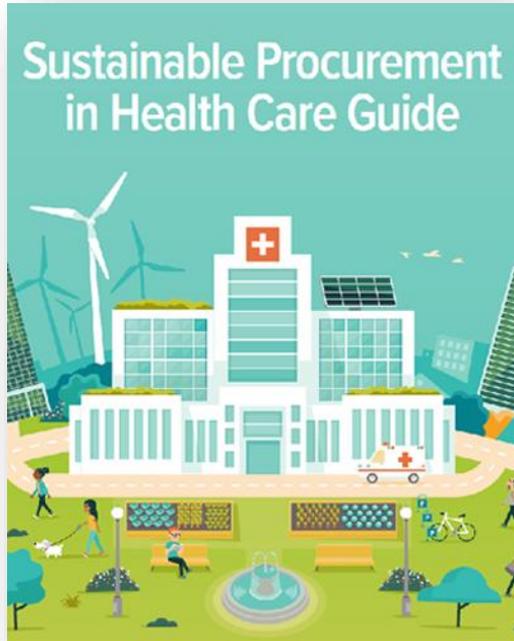
THE **COOL FOOD** PLEDGE

Helping companies, universities, hospitals, and public facilities provide diners more of what they want while slashing food-related greenhouse gas emissions

<https://noharm-uscanada.org/coolfoodpledge>

<https://noharm-uscanada.org/issues/us-canada/food-and-climate-connection>

# Sustainable procurement



<https://practicegreenhealth.org/sustainableprocurementguid>

# Practice Greenhealth



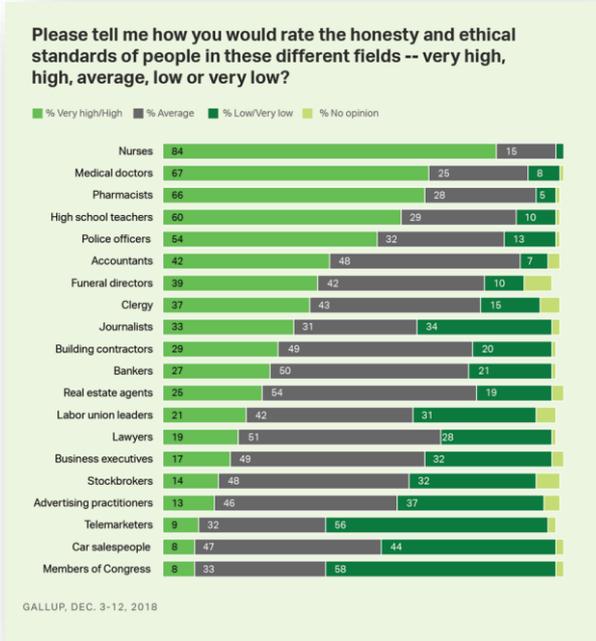
<https://practicegreenhealth.org>

# Clinician engagement



# Clinician engagement. Why?

- First, do no harm
- Trusted
- White coat influence
- Medical societies
- First, do no harm
- Health experts
- Powerful advocates



<https://news.gallup.com/poll/245597/nurses-again-outpace-professions-honesty-ethics.aspx>

# Why should clinicians care about climate-smart health care?

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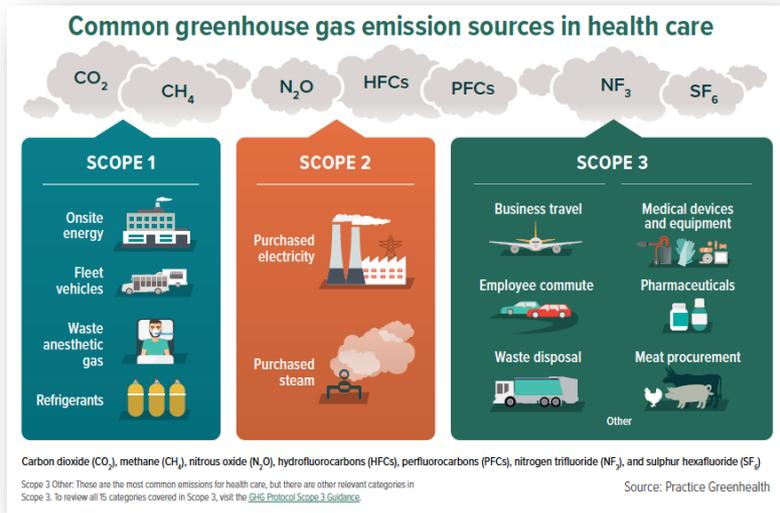
- Climate is a public health crisis
- Extreme weather events can impact health care delivery, access and supply chains
- The health care sector contributes to climate change\*
- Clinicians can be powerful advocates for climate-smart health care



“Physicians have an obligation to use their **influence, expertise and resources** to protect health, which includes promoting sustainability.” (AMA Journal of Ethics, 2017)

\*“The single largest factor driving health care pollution is clinical care.” – Jodi Sherman M.D.

