



U.S. Department of
Health and Human Services
**Climate Change and Health
Equity Strategy Supplement**



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I. Message from the Assistant Secretary for Health

Dear Health Sector and Human Services Leaders,

At the start of the Biden Administration, the President issued an executive order (Executive Order 14008, Tackling the Climate Crisis at Home and Abroad) in which he directed the Department of Health and Human Services (HHS) to create a new office to address the unprecedented threats to human health presented by climate change. Recognizing the particular risk that the climate crisis presents for at-risk populations, we established the new Office of Climate Change and Health Equity (OCCHE) within the HHS Office of the Assistant Secretary for Health on August 31, 2021.

Since that time, HHS and OCCHE have operated on several fronts to advance this critical work. The Department has set a vision for national health sector action on climate change through a component of the HHS Strategic Plan (FY 2022-2026), through participation in the World Health Organization's (WHO) Alliance for Transformative Action on Climate and Health and through engagement in the National Academy of Medicine's (NAM) Climate Collaborative, a public-private collaboration of health system stakeholders interested in advancing decarbonization which I co-chair. In addition, HHS continues to play a leadership role in several different interagency councils, including the Extreme Heat Interagency Working Group and the White House Environmental Justice Interagency Council.

In partnership with the White House, OCCHE also launched the Health Sector Climate Pledge, which has secured commitments from hundreds of private sector organizations to enhance their resilience, reduce their emissions and be transparent about their progress. To support those commitments and the sector more broadly, OCCHE has expanded awareness of direct supports to communities and care providers as they seek to manage the acute and chronic challenges that climate change introduces. Working across the federal government, OCCHE has in addition convened federal health systems, including the Veterans Health Administration (VHA), the Indian Health Service (IHS), and the Defense Health Agency (DHA), to collaborate on emissions reduction and facility resilience.

OCCHE has also served as a convener and technical support to HHS itself. This strategy document lays out for the first time in one place the accomplishments of all HHS agencies in recent years and their aims and plans for the near future.

Since the threats associated with climate change are unfolding rapidly, our view is that any resource we create will necessarily be a "living" one. We will make updates to our strategy and key actions from HHS agencies on a regular basis, and broadly communicate these.

We appreciate your time and interest in this work, and we are deeply grateful for energetic action of leaders across the health and human services sectors in addressing the unprecedented health challenges of climate change.

Sincerely,

Admiral Rachel Levine
Assistant Secretary for Health
U.S. Department of Health and Human Services

II. Introduction

HHS has played an important role in anticipating and addressing the health impacts of climate change for many decades, including through the formal creation of the Climate and Health Program at the Centers for Disease Control and Prevention (CDC) in 2009. In addition to the efforts of the CDC, the National Institutes of Health (NIH) and the Administration for Strategic Preparedness and Response (ASPR) have studied climate-related threats to health and health systems and introduced research and tools to support states, communities and health and human services providers in their efforts to respond.

Since the beginning of the Biden Administration, HHS has significantly accelerated and expanded its work in this area. [Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*](#), instructed HHS to create OCCHE and to stand up a new interagency working group and advisory committee related to protecting at-risk populations from the health impacts of climate change and preparing the health sector for climate impacts. Additional executive orders have climate mandates relevant to HHS, including [Executive Order 14030 \(*Climate-Related Financial Risk*\)](#), [Executive Order 14057 \(*Catalyzing Clean Energy and Jobs Through Federal Sustainability*\)](#) and [Executive Order 14096 \(*Revitalizing Our Nation's Commitment to Environmental Justice*\)](#).

Demonstrating a new level of commitment to addressing climate-related threats to health and well-being, the Department has responded to these directives. In addition to formally launching OCCHE on August 31, 2021, it has included climate change in its new Strategic Plan through [Strategic Objective 2.4 \(*Mitigate the impacts of environmental factors, including climate change, on health outcomes*\)](#) and [Strategic Objective 5.4 \(*Ensure the security and climate resiliency of HHS facilities, technology, data, and information, while advancing environment-friendly practices*\)](#). In September 2021, HHS published an agency [Climate Action Plan](#) that for the first time committed to climate actions across all its relevant Operating and Staff Divisions. And in November 2021, the first-ever HHS delegation to a United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) supported the United States' commitment to the COP26 Health Program, committing to setting and achieving health system greenhouse gas emission reduction and resilience goals. Among the steps included in the COP26 Program was the development of a National Adaptation Plan for Health. Such actions constitute meaningful direction setting and they also set the stage for the development and publication of this document.

This document describes both the specific challenges the health and human services sectors face with respect to climate change and the specific planned responses of relevant HHS Operating and Staff Divisions to prevent harm across communities and facilities in the U.S. It is a supplement to the existing HHS Climate Action Plan (U.S. HHS, 2021), a document which captures both inward-facing HHS efforts to become more resilient and sustainable in the Department's own facilities and services (as required by Executive Orders 14008 and 14057) and the outward-facing, programmatic activities from agencies enumerated in more detail here. It is also distinct from an HHS Environmental Justice Strategic Plan which will be introduced in the coming months, pursuant to Executive Order 14096.

III. Problem Statement (Current Assessment of Climate-Related Threats to U.S. Healthcare, Public Health and Human Services)

The [4th National Climate Assessment](#) concluded that “Impacts from climate change on extreme weather and climate-related events, air quality and the transmission of disease through insects and pests, food, and water increasingly threaten the health and well-being of the American people, particularly populations that are already vulnerable,” (U.S. Global Change Research Program, 2018), and the recently-released 5th National Climate Assessment only amplifies this concern (U.S. Global Change Research Program, 2023). The 2009 Lancet Commission on Health and Climate Change described climate change as “the biggest global health threat of the 21st century,” (Costello et al., 2009) while the second Lancet commission, in 2015, asserted that “tackling climate change could be the greatest global health opportunity of the 21st century.” (Watts et al., 2015). In 2021, over 200 health journals around the world published a consensus statement calling for urgent action to keep average global temperature increase below 1.5 degrees Celsius, acknowledging that climate change is already causing a host of global health harms, and that the ecologic and public health consequences of exceeding this threshold would be catastrophic (Atwoli et al., 2021).

These harms to health caused by climate change are also inequitably distributed. People with lower incomes, indigenous communities and communities of color are disproportionately harmed because of systemic inequities that affect climate exposures, sensitivity, and adaptive capacity (EPA, 2021). Children, because of their physiology, developmental needs, and cumulative exposure risk, are uniquely vulnerable to climate-related hazards (American Academy of Pediatrics Council on Environmental Health, 2015) while populations with underlying medical conditions, people with disabilities, older adults, and pregnant women are also at increased risk. Due to the nature of many work environments, various worker populations are at greater risk for climate-related impacts, as well, particularly as employers may not be sufficiently prepared or have adequate resources to implement risk management plans (Shulte et al., 2023).

Moreover, inequitable threats to health from climate change interact with inequitable threats to health from all toxic environmental exposures related to air and water pollution, unhealthy housing, and other environmental hazards. The mission of the [HHS Office of Environmental Justice \(OEJ\)](#), which sits within OCCHE, is to protect the health of communities with environmental justice concerns, disadvantaged communities, and other vulnerable populations on the frontlines of pollution, and other environmental hazards that affect health. OEJ is leading the development of an [HHS Environmental Justice Strategic Plan](#) and its elements will interact with and complement those in this document.

Health consequences of climate change are wide ranging – including but not limited to the impacts of increasing frequency and severity of wildfires and extreme weather events such as heatwaves and storms, changing patterns of infectious disease, decreased air and water quality, and disruptions in access to food and water (U.S. Global Change Research Program, 2016). Beyond acute challenges of this kind, climate change exacerbates a variety of chronic health conditions like cardiovascular disease, asthma and allergies, causing more vector-borne illness, water-borne illness and mental health stressors, as well.

III. Problem Statement (Current Assessment of Climate-Related Threats to U.S. Healthcare, Public Health and Human Services)

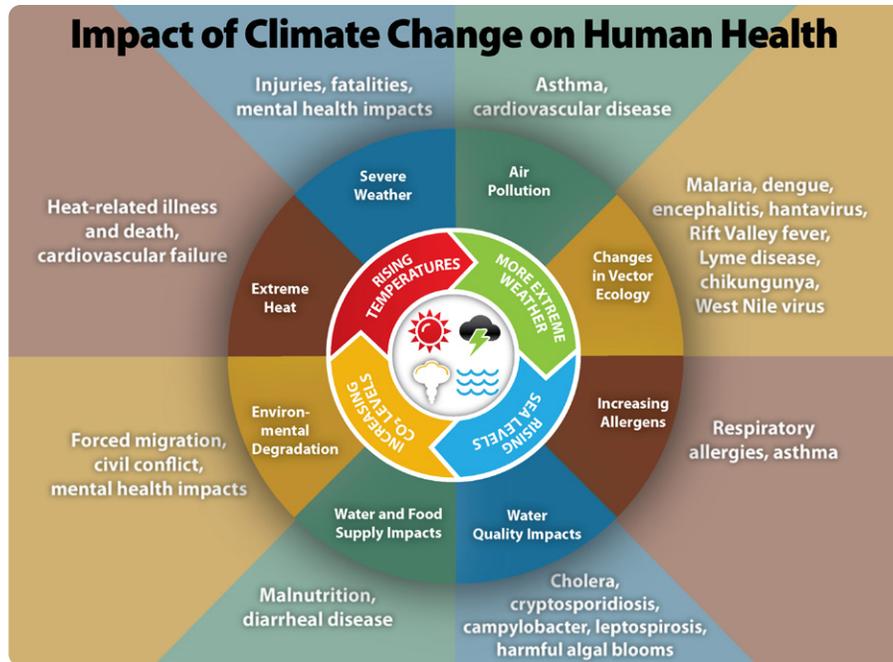


Figure 1: Impact of Climate Change on Human Health (CDC, 2022) <https://www.cdc.gov/climateandhealth/effects/default.htm>

For the healthcare sector, climate change not only affects the well-being of populations served; it also represents a costly threat to operational continuity. For example, between 2000-2017, 72% of hospital evacuations were due to climate-sensitive disasters (Mace, SE & Sharma, A, 2020). In 2022 alone, there were 18 extreme weather and climate disasters in the U.S. whose cost exceeded \$1 billion each (Smith, 2023). Of note, these disaster cost estimates do not include healthcare related costs although the Office of Management and Budget (OMB) also estimates tens of billions in additional climate-related federal healthcare spending in coming decades (OMB, 2022).

