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HEALTHCARE EMERGENCY PREPAREDNESS
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Access speaker bios here:

<https://files.asprtracie.hhs.gov/documents/climate-change-resilience-webinar-bios.pdf>

Access the recording here: <https://attendee.gotowebinar.com/recording/1760299846850188806>

Access the transcript here: <https://files.asprtracie.hhs.gov/documents/climate-change-resilience-webinar-transcript.pdf>

Climate Change Resilience and Healthcare System Considerations

April 18, 2022

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TRACIE

HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

Shayne Brannman, MS, MA
Director, ASPR TRACIE

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ASPR TRACIE: Three Domains



- Self-service collection of audience-tailored materials
- Subject-specific, SME-reviewed “Topic Collections”
- Unpublished and SME peer-reviewed materials highlighting real-life tools and experiences



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- Personalized support and responses to requests for information and technical assistance
- Accessible by toll-free number (1844-5-TRACIE), email (askasprtracie@hhs.gov), or web form ([ASPRtracie.hhs.gov](https://asprtracie.hhs.gov))



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- Area for password-protected discussion among vetted users in near real-time
- Ability to support chats and the peer-to-peer exchange of user-developed templates, plans, and other materials



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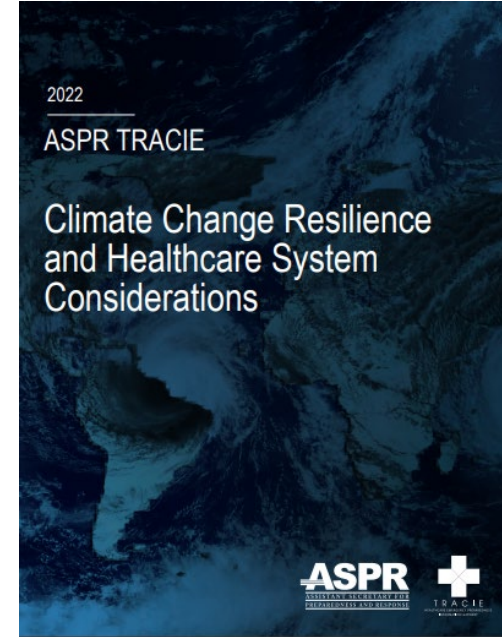
HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

John Hick, MD
Hennepin Healthcare (Moderator)

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ASPR TRACIE Climate Change Resources

- [Climate Change Resilience and Healthcare System Considerations document](#), [Summary Document](#), and [Topic Collection](#)
- Intended audiences: healthcare executives and emergency planners
- Impacts of climate-related illness and injury on health system operations, care delivery, and patient surge
- Highlights three regions of the U.S. affected by various climate change hazards (San Francisco Bay Area, Southeast Texas, and Central Tennessee)



Climate Impacts on Public Health

David Johnson, MPH
Deputy Assistant Secretary for Health,
Office of Regional Health Operations
April 2022