# The impact of clinician choices



"With physicians' decisions accounting for 80 cents of every healthcare dollar spent, our choices—including prescribing, device use and the tests we order—can have a real impact on climate change." Modern Healthcare, 2019

\*fossil fuel investments

<https://practicegreenhealth.org/ghg-reduction-toolkit>

# How do we support and engage clinicians?

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# Nurses Climate Challenge



A national campaign to mobilize nurses to educate 50,000 health professionals on the impacts of climate change on human health by 2022



<https://nursesclimatechallenge.org>



# Health Care Without Harm Physician Network

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A network of physicians interested in reducing the environmental impact of health care delivery and promoting climate-smart health care and other climate solutions



<https://noharm.org/physiciannetwork>

# How do we support our members?

- Fact sheets
- Monthly e-newsletter
- Webinars
- Resource library
- Physicians in action profile series
- Mentorship
- Virtual journal club
- Connecting members
- Working groups

Climate change, health, and health care  
How physicians can help



Climate change leads to worsening air quality, adverse impacts on food and water supply and quality, and more frequent and extreme weather events, which all have profound impacts on human health.

**Health impacts**  
Climate change is already negatively affecting human health. Numerous medical professional societies have issued policy statements that call on their physician members to help reduce health care's carbon footprint, advocate for government policies that reduce greenhouse gas emissions, and educate their patients and communities about climate change and health.

According to the CDC, the health effects of climate change include:

- increased respiratory and cardiovascular disease
- injuries and premature deaths related to extreme weather events
- heat-related illnesses
- changes in the prevalence and geographical distribution of food- and water-borne illnesses and vector-borne diseases
- threats to mental health
- threats to food and water security and safety

These health impacts vary depending on geographical region.

Vulnerable populations are disproportionately impacted by climate change, including low-income communities and communities of color, as well as older people, children, and those with underlying health conditions. The World Health Organization estimates 80 percent of the health effects of climate change impact children under five years of age.



"Scientific surveys have shown clear evidence that our patients are facing adverse health effects associated with climate change. From heat-related injuries and forest fire air pollution, to worsening seasonal allergies and storm-related illness and injuries, it is important that we make every effort to put environmentally friendly practices in place to lessen the harmful impact that climate change is having on patient health across the globe."

— DR. WILLARDA V. EDWARDS, AMERICAN MEDICAL ASSOCIATION BOARD MEMBER

HEALTH CARE WITHOUT HARM [hwharm.org](http://hwharm.org)

# How can clinicians take action?

as individuals, community members, clinicians, hospital staff members

Individual action

Hospital/health system

Clinical practice



Research

Media

Education

Public policy

Individual action	Lifestyle & consumer choices, fossil fuel divestment, charitable & campaign donations, vote, talk about climate, join a group
Hospital and health system	Start or join a green team, ask leadership to join Practice Greenhealth or Health Care Climate Challenge, lead departmental project, advocate for plant-forward choices
Clinical practice	Patient education; clinical, device use and pharmaceutical choices; waste segregation and reduction, discharge instructions
Research	Health care emissions, health impacts of climate change, journal clubs
Media	Op-Eds, letters to editor, social media, blogs, interviews, podcasts, perspective pieces
Education	Grand rounds, conferences, curriculum, webinars, community education
Public policy	Meet with legislators, provide testimony, start or join a state clinician climate action group

# 5 things you can do

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- Get educated
- Connect with sustainability community
- Talk about climate-smart health care
- Ask leadership to join Health Care Climate Challenge
- Ask leadership to join Practice Greenhealth



# CleanMed Connect 2021

May 18-20



<https://cleanmed.org>

*At a time when the country is reeling from multiple crises, we need health care to lead the way on the path to a thriving and sustainable society grounded in health, equity, and community resilience.”*

Gary Cohen, president and co-founder, Health Care Without Harm

Greg A. Adams, chairman and CEO of Kaiser Permanente

*Changing America*, September 15, 2020



# Thank you!

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Any questions or comments  
please contact me at  
[acollins@hcwh.org](mailto:acollins@hcwh.org)

 @DrAmy\_Collins

<https://noharm.org>