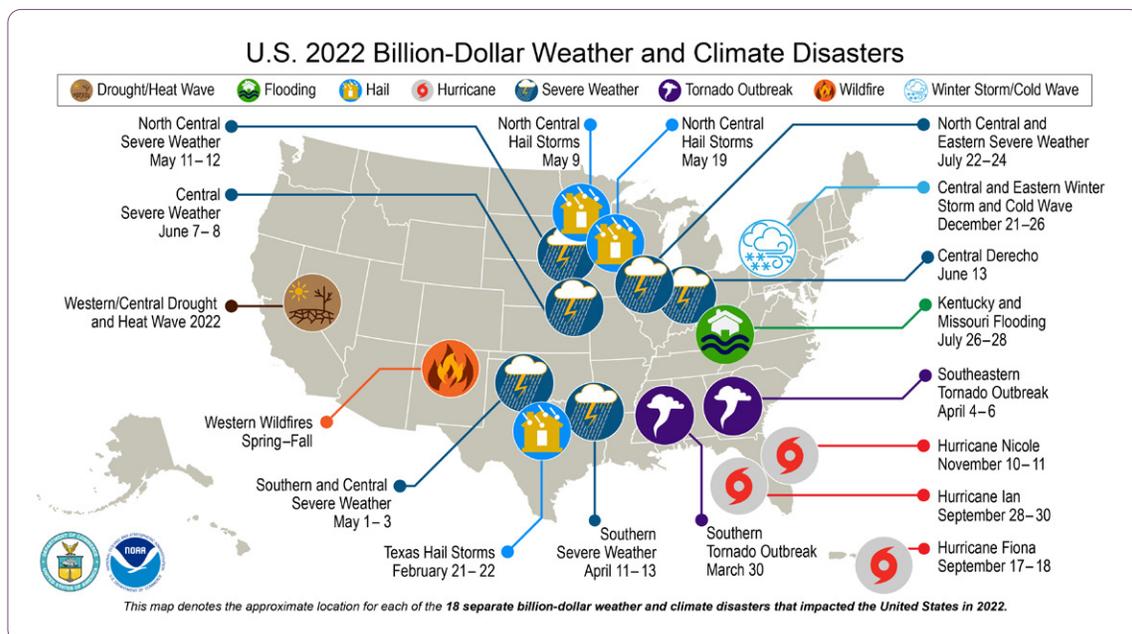


Figure 2: In 2022, the U.S. experienced 18 separate weather or climate disasters that each resulted in at least \$1 billion in damages. National Oceanic and Atmospheric Administration (NOAA) map by National Centers for Environmental Information (NCEI) <https://www.climate.gov/media/14987>.

III. Problem Statement (Current Assessment of Climate-Related Threats to U.S. Healthcare, Public Health and Human Services)

Climate-fueled disasters can also disrupt human service operations that are essential to protecting high-risk populations from climate hazards. For example, utility assistance programs and home weatherization interventions can protect at-risk individuals from exposure to both extreme heat and cold, and income support programs can provide critical help to households displaced by disaster.

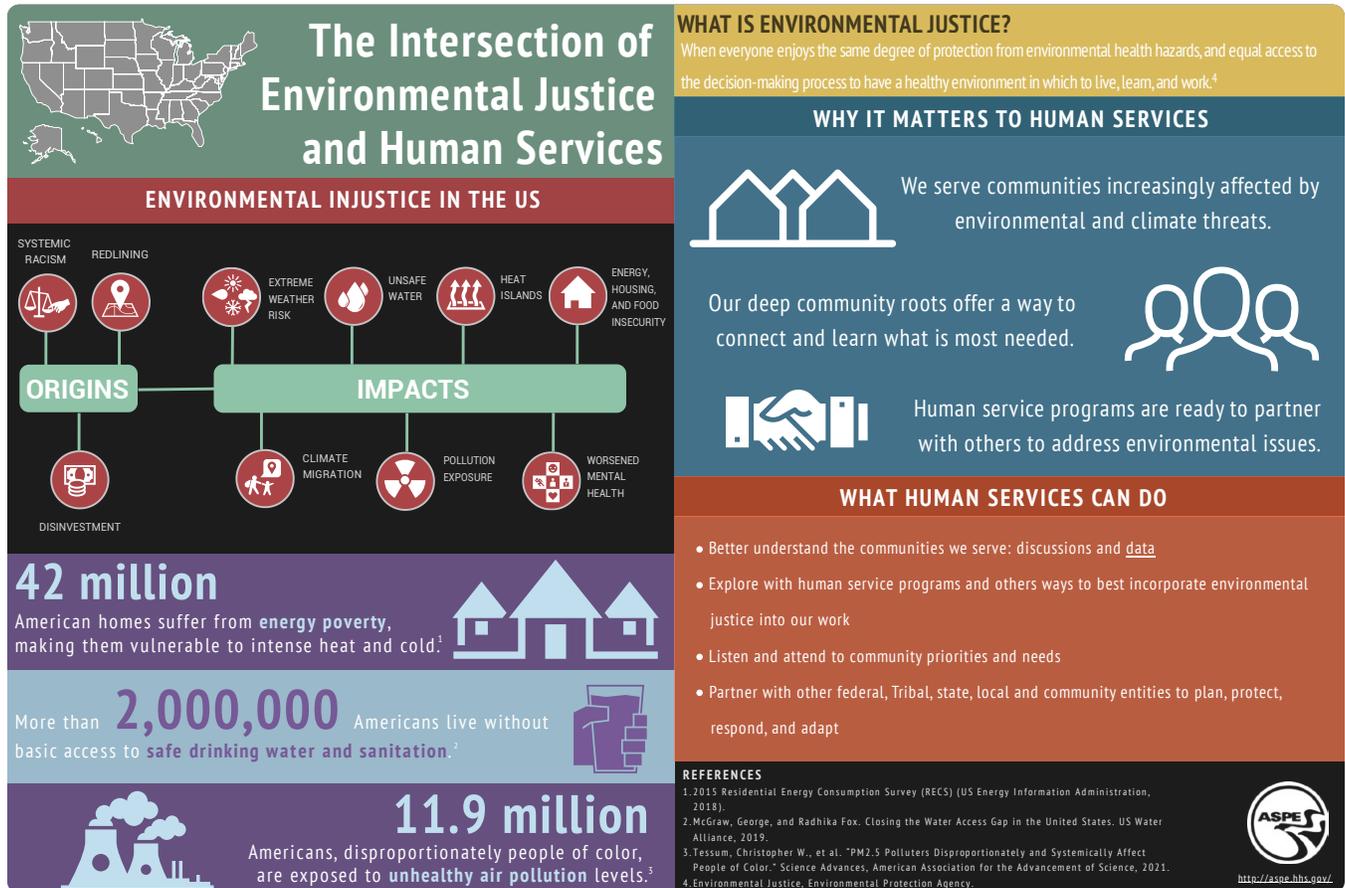


Figure 3: The intersection of environmental justice with human services policies and programs (ASPE, 2021) <https://aspe.hhs.gov/reports/ej-human-services>

In addition, the U.S. health sector contributes 8.5% of total U.S. greenhouse gas emissions (Eckelman et al., 2020) through direct, on-site emissions, purchased energy and emissions associated with its value chain. Increasing operating efficiency and decreasing greenhouse gas emissions in healthcare facilities aligns with the mission of protecting population health.

Cumulatively, climate change represents a challenge to community health and health care that is truly unprecedented in its scope and scale. While all HHS Operating and Staff Divisions must take internal actions to ensure preparedness for climate-related events and contribute to mitigation, many also have major programmatic opportunities to bolster the climate-related efforts of the populations and organizations they serve.

IV. Stakeholder Recommendations for HHS Action

In recent years, numerous professional societies, advocacy groups, academic experts and congressional witnesses have offered their views on the actions HHS can take to address climate-related threats and more rapidly advance resilience and decarbonization across the country. In a major statement from 2021, for instance, more than 50 health and medical organizations outlined possible actions from HHS Operating and Staff Divisions, suggesting both programmatic and regulatory steps that agencies could take to best meet the needs of the populations they serve (Health Voices for Climate Action, 2021).

In addition, HHS has since 2021 conducted numerous regional listening sessions and issued five Requests for Information (RFIs) from different agencies – two from the Centers for Medicare & Medicaid Services (CMS) and one each from the Agency for Healthcare Research and Quality (AHRQ), NIH and the Substance Abuse and Mental Health Services Administration (SAMHSA) – to more fully understand how HHS programs can have the greatest impact in preparing for and addressing the impacts of climate change on health and well-being (this document's Appendix summarizes learning from these RFIs).