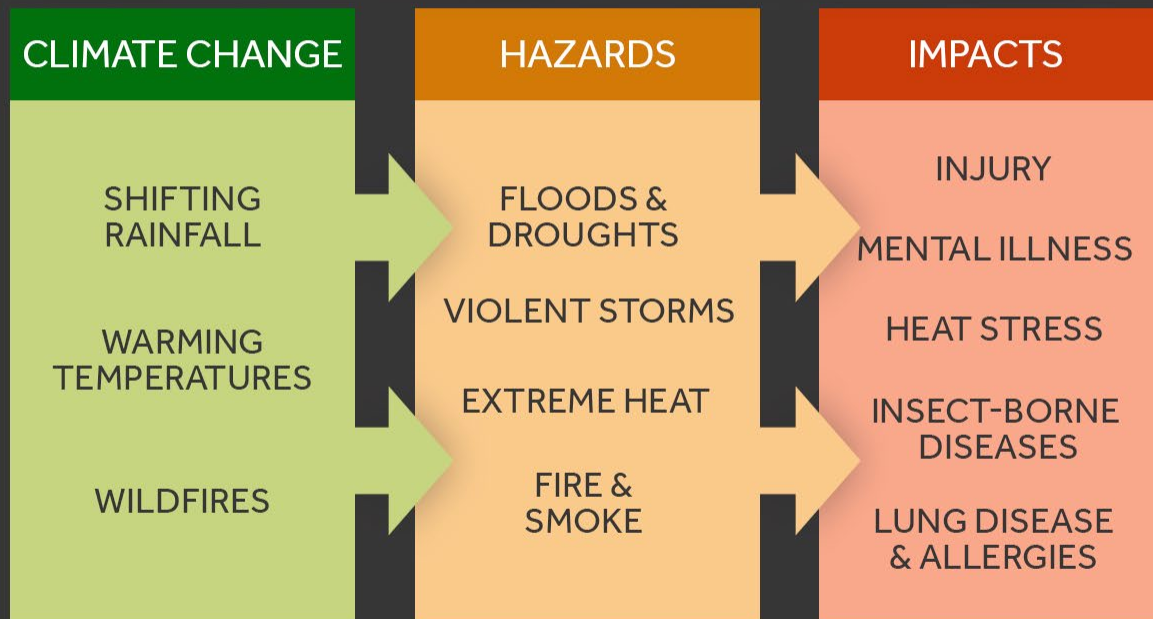


OASH

Office of the
Assistant Secretary
for Health

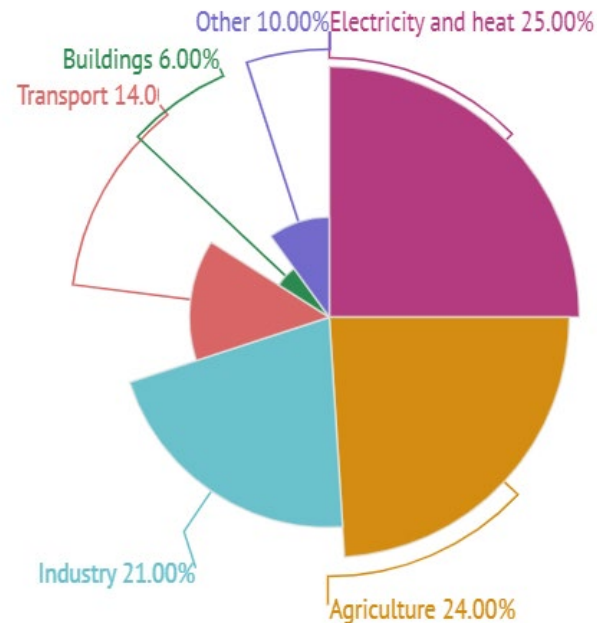
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CLIMATE CHANGE IMPACTS HEALTH

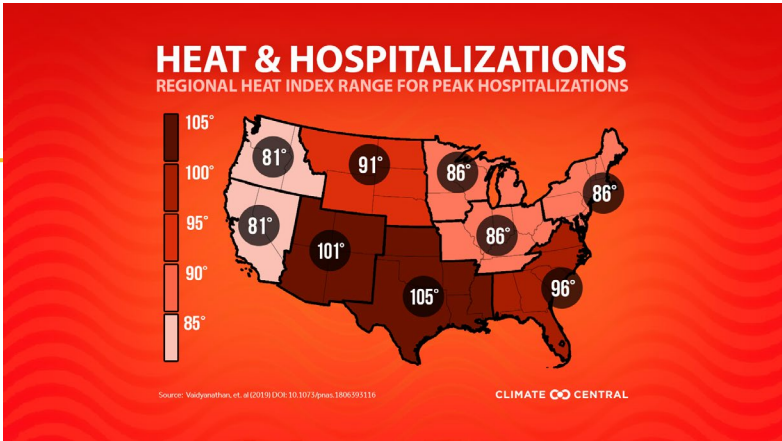
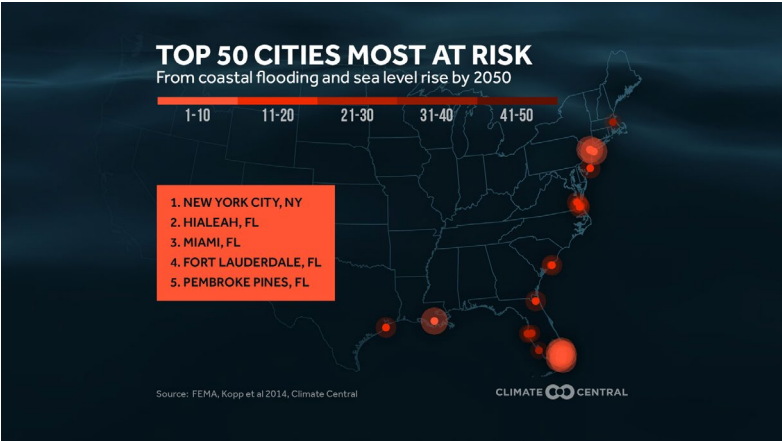


Key Points

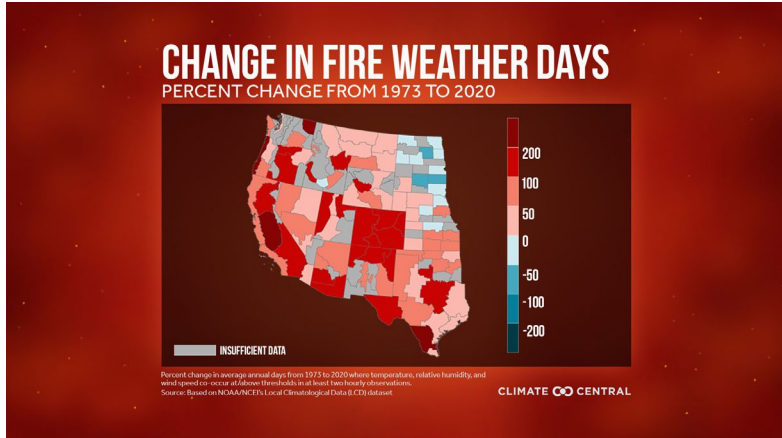
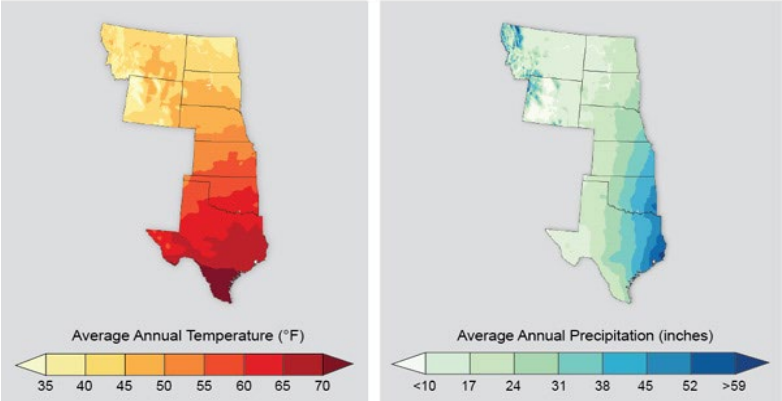
- Every American is vulnerable to climate change impacts.
- Climate change will likely increase the frequency and strength of extreme events (such as floods, droughts, wildfires, and storms).
- Climate change can affect physical, mental, and community health.
- Climate changes may expose more people to diseases and more vulnerable groups will be impacted more severely.
- Our work, actions, infrastructure, planning, and long-term roles will need to integrate climate change science and new technology.