Looking across this feedback, organizations and individuals providing recommendations have broadly embraced the importance of setting goals for reduced emissions and increased climate resilience, but also repeatedly requested the following to support health and human services stakeholders in this regard:

- Increased research on resilience, decarbonization, and the cost impacts of climate change for care providers;
- More timely data to understand the threats and health impacts associated with climate change, especially for populations at highest risk;
- Increased information to support life cycle assessment of healthcare products;
- Increased funding, including grants, incentives and tax-related supports, to help deepen climate resilience and decarbonization work, such as investments in renewable energy projects;
- Provision of technical assistance tools and learning collaboratives to assist operational and clinical improvements in this area;
- Education for clinicians, patients, health care institutions, and members of the public on climate change and environment-related health impacts and social determinants of health (SDOH);
- Standardized measures and measurement frameworks to help with progress tracking and emissions reporting (with mixed views on whether such reporting be mandatory or voluntary);
- Development of quality measures and metrics tied to climate-related health impacts;
- Updates to and simplification of emergency preparedness requirements, conditions of participation, and other regulations to help all provider and supplier types to be more responsive to climate-related challenges;
- Attention to the challenges different provider types, already under strain from the pandemic, must address to take on this work and ensure no compromise in the quality of care delivery;
- Increased collaboration among federal agencies, as well as government and non-governmental entities, to make certain that supports and requirements are aligned.

These recommendations reflect growing acknowledgement of the unprecedented threats to health presented by climate change and a strong interest among individuals, medical and professional associations, health care providers, public health and human services institutions and others to reduce emissions and enhance resilience and emergency preparedness efforts in response.

IV. Stakeholder Recommendations for HHS Action

Ongoing listening — through additional RFIs, regional listening sessions and other interactions — will be essential to make certain that resources are applied efficiently to address the most urgent climate-related problems. External reports also have the potential to be informative; in 2022, for example, the House of Representatives Ways and Means Committee issued their own RFI, canvassing large industry associations, large health systems, and other sector stakeholders for written feedback on climate-related threats to health, and it also held public hearings on national climate resilience (U.S. House Ways and Means Committee, 2023).

V. Accomplishments to Date

HHS has for several decades sought to understand climate-related challenges and taken actions to address them. These include regional initiatives like CDC's Climate-Ready States and Cities Initiative – and its associated Building Resilience Against Climate Events (BRACE) framework – along with relevant emergency responses coordinated by ASPR.

Since the start of the Biden Administration, HHS investments of time and resources for work on climate-related challenges have increased significantly. This started with the creation of OCCHE, called for by Executive Order 14008, and was reinforced when HHS introduced for the first time an explicit aim in its strategy to address environmental health and specifically climate change. Since that time, the Department has taken several other actions to create more formal structures to coordinate and expand this work within HHS, engaging all agencies. These include the following:

Recent Actions to Formalize Efforts on Climate Change and Environmental Justice within HHS



- Establishment of OCCHE to address the impact of climate change on the health of people living in the U.S. (August 2021)
- Entry of HHS into the United Nations Health Programme in conjunction with the 2021 UN Climate Change Conference (November 2021)
- Inclusion of a goal to mitigate the impacts of environmental factors (including climate change) in HHS Strategy (December 2021)
- Creation of the HHS Climate Change and Health Equity Working Group, consisting of all HHS Operating Divisions, to coordinate efforts to enhance health systems resilience and sustainability through the activities of HHS (February 2022)
- Establishment of OEJ to protect the health of disadvantaged communities and at-risk populations on the frontlines of pollution and other environmental hazards that affect health (May 2022)
- Announcement of the HHS Justice40-covered programs, with the goal of ensuring that 40% of the overall benefits of climate, clean energy and other covered federal investments flow to disadvantaged communities (using the [Climate and Economic Justice Screening Tool](#) to identify those communities) (June 2022)
- Issuance of five requests for information on climate and health from four HHS Operating Divisions, including one each from AHRQ, NIH, and SAMHSA, and two from CMS (September 2021–August 2022)

With these foundational structures in place, HHS has turned its attention to enhancing both facility and community resilience and accelerating decarbonization across health and human services. Major initiatives have included the [White House-HHS Health Sector Climate Pledge](#), a campaign that invites private sector organizations to enhance resilience, reduce emissions and transparently share their progress in keeping with the administration's goals, as well as efforts to enumerate all available federal resources to support industry work in this area, including significant resources made available by the Inflation Reduction Act (IRA). In addition, OCCHE is now also collaborating with England's National Health Service (NHS) and health systems of other nations to provide aligned guidance for health

sector suppliers on emissions reporting and target-setting (given the disproportionate impact that emissions related to the value chain have on the sector's overall footprint).

Major HHS actions from the last two years include the following:

Actions to Accelerate Community Resilience



- Ongoing utilization of the emPOWER program from ASPR and CMS to use data and mapping technology to proactively identify Medicare beneficiaries at risk during disasters (including climate-related disasters)
- Creation of the Extreme Heat Interagency Working Group, co-led by HHS, NOAA and the Environmental Protection Agency (EPA), convening agencies to communicate, coordinate and improve federal response to extreme heat and continuously add health-related updates to the National Integrated Heat Health Information System (<https://www.heat.gov/>). (August 2021)
- Expansion through the American Rescue Plan of the Administration for Children and Families (ACF) [Low Income Home Energy Assistance Program \(LIHEAP\)](#) to keep families safe and healthy by providing assistance on reducing costs associated with home energy bills, energy crises, weatherization and energy-related home repairs (April 2022)
- Creation of the [Climate Change and Health Equity Playbook: Adaptation Planning for Justice, Equity, Diversity, and Inclusion](#) by CDC and the American Public Health Association (APHA) (April 2022)
- Launch of the [OCCHE Climate and Health Outlook](#) (CHO), which provides information to health professionals and the public on how health may be affected by climate events in the coming months, as well as resources to take proactive action (May 2022)
- Release of [ACF guidance](#) on the flexibilities associated with the use of Community Services Block Grant funding for summer crisis assistance and disaster response to mitigate heat stress (July 2022)
- HHS/Department of Energy (DOE) partnership to develop and pilot the [Low-Income Clean Energy Connector](#), which makes community solar more accessible to households participating in LIHEAP (July 2022)
- Launch by CDC/Agency for Toxic Substances and Disease Registry (ATSDR) and OEJ of the [Environmental Justice Index](#) (EJI) to rank the cumulative impacts of environmental injustice on health for every census tract in the U.S. (August 2022)
- CMS approval of the [Oregon Health Plan Medicaid 1115 Demonstration Project](#), which includes allowance for coverage of medically necessary air conditioners, heaters, humidifiers, air filtration devices, generators, and refrigeration units when certain requirements are met (October 2022)
- ASPR publication of the [National Health Security Strategy \(NHSS\) 2023-2026](#), which describes climate change and health disparities as threats to national health security and offers strategic direction and implementation actions to improve community resilience before, during, and after disasters (February 2023)
- Launch by OCCHE and the National Highway Traffic Safety Administration (NHTSA) of the [EMS HeatTracker](#), a dashboard that maps local emergency medical service (EMS) utilization for heat-related illness in the U.S. (August 2023)
- Launch by ASPR's Division of Community Mitigation and Recovery (CMR) of a pilot project in HHS Region 5 to address post-disaster equity issues (in terms of race/ethnicity, gender, and LGBTQ+ identity) through the disaster recovery process, resulting in the Equity Guide and Checklist (August 2023)

V. Accomplishments to Date

- ACF, the Assistant Secretary for Planning and Evaluation (ASPE), the Office of Regional Health Operations (ORHO) and OCCHE convening of regional community conversations across the country with local service providers, government and community members in locations with exposure to environmental and climate threats, culminating in an event on Strengthening Partnerships for Healthy, Climate Resilient, and Thriving Communities (February-August 2023)
- Launch by OCCHE and ASPR of the [Climate and Health Outlook Portal](#), an interactive companion to the Climate and Health Outlook that is hosted on ASPR's GeoHEALTH Platform and maps county-level heat, wildfire, and drought forecasts in the U.S. for the current month, as well as county-level individual risk factors that may increase the risk of negative health outcomes from these climate-related hazards (September 2023)
- HHS contributions of health considerations in the Biden Administration's National Climate Resilience Framework (September 2023)
- Ongoing expansion of NIH programmatic work, including the [Climate Change and Health Initiative](#), which is an effort to reduce health threats from climate change across the lifespan and build health resilience in individuals, communities, and nations around the world, especially those at highest risk (includes NIH launch of a Climate Change and Health Research Coordinating Center at Boston University School of Public Health (SPH) and TH Chan Harvard SPH to support these efforts by creating a community of practice of active researchers in Climate and Health, considering data management and integration issues and developing partnerships to create a global health component of the initiative)

Actions to Accelerate Healthcare Facility Resilience and Climate-Sensitive Clinical Care



- Publication of ASPR's Technical Resources, Assistance Center and Information Exchange (TRACIE) [Climate Change Resilience and Healthcare System Considerations](#), providing an overview of climate trends in the U.S. and outlining the impacts of climate-related illness and injury on health system operations, care delivery, and patient surge (April 2022)
- Delivery of OCCHE/CDC Collaborative on [Climate Change and Cardiovascular Health](#) to provide a national forum for health professionals and organizations to learn more about the impacts of air pollution and extreme heat on cardiovascular health with interventions to address these threats (November 2022-April 2023)
- Release of AHRQ analyses of [Healthcare Cost and Utilization Project](#) data to study the impact of climate change on hospital and emergency department (ED) utilization during extreme heat (December 2022)
- AHRQ convening of an [expert roundtable](#) on identifying and creating climate resilience measures for healthcare delivery organizations with attention to current state of knowledge and required research (February 2023)
- OCCHE release of the [Protecting Vulnerable Patient Populations from Climate Hazards Referral Guide for Health Professionals](#) to inform education and referrals in clinical settings for patients who are vulnerable to the health impacts of climate change (May 2023)
- OCCHE release of [Climate Resilience Plan Elements for Healthcare Organizations](#) to help healthcare facilities think through the best approach for assessing organizational risk and addressing facility vulnerabilities (July 2023)
- HRSA convening of Federally Qualified Health Center (FQHC) focus groups to address

preparedness, recovery and resilience and to inform development of technical assistance on climate change resilience action for health centers (July 2023)