Source: PAHO

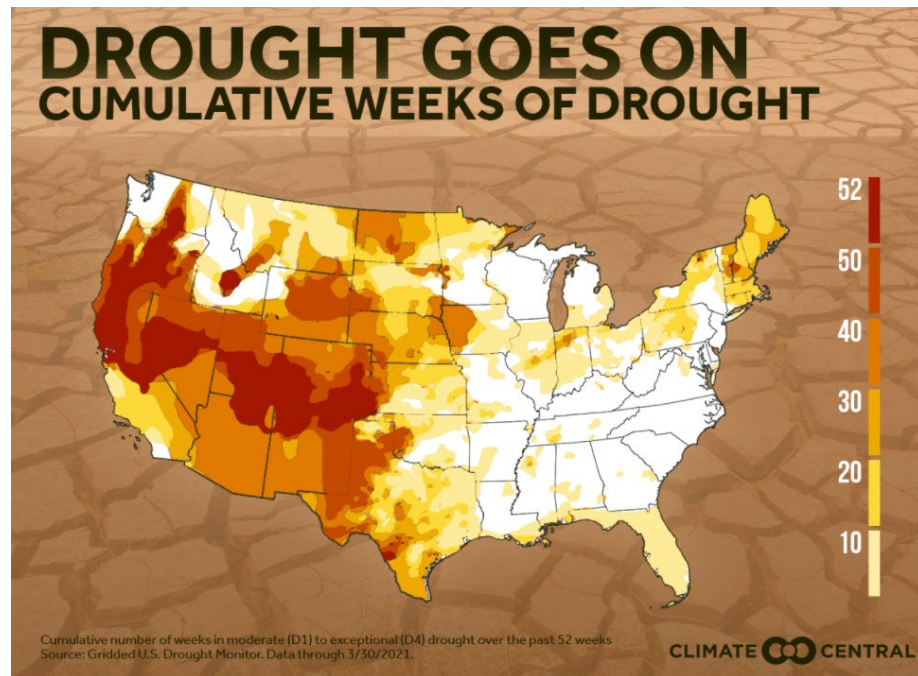


Temperature and Precipitation Distribution in the Great Plains



Environmental Impacts

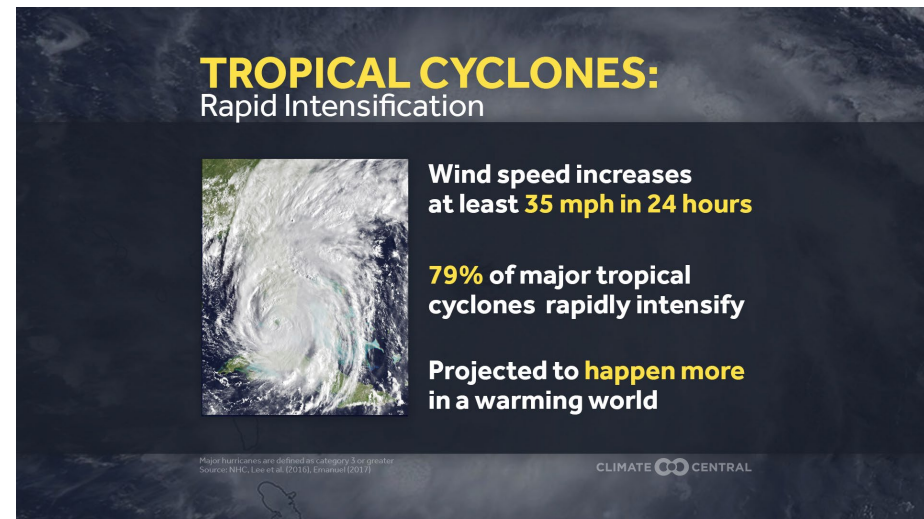
- Heat-related deaths and injury
- Air quality
- Extreme weather events
- Water quality
- Drought
- Food safety and nutrition



Health Threats After Natural Disasters

Climate change is causing stronger and more frequent extreme weather events

- Cyclones are associated with an increase of up to **33.4% in death rates in the months after the event** due to injuries, infectious and parasitic diseases, cardiovascular disease, and neuropsychiatric disorders.
- U.S. researchers looked at data of 33.6 million death records from 1988 to 2018 from 1,206 counties that had experienced a median of two days of weather activity from tropical cyclones during those years.
- While injuries following the storm are well documented, [research shows](#) that chronic diseases, including cardiovascular disease and mental disorders, continue to occur for years following the storm's impact.