- ASPR release of Heat Hazards dashboard and Summer Weather Assessment dashboard on the HHS GeoHEALTH Platform
- Ongoing expansion of CDC programmatic work, including the [CDC Climate and Health Program](#), which supports state, tribal, local, and territorial public health agencies to prepare for the health impacts of climate change

Actions to Accelerate Health Sector Decarbonization



- Launch of the [NAM's Action Collaborative on Decarbonizing the U.S. Health Sector](#), co-chaired by the HHS Assistant Secretary for Health (September 2021)
- Launch of the [WH-HHS Healthcare Sector Climate Pledge](#) inviting private sector stakeholders to voluntarily commit to reduce greenhouse gas emissions by 50 percent by 2030 and achieve net zero emissions by 2050 with 116 organizations representing more than 870 hospitals signing on so far (April 2022)
- Launch by OCCHE and federal health systems partners of the Federal Health Systems Learning Network (FHSLN) to support the VHA, DHA, and the IHS in meeting the emissions reduction goals of Executive Order 14057 (June 2022)
- HHS collaboration with NHS England (and, increasingly, other nations) to align procurement requirements and guidance for health sector suppliers (November 2022)
- Release of the [OCCHE Compendium of Federal Resources for Health Sector Emissions Reduction and Resilience](#) and an associated webinar series on [Accelerating Healthcare Sector Action on Climate Change and Health Equity](#) (July-November 2022)
- Release of the [AHRQ Primer on Measures and Actions for Healthcare Organizations to Mitigate Climate Change](#) to support healthcare organizations in advancing decarbonization efforts (September 2022)
- Release of the [CMS Health Systems Microgrid Waiver](#) permitting new and existing health care facilities subject to CMS requirements to utilize alternative sources of power other than a generator set or battery system, including a health care microgrid system (March 2023)
- Launch of the [OCCHE IRA "Quickfinder"](#) to help health sector stakeholders take advantage of the investment opportunities for work on resilient infrastructure and renewable energy made available by IRA, as well as the [Health Sector Resource Hub](#) where organizations can find helpful resources and supports related to emissions reduction and climate resilience (April 2023)
- Release of the [HHS/Environmental Protection Agency \(EPA\) Energy Star Portfolio Manager Guide](#) on how different healthcare provider types can use the [Energy Star Portfolio Manager](#) to track energy use and greenhouse gas reductions (April 2023)
- Co-hosting of a White House Roundtable to bring together health sector stakeholders, financial institutions and philanthropies to discuss financing challenges and opportunities associated with the IRA for safety net care providers and the healthcare sector more broadly. (October 2023)

Building on these initial actions, OCCHE now seeks to articulate an HHS-wide vision for transformation of the U.S. health and human services sectors, securing specific contributions from every HHS Operating Division to support their programs and stakeholders in mitigating the health effects of climate change and promoting resilience.

VI. Planned Actions for the Near Term

Going forward HHS will organize itself to assist communities, healthcare facilities, public health agencies, human services providers and other stakeholders across the country in addressing the challenges that climate change presents. Specifically, HHS Operating Divisions will pursue the following vision for national transformation:

- Every community, health system and provider in every U.S. location is prepared for both disruptive and chronic climate impacts on its most at-risk patient populations.
- Every healthcare institution is prepared for long-term operation – and can support community resilience – in the face of climate catastrophes.
- Every hospital and health system in the U.S. is publicly tracking its greenhouse gas emissions and is on a path to net zero by tackling Scope 1 emissions (direct on-site emissions), Scope 2 emissions (emissions associated with purchased energy) and Scope 3 emissions (emissions associated with the value chain).
- Public sector investments to reduce greenhouse gas emissions and fossil fuel dependence consider implications for health and health equity.

To make this possible, HHS will take advantage of the many policy levers at its disposal through its Operating Divisions, including technical assistance, tool development, funding opportunities, measurement, reimbursement and regulation, among others. The Department will also invest more heavily in building capacity across all agencies to understand and address climate-related challenges, which has started in 2023 through creating focused learning requirements for the HHS Senior Executive Service (SES) and identifying climate health points of contact in HHS Operating and Staff Divisions and regional offices.

Some key planned HHS actions for the next two years are organized below by Operating Division and include research and analysis activities (i.e., activities to study, analyze and summarize challenges and opportunities related to climate health across the country), resilience activities (i.e., activities to support health systems—and the communities they serve—in becoming more resilient to climate threats) and emissions reduction activities (i.e., activities to support healthcare organizations in reducing their carbon footprint).

Administration for Children and Families (ACF)

ACF promotes the economic and social well-being of families, children, individuals and communities. It does this mainly through programs that connect these groups – and particularly at-risk populations – to services that put them on a path to stability and help them recover from crises and stressors. Its planned climate-related activities over the next two years include:

- Expanding the reach and impact of the LIHEAP program to allow more families to reduce energy costs by accessing its benefits
- Initiating LIHEAP demographic data collection from program service information and developing a Community Economic Development (CED) mapping capability to assess how CED projects may align with the Justice40 Initiative

Administration for Community Living (ACL)

ACL increases access to community support and resources for the unique needs of older Americans and people with disabilities by funding services and supports provided primarily by networks of community-based organizations, and by investing in research, education, and innovation. Its planned climate-related activities include:

VI. Planned Actions for the Near Term

- Engaging Aging & Disability Networks to supply information on access to cooling centers for older adults and people living with disabilities during extreme heat events
- Directing State Assistive Technology programs to help people with disabilities access re-used durable medical equipment and other assistive technologies during heat waves, power outages and displacement due to wildfires
- Updating the Emergency Preparedness module in National Survey of Older Americans Act Participants (NSOAAP) to collect information on climate vulnerability

Administration for Strategic Preparedness and Response (ASPR)

ASPR leads the nation's medical and public health preparedness for, response to, and recovery from disasters and public health emergencies. It accomplishes this through programs such as the Hospital Preparedness Program (HPP), which is the primary source of federal funding for health care system preparedness and response, and the Technical Resources, Assistance Center, and Information Exchange (TRACIE), which provides information and technical assistance to those working in disaster medicine, healthcare system preparedness, and public health emergency preparedness. Its planned climate-related activities include:

- Developing a Tribal engagement strategy for health and social services disaster recovery
- Launching the Healthcare and Public Health Risk Identification and Site Criticality 2.0 (RISC 2.0) toolkit, including climate change and health equity considerations and links to the Sustainable and Climate-Resilient Health Care Facilities Toolkit (SCRHCFT)
- Continuing to maintain existing ASPR TRACIE resources focused on climate change and health equity and develop new resources to advance health equity, filling gaps in health care system preparedness for climate change
- Continuing to incorporate climate resilience and health equity capabilities to strengthen health care system readiness in relevant technical assistance programming
- Developing and promoting methods to ensure climate change resilience, mitigation and health equity concerns are identified and addressed in after-action and evaluation activities
- Conducting exercises and trainings that emphasize climate resilience, mitigation and health equity during disaster response and recovery operations

Agency for Healthcare Research and Quality (AHRQ)

AHRQ produces evidence to make health care safer, higher quality, more accessible, equitable, and affordable, and works within HHS and with other partners to make sure that the evidence is understood and used in healthcare delivery. Its planned climate-related activities include:

- Continuing to spread its Decarbonization Primer to healthcare sector stakeholders
- Continuing to promote its [Special Emphasis Notice](#) encouraging health services research grant applications on climate change and healthcare
- Producing a technical brief on the use of environmental life cycle analysis (LCA) in healthcare
- Continuing to conduct intramural research on the impacts of heat on health and healthcare delivery
- Continuing collaborations, as noted below on page 20, that use AHRQ data to deepen understanding of climate change's impact on health and healthcare delivery

Centers for Disease Control and Prevention (CDC)

CDC protects the public health of the nation by providing leadership and direction in the prevention and control of diseases and other preventable conditions, and by responding to public health emergencies. CDC's Climate and Health Program supports state, tribal, local, and territorial public health agencies as they prepare for the health impacts of a changing climate. CDC's National Institute for Occupational Safety and Health (NIOSH) also supports research related to the occupational impacts of climate that can be used for risk management programs and for development of prevention and mitigation measures. In addition to the ongoing work of these programs, specific planned climate-related activities across CDC include:

- Incorporating climate and health equity in the Public Health Emergency Preparedness (PHEP) program and guidance
- Including climate and equity in Preventative Health and Health Services (PHHS) Block Grant Program
- Incorporating health equity into climate-related objectives/products through the Interagency Council for Advancing Meteorological Services (ICAMS) particularly through their new working group on social equity
- Updating the Building Resilience Against Climate Effects (BRACE) framework to include an explicit focus on equity, guidance on both adaptation and mitigation efforts, and increased flexibility to accommodate diverse contexts and capacity.