Vector-borne Impacts - Lyme Disease Case Study

- Ticks are the main vector of Lyme disease, a bacterial illness that can cause fever, fatigue, joint pain, and skin rash. It can also spread to the joints, heart, and nervous system.
- It is the most prevalent vector-borne disease with over 100,000 cases reported since 1982. **Incidence in the US has nearly doubled since 1991**, from 3.74 to 7.21 reported cases per 100,000 people in 2018.
- Climate change is expected to cause **expansion into higher latitudes**.



Impacts on Health Disparities

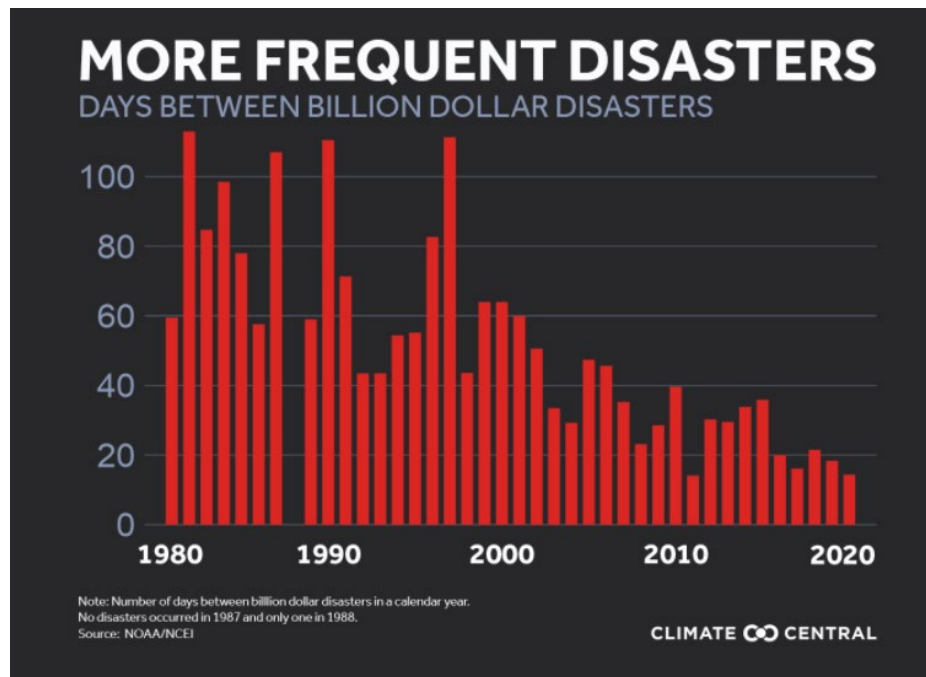
- Every individual is vulnerable to the health impacts associated with climate change, but some populations will be especially affected.
- These groups include individuals w/low incomes/lack of steady jobs, some communities of color, limited English-proficiency and immigrant groups, indigenous peoples, children and pregnant women, older adults, vulnerable occupational groups, people w/disabilities, and people with medical conditions.

Risks

- Air quality
- Water quality
- Extreme heat
- Nutrition and food security
- Access to parks and greenspace

Impacts on Your Work

- Increased use of emergency services
- ED, urgent care, and hospital crowding
- Increased monetary and other costs
- Mental health services
- Increased stress on infrastructure
- Disaster fatigue



Health Care and Climate Change

- The U.S. health care sector produces about 10% of the nation's total annual carbon emissions; in 2011 it pumped out 655 million metric tons of carbon dioxide and other greenhouse gases (GHGs).
- Collectively, it is the 13th-largest producer of carbon dioxide worldwide. **A 2018 study estimated that, annually, GHG emissions from large U.S. health care organizations took 123,000 to 381,000 years off the total life expectancy of the U.S. population.**
- Considerations for health care facilities
 - **Location**
 - **Population served**
 - **Climate related preparedness**
 - **Choice of supplies and medicines; reusing where possible; recycling medical waste**
 - **Sustainable practices**

Mitigation, Preparedness, and Response

- Improved urban planning
- Updated building codes
- Reduction in hospital and other industry-produced greenhouse gas emissions
- Increased funding for public health and emergency services and continued incentives for business
- Educating communities on the risks of climate change to health, and ways to stay safe each season
- Cross-sector collaboration
- Early warning systems for disaster events
- Build **resilience** of health care and public health systems

Resources and Citations

- <https://www.cdc.gov/climateandhealth/effects/default.htm>
- <https://medialibrary.climatecentral.org/resources/climate-change-and-human-health>
- <https://err.ersjournals.com/content/23/132/161.full>
- https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3598823/pdf/2049-6958-8-12.pdf>
- <https://www.who.int/teams/environment-climate-change-and-health/climate-change-and-health/capacity-building/toolkit-on-climate-change-and-health>
- https://medsocietiesforclimatehealth.org/wp-content/uploads/2017/03/gmu_medical_alert_updated_082417.pdf
- <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.01352>
- <https://www.healthaffairs.org/doi/10.1377/forefront.20191011.432819/full/>
- <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>
- https://www.cdc.gov/climateandhealth/docs/Health_Impacts_Climate_Change-508_final.pdf