Centers for Medicare & Medicaid Services (CMS)

CMS combines the oversight of the Medicare program, the federal portion of the Medicaid program and State Children's Health Insurance Program (CHIP), the Health Insurance Marketplace, and related quality assurance and improvement activities. Its planned climate-related activities include:

- Updating emergency preparedness regulations and associated guidance to reflect more explicit climate resilience considerations
- Exploring the incorporation of climate resilience considerations in forthcoming CMS technical assistance programs (e.g., Quality Innovation Network-Quality Improvement Organizations (QIN-QIO) Statement of Work (SOW), American Indian Alaska Native (AIAN) Statement of Work)
- Advising states about opportunities to better address climate change as a SDOH using Medicaid and CHIP authorities (e.g., highlight and share examples of how specific states are implementing optional services through demonstration projects to address the health impacts of climate change for vulnerable beneficiaries)
- Responding in a timely way to climate-related crises and health emergencies to grant necessary waivers and support the undisrupted delivery of care in facilities across the country
- Exploring CMS authorities to support and incentivize healthcare facility action on emissions reduction

Food and Drug Administration (FDA)

FDA is responsible for protecting the public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, and medical devices; and by ensuring the safety of our nation's food supply, cosmetics, and products that emit radiation. FDA also has responsibility for regulating the manufacturing, marketing, and distribution of tobacco products to protect the public health and to reduce tobacco use by minors. Its planned climate-related activities include:

- Building on assessments of the scientific need and regulatory path for a potential transition from Hydrofluoroalkane (HFA) to new propellants (Center for Drug Evaluation and Research/Office of Pharmaceutical Quality)

VI. Planned Actions for the Near Term

- Providing ongoing feedback to the Environmental Protection Agency on proposed rules to reduce emission of ethylene oxide from sterilization facilities in the drug supply chain (Center for Drug Evaluation and Research/ Office of Pharmaceutical Quality)
- Building on the approval of a drug to reduce ammonia gas emissions from beef cattle in 2018 (Experior), continuing exploration of additives and drugs that can reduce animal-based emissions (Center for Veterinary Medicine)
- Participating in the interagency plastic pollution working group, helping to identify potential implications of new mandates regarding plastics used in drug packaging (Office of Policy, Legislation and International Affairs and Office of Pharmaceutical Quality)
- Continuing to contribute to global regulatory conversations regarding expectations for drug substance and drug product storage conditions across all climactic zones (Office of Pharmaceutical Quality)
- Continuing to study climate change's impact on food producers (Center for Food Safety and Nutrition)
- Continuing to take climate change into consideration as part of the FDA's One Health Initiative to bring human, animal and environmental concerns into alignment
- Considering climate change in future health equity innovation and grant programs (FDA Office of Minority Health and Health Equity issued a health equity innovation award in FY23 which included a request for proposals related to climate change)
- Expanding educational programming for office directors and associated staff education from OCCHE, CDC and other departmental experts (building on multiple sessions in 2023)

Health Resources and Services Administration (HRSA)

HRSA provides health care to the nation's highest-need communities, serving people who are geographically isolated and economically or medically vulnerable. HRSA programs support people with low incomes, people with HIV, pregnant women, children, parents, rural communities, transplant patients and other communities in need, as well as the health workforce, health systems and facilities that care for them. Its planned climate-related activities include:

- Establishing partnerships to provide training and technical assistance related to climate and emergency preparedness to raise awareness and facilitate knowledge transfer among clinicians, support staff, and the public health workforce
- Assisting with building organizational awareness and capacity to mitigate, prepare for, respond to, and recover from public health emergencies, natural disasters and other emergencies, and/or potential health effects associated with a changing climate

Indian Health Service (IHS)

IHS provides federal health services to American Indians and Alaska Natives. It is their principal federal health care provider and health advocate, with the mission of raising the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level. Its planned climate-related activities include:

- Delivering on the decarbonization goals of Executive Order 14057 (includes conducting sustainability audits on existing HHS/IHS facilities)
- Contributing to the Federal Health System Learning Network to advance joint work on clinical decarbonization and meet the decarbonization goals of Executive Order 14057
- Exploring construction of a net zero medical facility, partnering with Tohono O'odham Nation to conduct a planning study to project the cost differential associated with a Net Zero facility

National Institutes of Health (NIH)

NIH supports biomedical and behavioral research within the U.S. and abroad, conducts research in its own laboratories and clinics, trains promising young researchers, and promotes collecting and sharing medical knowledge. Its planned climate-related activities include:

- Expanding the NIH portfolio on the health impacts of climate change across many climate factors, including extreme weather events (this will be accomplished by funding investigator-initiated research grants and providing supplements to existing grants to expand capacity and leverage existing investments to study many health outcomes)
- Further establishing the NIH Climate Change and Health Research Coordinating Center and funding four Alliance for Community Engagement – Climate and Health (ACE-CH) “hubs” that will explore local climate-related challenges with impacted communities and prepare to conduct translational research
- Supporting a Climate and Health Scholars Program to increase climate and health-related research capacity at the NIH
- Forming partnerships with other federal agencies, including the National Science Foundation, to support timely health research in response to climate related disasters
- Providing additional research funding and training opportunities for grantees interested in studying the intersection of climate and health
- Disseminating a knowledge management tool (NIEHS Climate Change and Health [Glossary](#)) with the intent to help guide discussions and research with common and cohesive language across disciplines working on climate change and human health
- Building infrastructure for a climate change and health data ecosystem through curation, creation, and evaluation of data sources, methods, tools, and other resources to explore potential relationships between wildfire exposures and health outcomes (funded by the Office of the Secretary Patient-Centered Outcomes Research Trust Fund)

Office of the Assistant Secretary for Health (through the Office of Climate Change and Health Equity)

The Office of the Assistant Secretary for Health leads the Department’s public health initiatives and programs. Its work on climate change is carried out by the Office of Climate Change and Health Equity (described in prior sections), which also plays a coordinating role in climate-related activities across the Department. OCCHE’s planned climate-related activities include:

- Producing the Climate and Health Outlook each month to support healthcare stakeholders in anticipating and responding to climate-related threats
- Developing plans for continued regional and tribal engagement following the August 2023 “Strengthening Partnerships for Healthy, Climate Resilient, and Thriving Communities” event
- Developing and disseminating a heat-related tool using the EJI
- Updating and re-launching the Sustainable and Climate Resilient Healthcare Facilities Toolkit and packaging supports to prepare for common climate-related threats
- Increasing health sector stakeholder participation in the White House-HHS Climate Pledge
- Identifying relevant programs from the IRA to support transformative industry investments in renewable energy, building efficiency and resilience (through the IRA Quickfinder) and actively disseminating this information through other agencies, associations and partners

VI. Planned Actions for the Near Term

- Catalyzing solarization of health centers and investment in renewables by other safety net providers through available IRA resources
- Supporting HHS in collaborating on procurement guidance with NHS England, producing shared information for suppliers on expected climate disclosures and involving other nations to the degree possible
- Operating the Federal Health Systems Learning Network to help federal care providers meet the decarbonization goals of Executive Order 14057
- Clarifying statutory limitations and flexibilities for HHS and HHS Operating Division work on emissions reduction
- Building on climate-related training for HHS Senior Executive Service members and for individuals in all Staff and Operating Divisions

Substance Abuse and Mental Health Services Administration (SAMHSA)

SAMHSA recently announced its updated mission and vision as part of its 2023-2026 Strategic Plan, which is to lead public health and service delivery efforts that promote mental health, prevent substance misuse and provide treatments and supports to foster recovery while ensuring equitable access and better outcomes. SAMHSA envisions that people with, affected by, or at risk for mental health and substance use conditions receive care, achieve well-being, and thrive. Its planned climate-related activities include:

- Building on information received through SAMHSA's 2022 Request for Information and conducting regional "climate conversations" with SAMHSA stakeholders across the 10-SAMHSA regions, along with Tribal nations and territories
- Educating behavioral health providers on the disproportionate impact of extreme heat on people with serious mental illness and/or substance use disorders (behavioral health providers and people with mental health and substance use conditions will be advised on the physiological effects of extreme heat on people who have mental health and substance use conditions and related actions they can take to mitigate risks for heat-related health problems)
- Supporting incorporation of climate-informed behavioral health services across a continuum of behavioral health service provider types, including integrating climate related health information into existing behavioral health and wellness curriculums
- Addressing the mental health impacts of climate change through SAMHSA block grants

There are also several potential collaborations across Operating Divisions that could include:

- Exploring the addition of more climate-related variables to HHS SDOH databases (e.g., AHRQ) and data inventories in order to accelerate collection of information on climate change as a social determinant, particularly for at-risk populations
- Exploring additional inter and intra-Department data analysis collaborations, building on efforts like the AHRQ-OCCHHE collaboration using Healthcare Cost and Utilization Project (HCUP) data to better understand extreme heat impacts on healthcare services
- Creating an HHS compendium of "success stories" on climate resilience and health equity both as a communication tool and to inform policy

In addition, OCCHHE and HHS Operating Divisions will interact closely with other federal departments to carry out necessary work. This happens regularly through the Federal Health System Learning Network and through exchanges with agencies whose work has a close relationship to climate change and health. This happened in the spring of 2023, for example, when OCCHHE and EPA collaborated to develop shared guidance for all healthcare provider types on use of the EPA Portfolio Manager platform for emissions tracking.

VI. Planned Actions for the Near Term

The HHS Climate Change and Health Equity Working Group will be the venue for regular review of progress and annual updates on the planned actions outlined above.

VII. Framework for Future Action

While the activities outlined in the preceding sections suggest good progress and promising near-term plans from HHS Operating and Staff Divisions, much more action is required to truly transform the Department and the health and human services sectors such that they are fully prepared for climate impacts on at-risk populations and truly sustainable. Organizing frameworks for health system resilience and sustainability, such as the WHO Operational Framework for Building Climate Resilient and Low Carbon Health Systems, offer a helpful starting point in defining what is required to transform the sector in service of both resilience and emissions reduction. The framework’s categories suggest key areas of focus against which we can assess the sector’s current strengths and needs.

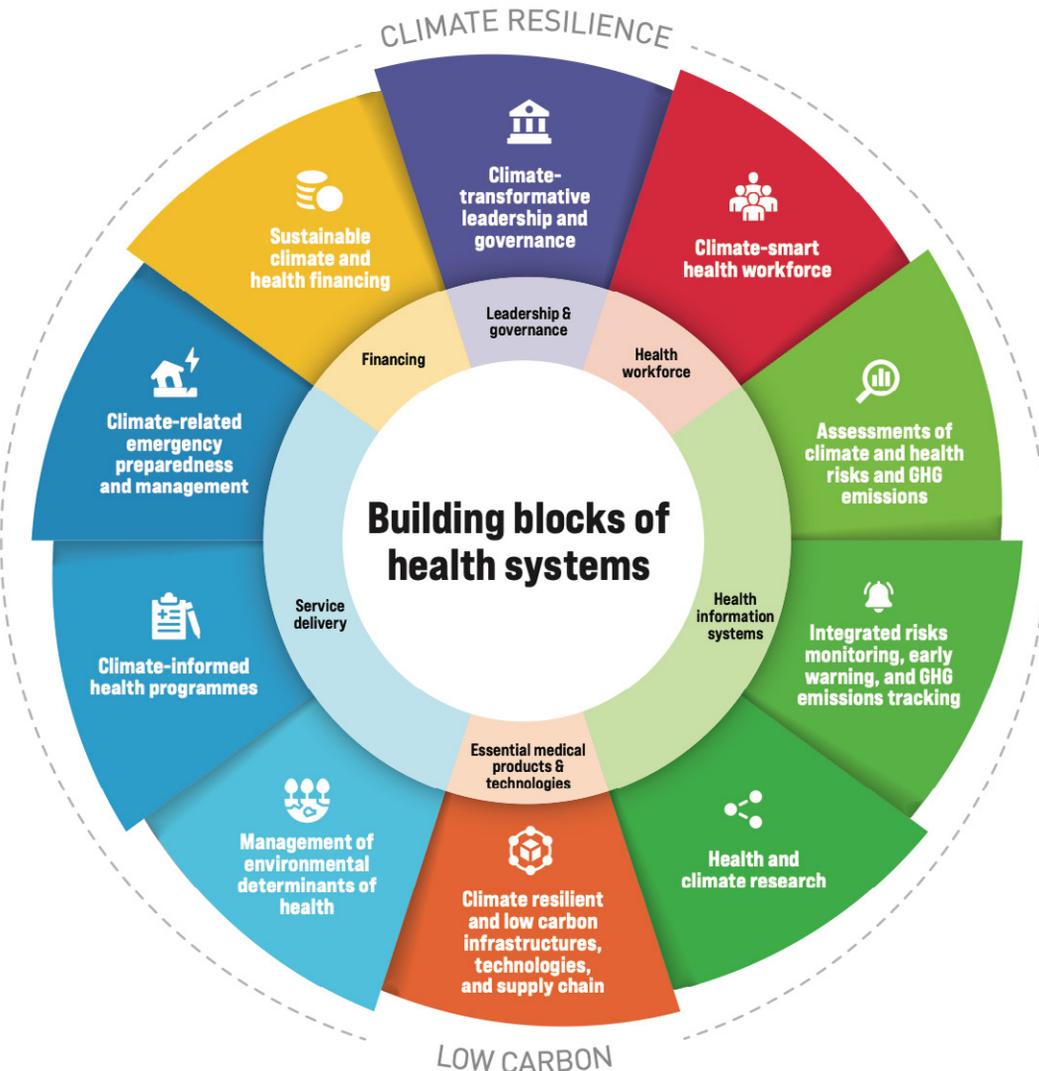


Figure 4: Ten components comprising the WHO operational framework for building climate resilient and low carbon health systems, and the main connections to the building blocks of health systems (WHO, 2023) <https://www.who.int/publications/i/item/9789240081888>

Specifically, HHS has identified eight components of an integrated strategy to address the challenges of climate change and advance equitable outcomes for the department and the health sector. The first two components (data collection, research) are foundational activities that will help establish the evidence base and tracking mechanisms for action; the balance of the components relate to catalyzing change in healthcare and public health sector stakeholder organizations to allow them to more rapidly become resilient and sustainable. Achieving the vision of a resilient, sustainable health system and resilient, thriving communities in the face of climate change cannot be achieved without implementing all eight components. All are essential to drive the needed transformation.

This section describes examples of necessary advances in each of the components of the strategy. At present, several of these are contingent on legislative commitments.

1. Data collection and data system integration for climate health surveillance, research, health risk screening and diagnosis. While there have been recent advances in surveillance of heat-related morbidity and mortality, the nation currently does not have robust surveillance systems for morbidity and mortality attributable to other climate-related phenomena such as wildfire smoke, flooding and hurricanes. Data collection systems are also needed to track greenhouse gas emissions and resilience status of the health sector. More robust data collection will directly support research as well as the consensus development of indicators and measures noted below.

a. Examples of Needed Data Collection Actions

- i. Development of tracking systems for heat, wildfire and extreme weather event-related morbidity and mortality.
- ii. Development of an HHS emissions tracker to estimate industry-wide emissions through aggregate (submitted) information, possibly drawing upon data submitted to the EPA Portfolio Manager platform

2. Multidisciplinary climate health research, including health services research and biomedical research and development. As previously documented, historical investment in research on climate change and health has been very small compared to other health issues, resulting in a limited evidence base (Sorensen et al., 2023). This is especially true of health services research related to climate resilience and sustainability. Recent increases in research funding at the NIH will help close the gap in community-based and implementation science research results over time, but a great deal of additional research (ranging from research and development for more sustainable biomedical devices to health services research to evaluate new climate-friendly models of care) is required to address sustainability and resilience needs of systems and communities.

a. Example Research Topics on Health System Resilience

- i. "Tipping points" for healthcare facility failure during and after extreme weather events and climate-related disasters
- ii. Return on specific investments related to healthcare facility resilience
- iii. Climate-related complications in priority areas for administration and HHS (e.g., maternal health).

b. Example Research Topics on Decarbonization

- i. Optimal approaches to on-site decarbonization, including through innovations in operations and care delivery (building on AHRQ Decarbonization Primer and identification of bright spot performers)
- ii. Comprehensive Life Cycle Assessment of healthcare products and services for all provider types to identify products and services with highest emissions impact for targeted reduction
- iii. Impact and distribution of Scope 3 emissions for different components of health sector

3. Consensus development of climate health risk, outcome, resilience and quality indicators and measures:

Climate change-related risk, resilience and performance need to be measured and tracked at all levels of the healthcare and public health sector. At the individual level, indicators of health vulnerability can help identify patients in need of interventions when extreme weather events are anticipated. At the facility level, measures of

health system resilience and performance in addressing health risks of climate change need to be developed through standard consensus processes and incorporated into healthcare quality improvement in much the same way that patient safety and infection control imperatives have been translated into quality measures. At a national scale, indicators of health outcomes associated with climate change are needed to assess progress in health system resilience in the face of escalating exposures to climate-related hazards and health system sustainability.

a. Examples at the individual scale

- i. Electronic Health Record (EHR) flags to prompt identification of patients at risk for climate-related hazards (e.g., extreme heat exposure), with suggested interventions for referral and anticipatory guidance

b. Examples at the facility or organization scale

- i. Development of screening and diagnosis quality targets for climate-related exposure and risk
- ii. Development of new standardized measures of facility resilience, as well as sustainability and energy efficiency, through consensus processes (e.g., National Quality Forum)
- iii. Development of new measures that treat harm associated with facility carbon emissions as a dimension of quality

c. Examples at the national and sub-national scale

- i. Aggregations of the above (e.g., facility greenhouse gas emissions) for tracking progress at the city, county, state and national level
- ii. Development of national indicators of climate change-related health outcomes to track progress in public health, community resilience and well-being

4. Workforce training and capacity building: Meeting the health and human services challenges of climate change will require a workforce with appropriate skills and support for attaining them. This entails both enhancing the skills of existing healthcare, public health and human services professionals and training new groups of workers in specialties and skills specific to the challenges of climate change. This will include healthcare engineers with specialized skills in resilient and renewable energy, community health workers with specialized skills in climate-related patient risk assessment and interventions, clinicians with expertise in providing climate-informed care, and others.

a. Example training initiatives for existing workers:

- i. Mandatory training on climate health and equity for all HHS SES, HHS Staff, and Public Health Officers with customized materials relating to the constituents of each agency
- ii. Creation of dedicated climate-related positions in HHS agencies and organizations across the country
- iii. Training of safety net providers in climate-informed primary care delivery

b. Example training initiatives for a new workforce:

- i. Incentives for inclusion of climate health and equity curricula in all HHS-funded Graduate Medical Education

5. Innovation and enhancement in delivery of health care, public health, human services and health emergency preparedness and response: The increasing frequency and severity of climate change-related health threats drives the need for innovation in the delivery of healthcare, public health and human services. Ensuring continuity of operations and community well-being while reducing greenhouse gas emissions requires significant changes in how the sectors operate. The industry should have access to a continuously updated compendium of successful innovations and case examples from across the country and around the world. Building on a growing evidence base, additional innovations must be piloted, evaluated and disseminated in order to meet the climate

change challenges before the Department. Importantly, any innovations must be introduced in such a way that patient safety and outcomes are enhanced and never worsened.