GREEN@BLUE

BEYOND CORPORATE SUSTAINABILITY

Dr. Lindsey Butler, PhD, MSc
Director, Climate and Health Resilience
lindsey.butler@bcbsma.com

KEY FUNCTIONS OF GREEN@BLUE



REDUCE OUR ENVIRONMENTAL FOOTPRINT

- IMPROVE GHG ACCOUNTING
- WORK TOWARDS CARBON NEUTRALITY AND ZERO WASTE
- REDUCE CONSUMPTION OF ALL NATURAL RESOURCES (WATER, PAPER, OTHER PRODUCTS)
- IMPROVE ENVIRONMENTALLY RESPONSIBLE PROCUREMENT
- ESG IN INVESTMENT POLICY
- INCENTIVIZE ASSOCIATES TO LIVE LOW CARBON LIFESTYLES

ADVANCE HEALTH JUSTICE

- ADVANCE THE CORPORATE CITIZENSHIP HEALTH JUSTICE STRATEGY
- CATALYZE ENVIRONMENTAL JUSTICE, FOOD JUSTICE, AND RACIAL JUSTICE IN OUR COMMUNITIES

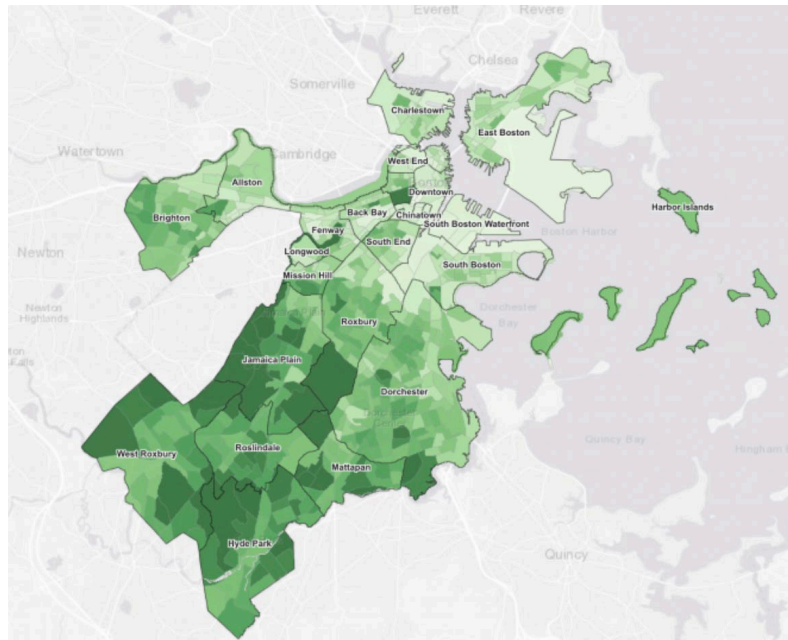
EDUCATE AND EMPOWER

- PROVIDE OPPORTUNITIES FOR ASSOCIATES TO LEARN ABOUT ENVIRONMENTAL ISSUES
- EDUCATE ASSOCIATES, MEMBERS, ACCOUNTS, PARTNERS ABOUT ENVIRONMENT AND HEALTH CONNECTIONS
- SUPPORT AND INCENTIVIZE ACTION
- WORK IN PARTNERSHIP WITH MUNICIPAL LEADERS AND LAWMAKERS TO ADVANCE HEALTHIER ENVIRONMENTS FOR HEALTHIER PEOPLE IN THE COMMUNITIES WE SERVE

INTEGRATED ENVIRONMENTAL HEALTH LEADERSHIP

BLUE CROSS BLUE SHIELD OF MASSACHUSETTS

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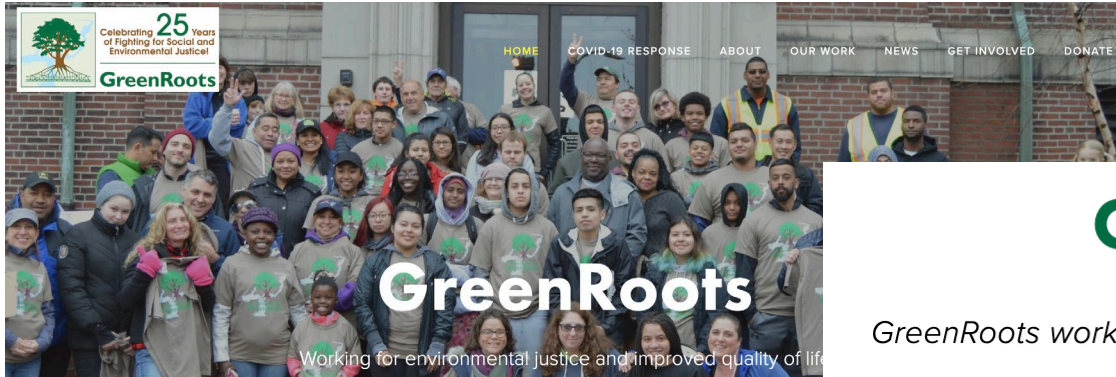
FOOD & DRINK, PLANTS

How One Boston Hospital Is Feeding Patients Through Its Rooftop Farm

Lindsay Campbell

Food is medicine at Boston Medical Center.