a. Potential Innovations:

- i. Care coordination models to protect at-risk patients from climate-related hazards, incorporating climate-related exposures in SDOH screening and referral
- ii. Renewable energy innovations (e.g., community solar subscription programs for health centers and safety net hospitals)
- iii. Innovative approaches to enhance climate resilience across public health, healthcare, and human services (e.g., incentives for healthcare organizations' upstream investments in community resilience, such as investments in affordable housing and greenspace; novel partnerships to enhance coordination between health, human services, and community organizations to improve climate resilience)
- iv. Incorporation of climate action and outcomes related to climate-sensitive health conditions in healthcare quality improvement initiatives

6. Technical assistance and tool development: Healthcare, public health and human services organizations have varying levels of understanding and skill in addressing the threats presented by climate change. Climate change challenges also occur in a context of severe stresses and competing priorities for healthcare, public health and human services stakeholders. Substantial technical assistance and development of user-friendly tools and guidance are needed to assist organizations and professionals on a path towards climate resilience and sustainability. Additional technical assistance and tool development will be required as the innovations and enhancements described above are introduced.

a. Examples of Technical Assistance and Tools for Health System Resilience

- i. Support for different provider types through preparedness components of the next CMS QIO Statement of Work
- ii. Support associated with the planned launch of the Sustainable and Climate-Resilient Health Care Facilities Toolkit update and RISC 2.0 Vulnerability Assessment
- iii. Support for FQHCs on climate resilience and resilient infrastructure through technical assistance, and partnerships to enhance primary care providers' protection of vulnerable patients from climate-sensitive hazards (including referrals to LIHEAP and the Low Income Home Water Assistance Program (LIHWAP))

b. Examples of Technical Assistance and Tools for Decarbonization

- i. Development tools and resources to support organizations in developing inventories of Scope 3 emissions (i.e., emissions associated with the supply chain)
- ii. Support to providers on enhanced greenhouse gas emissions tracking in partnership with EPA
- iii. Support for expansion of Federal Health Systems Learning Network to facilitate dissemination of its insights and tools to private sector

7. Policies to sustain progress and heighten accountability: As consensus grows on effective, safe and affordable interventions to address climate change challenges, updates and revisions to existing authorities and policies will help ensure widespread adoption of necessary actions and measures. Existing evidence already supports revisions to emergency preparedness and resilience programs and policies. Expanded understanding and pilot testing will help support additional revisions and updates in the future.

a. Example policies, governance and structures to reinforce community and facility resilience:

- i. Revision of CMS emergency preparedness regulations to more fully account for unprecedented climate-related challenges and threats to at-risk populations
- ii. Inclusion of investments in sustainable operations, community climate resilience in community benefit reporting

b. Example policies, governance and structures to reinforce decarbonization:

- i. Revision of EP Rule and building codes to support resilient health facility microgrids with renewable production and battery backups
- ii. Exploration of greenhouse gas (GHG) accounting — and then reduction — as a CMS condition of participation or quality improvement measure
- iii. Exploration of statutory authority for FDA to address emissions in production of drugs, technology, equipment

8. Funding and finance mechanisms for healthcare system resilience and decarbonization: While many investments in decarbonization and resilience ultimately save money, most require some degree of upfront capital expenditure. Existing federal programs and legislation like the IRA can help meet healthcare and public health sector needs and must be broadly accessed by organizations serving at-risk populations if transformative changes to energy infrastructure, health facility resilience and community resilience are to occur. Additional dedicated funding specifically designed for the healthcare, public health and human services sectors would facilitate more rapid and effective transformation and dedicated funding for staffing and programming within HHS could also help accelerate the Department's work on urgent climate-related challenges.

VIII. Management of HHS Work on Climate Change and Health Equity

To successfully carry out this document's vision, HHS has management structures to ensure department-wide attention to climate change and incorporate climate considerations into as much of its operations as possible.

As noted above, the Department's work on climate change and health equity originates through Executive Order 14008 and the mandate for each agency to develop a Climate Adaptation and Resilience Plan. [The Director of the HHS Program Support Center \(PSC\) serves as HHS Chief Sustainability Officer and is responsible for full implementation of EO 14008 including agency planning, reporting requirements, and accountability.](#) The Office of Climate Change and Health Equity has partnered closely with PSC and shares accountability for implementation of those aspects of the HHS Climate Adaptation and Resilience Plan that pertain to public health protection and health sector decarbonization and resilience.

HHS work on climate change and health equity also relates to specific components of the [HHS 2022-2026 Strategic Plan](#), including:

- **Strategic Objective 1.2:** Reduce costs, improve quality of healthcare services, and ensure access to safe medical devices and drugs
- **Strategic Objective 1.3:** Expand equitable access to comprehensive, community-based, innovative, and culturally competent healthcare services while addressing social determinants of health
- **Strategic Objective 2.1:** Improve capabilities to predict, prevent, prepare for, respond to, and recover from disasters, public health and medical emergencies, and threats across the nation and globe
- **Strategic Objective 2.4:** Mitigate the impacts of environmental factors, including climate change, on health outcomes
- **Strategic Goal 3:** Strengthen Social Well-being, Equity, and Economic Resilience to capture human services goals and objectives
- **Strategic Objective 5.4:** Ensure the security and climate resiliency of HHS facilities, technology, data, and information, while advancing environment-friendly practices

Thus, the activities in this document also fall under the governance mechanisms of the HHS Strategic Plan, creating both programmatic and operational expectations for HHS divisions. For example, Senior Executive Staff at HHS have a specific element of their performance criteria related to training on climate change issues, as noted above, and explorations of how climate considerations should be incorporated into department funding opportunities are underway, as well.

The Office of Climate Change and Health Equity plays a central role across HHS in the implementation and accountability for both the HHS Climate Adaptation and Resilience Plan and the HHS 2022-2026 Strategic Plan. The Office convenes the HHS Climate Change and Health Equity Workgroup, which comprises individuals from all divisions of the Department and serves as the primary coordinating platform for programmatic climate change actions. This work on climate change and health equity is accomplished in close coordination with the CSO and with the HHS Office of Environmental Justice and HHS Environmental Justice Working Group, under the governance structures associated with that Working Group and relevant Executive Orders, such as [E.O. 14096](#).

IX. Conclusion

As climate change progresses and its impacts become more apparent and severe, the Department of Health and Human Services has essential roles to play in protecting the health of all people in the U.S. and assuring the resilience of the nation's health systems. In addition, the Department, through its social supports and poverty alleviation programs, is an essential safety net and support to at-risk families as they face a disproportionate burden of impacts from climate change. Lastly, because the health sector in the U.S. is a significant source of greenhouse gas and other pollution, the Department has a critical role in supporting the reductions of those pollutants from the health sector.

This strategy represents a watershed moment in the history of the Department of Health and Human Services' efforts to address the threats associated with climate change. It demonstrates an unprecedented level of effort and engagement across the entire Department to identify viable and effective steps that can be taken now to start to address the climate crisis. And it is also just a beginning. As more and more components of HHS address the challenges climate change poses for human health and well-being, it is certain that more widespread and robust programming will develop. With climate change posing the greatest global threat to human health this century, addressing climate change is essential to achieving the overarching HHS mission to enhance the health and well-being of all Americans.