OUR MISSION

GreenRoots works to achieve environmental justice and greater quality of life through collective action, unity, education and youth leadership across neighborhoods and communities.



Mission

Eastie Farm is dedicated to pursuing climate justice, improving food access, and fostering community resilience through the development of interactive urban agricultural spaces and environmental education programs in which residents of all ages and backgrounds are encouraged to learn and take part in the production of healthy, locally-grown, and culturally relevant foods.

HEALTH PLAN

ENVIRONMENTAL JUSTICE 101: PAST, PRESENT, FUTURE



RECONNECTING WITH YOUR HEALTH

ENVIRONMENTAL HEALTH

**90
DEGREES**

Temperature reported by
teachers INSIDE Boston Public
Schools classroom during
Summer 2021
(Boston Teachers Union)

Unclassified//For Public Use

Climate change is bringing higher heat to Boston, more so in some neighborhoods than others. We went to see for ourselves

By [David Abel](#) Globe Staff, Updated August 13, 2021, 7:15 p.m.



Members of the TL volleyball team practiced under streetlights in Chinatown's Reggie Wong Memorial Park on Thursday night until 11:30 p.m. The third heat wave of the summer hit Boston this week. CHRISTIAN BOTTICCHIO FOR THE BOSTON GLOBE

Green resolutions

'The biggest opportunity we have to change our lives and protect our children's future'



BEVERLY FORD

Symposium of Boston's teaching hospitals explores 'watershed moment' for climate crisis and medicine

BEVERLY FORD | NEWS SERVICE OF BLUE CROSS BLUE SHIELD OF MASSACHUSETTS

A doctor's guide to health in a changing climate



DR. AARON BERNSTEIN

In a new Coverage series, a physician explores the ways health and health care are affected by climate change

DR. AARON BERNSTEIN | NEWS SERVICE OF BLUE CROSS BLUE SHIELD OF MASSACHUSETTS

A child's right to breathe



DR. AARON BERNSTEIN

We can all take steps to address race and health disparities that contribute to asthma and other illnesses

DR. AARON BERNSTEIN | NEWS SERVICE OF BLUE CROSS BLUE SHIELD OF MASSACHUSETTS

NEXT GENERATION

- WE WANT OUR MEMBERS TO UNDERSTAND HOW THEIR ENVIRONMENT IMPACTS THEIR INDIVIDUAL HEALTH
- WE WANT TO SUPPORT HEALTHIER ENVIRONMENTS AS PART OF OUR WELLNESS OFFERINGS
- WE WANT TO SUPPORT CONTINUED EFFORTS TO LEARN ABOUT HOW THE ENVIRONMENT IMPACTS THE HEALTH OF OUR MEMBERS

Climate Change and Health Equity: Health System Resilience and the New OCCHE

John Balbus, MD, MPH
Interim Director

ASPR TRACIE Webinar
April 18, 2022



Office of
Climate Change
and Health Equity

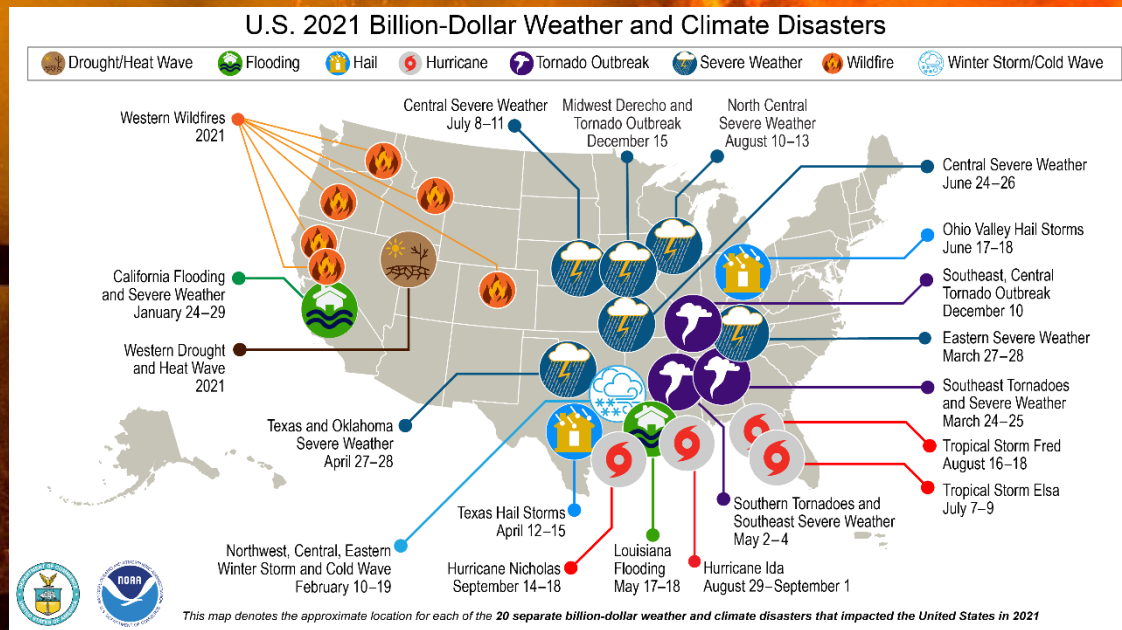
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Overview

- How climate change impacts the health of underserved populations.
- Introduction to the Office of Climate Change and Health Equity
- Resources to support health system resilience.
- Collaboration to achieve climate resilient communities and the health systems that serve them.

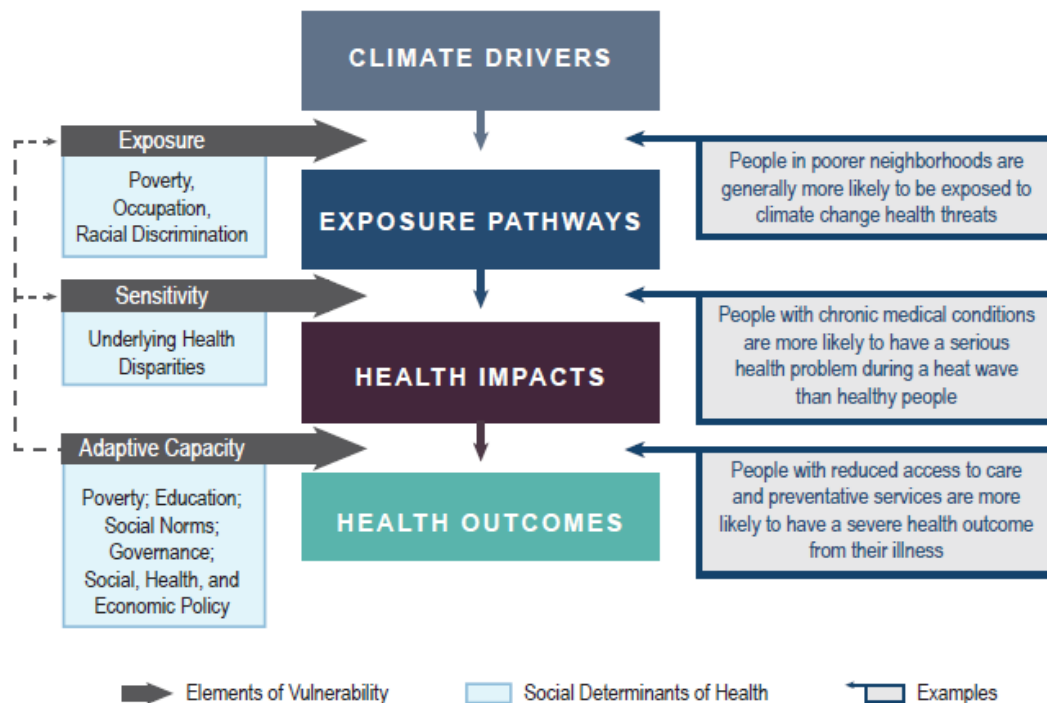


Office of
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AP Photo/Noah Berger

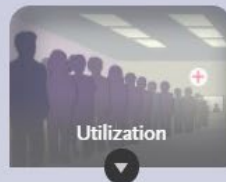
Intersection of Social Determinants of Health and Vulnerability



HUMAN HEALTH

HEALTH CARE DELIVERY

EFFECTS OF CLIMATE CHANGE ON HEALTH SYSTEMS



WHAT HEALTH SYSTEMS CAN DO



Origins of the Office of Climate Change and Health Equity

E.O. 14008 - “Tackling the Climate Crisis”

- HHS mandates (Section 222(d))
 - ✓ Office of Climate Change and Health Equity
 - ✓ Interagency Working Group to Decrease Risk of Climate Change to Children, the Elderly, People with Disabilities, and the Vulnerable
 - ✓ Biennial Health Care System Readiness Advisory Council



Office of Climate Change & Health Equity (OCCHE)

Priority 1: Climate & Health Resilience for Most Vulnerable

Priority 2: Climate Actions to Reduce Health Disparities

Priority 3: Health Sector Resilience & Decarbonization



Resilient Health Systems

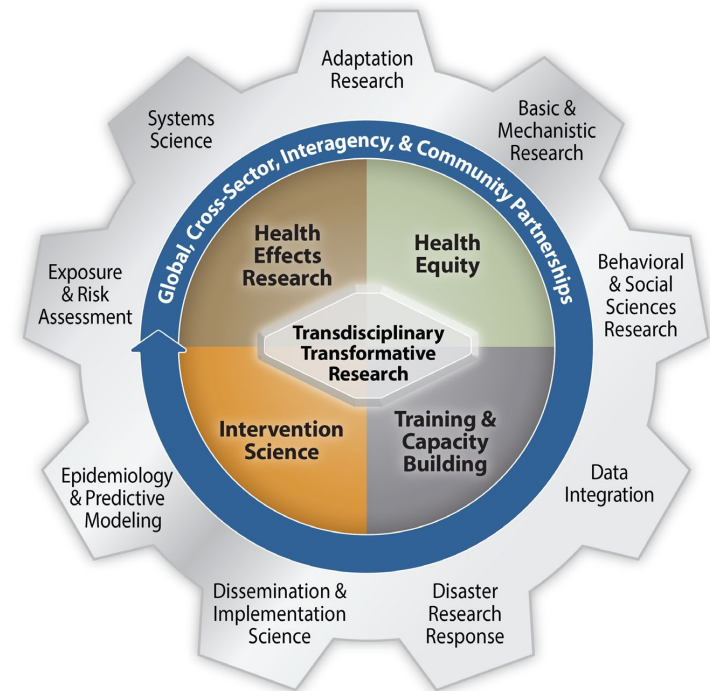
- Capturing **community and health system vulnerabilities** and logging adaptation gaps
- **Enhancing the resilience of health systems and communities** to climate change effects
- Building on existing networks and plans to **develop a national plan for health adaptation**

Low-Carbon Health Systems

- Coordinating Federal health system **greenhouse gas accounting and reduction** targets
- Partnership with private health sector to develop an **action plan for reductions** via incentives, technical assistance, policy guidance, applied research, toolkits, training, use of regulatory authorities as needed, etc.

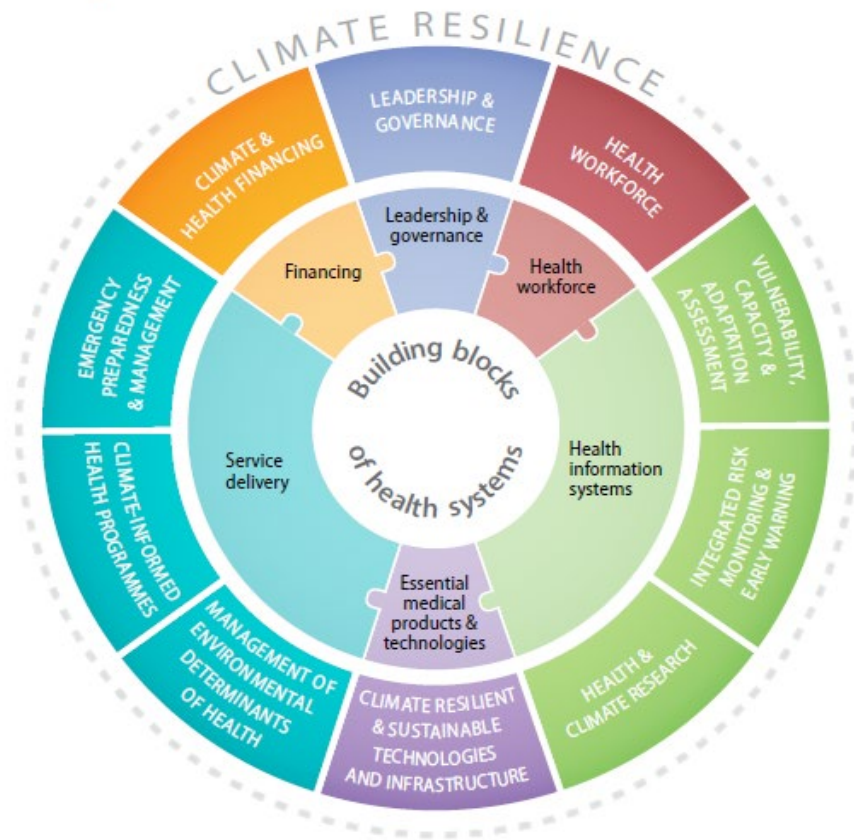
Selected HHS Accomplishments to Date

- **July 2021: Launch of Extreme Heat Interagency Working Group**
- **September 2021: Launch of National Academy of Medicine Action Collaborative**
- **November 2021: HHS Commitments at United Nations Climate Conference (COP26)**
- **December 2021: First Request for Information (RFI) on climate change and equity in a CMS NPRM**
- **January 2022: Creation of learning network for federal health systems**
- **February 2022: Release of NIH Strategic Framework**
- **March 2022: Initial convening the Climate Change and Health Equity Working Group**
- **April 2022: PHS Evaluation Project with Regional Health Offices Initiated**



WHO Operational Framework for Resilient Health Systems

FIGURE 3: Ten components comprising the WHO operational framework for building climate resilient health systems, and the main connections to the building blocks of health systems



WHAT IS A RESILIENCE HUB?





Collaborative Approaches to Community and Health System Resilience

- Explicit incorporation of climate change adaptation in major national security and preparedness strategies (NHSS, HPP, PHEP)
- Co-development of climate-centered health system resilience tools (e.g., RISC 2.0, ASPR TRACIE, Toolkit)
- Exploration of climate-centered updates to emergency preparedness regulations
- Collaboration with Medicaid and states to identify program flexibilities to support resilience among beneficiaries
- Exploration of Community Health Needs Assessments focused on resilience (Community Benefit)
- Pilot co-development of community resilience hubs with community health centers

In Closing

- In addition to making weather-related disasters more severe and frequent, climate change interacts with community resilience to all hazards
- Investment is needed in disaster risk reduction and climate adaptation for health to reduce the need for response
- Collaboration between public health and health care delivery will enhance community resilience



Office of
Climate Change
and Health Equity

Thank you!

Contact us: OCCHHE@hhs.gov

**Visit us online and sign up for our listserv at
www.hhs.gov/ocche**

Question & Answer



Contact ASPR TRACIE



asprtracie.hhs.gov



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