Citations

- ASPE. (2021, August 25). *The Intersection of Environmental Justice and Human Services*. Assistant Secretary for Planning and Evaluation. <https://aspe.hhs.gov/reports/ej-human-services>
- Atwoli, L., Baqui, A. H., Benfield, T., Bosurgi, R., Godlee, F., Hancocks, S., Horton, R., Laybourn-Langton, L., Monteiro, C. A., Norman, I., Patrick, K., Praities, N., Olde Rikkert, M. G. M., Rubin, E. J., Sahni, P., Smith, R., Talley, N., Turale, S., & Vázquez, D. (2021). Call for emergency action to limit global temperature increases, restore biodiversity and protect health. *Pharmaceutical Journal*, 307(7953). <https://doi.org/10.1211/PJ.2021.1.102227>
- CDC. (2022, April 25). *Climate effects on health*. Centers for Disease Control and Prevention. <https://www.cdc.gov/climateandhealth/effects/default.htm>
- Health Voices for Climate Action. (2021, April). *Climate Change, Health and Equity at the Department of Health and Human Services*. Climate Health Action. [hhs-climate-change-recommendations-28apr2021.pdf](https://www.hhs.gov/health-voices-for-climate-action/reports/climate-change-health-and-equity-at-the-department-of-health-and-human-services)
- Costello, A., Abbas, M., Allen, A., Ball, S., Bell, S., Bellamy, R., Friel, S., Groce, N., Johnson, A., Kett, M., Lee, M., Levy, C., Maslin, M., McCoy, D., McGuire, B., Montgomery, H., Napier, D., Pagel, C., Patel, J., ... Patterson, C. (2009). Managing the health effects of climate change. *The Lancet*, 373(9676), 1693–1733. [https://doi.org/10.1016/S0140-6736\(09\)60935-1](https://doi.org/10.1016/S0140-6736(09)60935-1)
- Council on Environmental Health, Paulson, J. A., Ahdoot, S., Baum, C. R., Bole, A., Brumberg, H. L., Campbell, C. C., Lanphear, B. P., Lowry, J. A., Pacheco, S. E., Spanier, A. J., & Trasande, L. (2015). Global climate change and children's health. *Pediatrics*, 136(5), 992–997. <https://doi.org/10.1542/peds.2015-3232>
- Eckelman, M. J., Huang, K., Lagasse, R., Senay, E., Dubrow, R., & Sherman, J. D. (2020). Health Care Pollution and Public Health Damage in the United States: An Update. *Health Affairs*, 39(12), 2071–2079. <https://doi.org/10.1377/hlthaff.2020.01247>
- EPA. (2021, September). *Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts*. U.S. Environmental Protection Agency. EPA 430-R-21-003. www.epa.gov/cira/social-vulnerability-report
- Mace, S.E., & Sharma, A. (2020). Hospital evacuations due to disasters in the United States in the twenty-first century. *American Journal of Disaster Medicine*, 15(1), 7–22. <https://doi.org/10.5055/ajdm.2020.0351>
- NCEI. (2023, January 9). *U.S. 2022 Billion-Dollar Weather and Climate Disasters*. NOAA National Centers for Environmental Information. <https://www.climate.gov/media/14987>
- Sorensen, C., Dresser, C., Balakumar, A., Wheat, S., Yates, E., Healy, J.P., Brown, C., Butala, N., Lehmann, E.Y., Malina, G., Redelmeier, R.J., Hess, J.J., & Salas, R.N. (2023) Extramural U.S. Federal Research Grants for Health Outcomes Associated with Climate Change Inadequate, Too Narrow in Focus. *Health Affairs*, 42(9), 1289-1297. <https://doi.org/10.1377/hlthaff.2022.01407>
- Schulte, P.A., Jacklitsch, B.L., Bhattacharya, A., Chun, H., Edwards, N., Elliott, K.C., Flynn, M.A., Guerin, R., Hodson, L., Lincoln, J.M., MacMahon, K.L., Pendergrass, S., Siven, J., Vietas, J. (2023). Updated assessment of occupational safety and health hazards of climate change. *Journal of Occupational and Environmental Hygiene*. DOI: 10.1080/15459624.2023.2205468
- Smith, A. B. (2023, January 10). *2022 U.S. billion-dollar weather and climate disasters in historical context*. U.S. National Oceanic Atmospheric Association National Centers for Environmental Information. <https://www.climate.gov/news-features/blogs/beyond-data/2022-us-billion-dollar-weather-and-climate-disasters-historical>

Citations

- U.S. Department of Health & Human Services. (2021). *2021 Climate Action Plan*. <https://www.hhs.gov/sites/default/files/hhs-climate-action-plan-9-28-2021.pdf>
- U.S. Global Change Research Program. (2016). *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*. https://health2016.globalchange.gov/high/ClimateHealth2016_FullReport.pdf
- U.S. Global Change Research Program. (2018). *Fourth National Climate Assessment*. <https://nca2018.globalchange.gov>
- U.S. Global Change Research Program. (2023). *Fifth National Climate Assessment*. <https://nca2023.globalchange.gov>
- U.S. House of Representatives Ways and Means Committee. (2023, June 23). *Health Care and the Climate Crisis: Preparing America's Health Care Infrastructure*. Ways & Means Committee. <https://democrats-waysandmeans.house.gov/health-care-and-climate-crisis-preparing-americas-health-care-infrastructure>
- U.S. Office of Management and Budget. (2022). *Climate risk exposure: An assessment of the Federal Government's financial risks to climate change*. Executive Office of the President of the United States. https://www.whitehouse.gov/wp-content/uploads/2022/04/OMB_Climate_Risk_Exposure_2022.pdf
- Watts, N., Adger, W. N., Agnolucci, P., Blackstock, J., Byass, P., Cai, W., Chaytor, S., Colbourn, T., Collins, M., Cooper, A., Cox, P. M., Depledge, J., Drummond, P., Ekins, P., Galaz, V., Grace, D., Graham, H., Grubb, M., Haines, A., ... Costello, A. (2015). Health and climate change: Policy responses to protect public health. *The Lancet*, 386(10006), 1861–1914. [https://doi.org/10.1016/s0140-6736\(15\)60854-6](https://doi.org/10.1016/s0140-6736(15)60854-6)
- WHO. (2023, November 9). *Operational framework for building climate resilient and low carbon health systems*. World Health Organization. <https://www.who.int/publications/i/item/9789240081888>

Appendix: Summary of Findings from HHS Requests for Information on Climate Change and Health Equity

Since 2021, several HHS agencies have issued requests for information (RFIs) regarding climate change and its impacts on the health and well-being of people living in the U.S., giving particular attention to the needs of vulnerable populations. This has included two RFIs from the Centers for Medicare & Medicaid Services (CMS) and one each from the Agency for Healthcare Research and Quality (AHRQ), the Substance Abuse and Mental Health Services Administration (SAMSHA), and the National Institutes of Health (NIH). The HHS Office of Climate Change and Health Equity (OCCHE) contributed to several of these, working together with CMS to craft and summarize its RFI materials and consulting on the AHRQ and SAMHSA solicitations.

Roughly 250 comments were reviewed by OCCHE staff and detailees, which included feedback from health systems, healthcare providers, professional associations, trade associations, community organizations, private businesses, government agencies, academic institutions and unaffiliated individuals, among others. Most comments were supportive of HHS efforts to both address the negative effects of climate change on health and support American public health, health care and human service organizations in becoming more resilient and sustainable. Stakeholders consistently identified climate change as a major concern and a serious threat to the well-being of communities across the U.S. and requested that HHS strengthen programmatic and policy responses and offer financial support to nongovernmental organizations seeking to take action in this area.

The first RFI issued by CMS was part of its 2023 [Notice of Benefit and Payment Parameters](#) for health insurance exchanges and received 52 comments. Commenters universally acknowledged the threats climate change presents to human health and broadly recommended that healthcare stakeholders consider the impact of climate change on their enrollees, providers, and employees. Nearly half of the commenters supported the collection and public reporting of greenhouse gas emissions data by providers and some urged development of performance and quality measures tied to climate-related outcomes. Commenters also noted the importance of preparing health care systems for climate health threats by identifying at-risk enrollees prior to climate change events to better assist them with access to cooling and clean air resources. Some commenters suggested tying healthcare system and provider reimbursement to action on climate change and emissions reduction. Commenters frequently discussed the relationship between climate change and social determinants of health, noting the importance of anticipating and managing climate change's impact on the health of certain marginalized and high-risk populations.

The second CMS RFI was issued as part of the Medicare Inpatient Prospective Payment Systems [Notice of Proposed Rulemaking](#) for 2023 and the comments it contained were generally consistent with those from the agency's prior RFI. Commenters also requested more timely data to understand threats and health impacts associated with climate change, especially for vulnerable and marginalized populations, as well as information on cost impacts of climate-related conditions for care providers. In addition, several comments requested funding, financing supports and incentives to help deepen work in this area (with attention to the needs of different provider types), as well as technical assistance resources to assist operational and clinical improvements in this area (with attention to frontline specialties whose work intersects with climate health) and standardized measures and measurement frameworks to help with progress tracking and reporting (with mixed views on whether such reporting be mandatory or voluntary). Stakeholders also raised the need for updates to emergency preparedness requirements, conditions of participation, and other regulations to help all provider and supplier types be more responsive to climate-related challenges and better support the needs of at-risk populations.

AHRQ [solicited feedback](#) on how the agency can have the greatest impact in addressing climate change through its core competencies of health services research, practice improvement, and data and analytics. AHRQ received comments and suggestions from 51 organizations and individuals, representing large healthcare systems, solo practitioners, environmental advocacy groups, medical device manufacturers, legal scholars and others. Most responses supported AHRQ's efforts to help tackle climate change, urging the agency to support additional health services research related to climate and health. Commenters also suggested AHRQ provide education on such topics as facility resilience, the interaction between climate change and social determinants of health, and climate-related mental health issues. Commenters encouraged AHRQ to develop additional quality metrics related to climate change and to implement policy changes that might promote sustainable practices. Many commenters urged AHRQ to provide technical assistance funding to provider organizations in addition to resources such as practice change toolkits.

SAMHSA's [RFI](#) sought input from members of the public about how the agency could best address the behavioral health impacts of climate change and health equity considerations, collecting information on suggested priorities, resources, partners and collaborating agencies and organizations. SAMHSA received 77 relevant, nonduplicative comments from individuals and behavioral health providers, government and community agencies, nonprofits, professional associations, and academia. Commenters' [responses](#) pointed to the stress, anxiety and depression accompanying climate change and natural disasters and noted that behavioral health systems must account for climate-related challenges moving forward. They requested more climate-related funding to organizations that work in support of mental health and substance use disorders, as well as more flexibility in how those funds were allocated. Commenters also recommended policy changes, suggesting that SAMHSA pay close attention to the needs of vulnerable populations including those most impacted by climate change and natural disasters such as those in rural areas, tribal populations, persons with behavioral health conditions and youth. Commenters suggested SAMHSA develop climate-related action plans and provide support (through SAMHSA Block Grants, for example) for additional research, tool clearinghouses, technical assistance and training for grantees in service of educating health professionals and the general public about the behavioral health impacts of climate change. (The latest SAMHSA Block Grant application for fiscal years 2024-2025 does expressly discuss climate change.)

While each of the agencies that issued RFIs has a unique mission, there were several themes that emerged across these RFIs that could help inform future directions for HHS' work on climate change:

- **Deepening Research on the Impacts of Climate Change and Climate Health Solutions** – Commenters noted gaps in research on climate change's impacts on the health and well-being of individuals and communities in the U.S., suggesting more comprehensive research on both acute and chronic impacts and recommending the development of a broader set of evidence-based practices to address climate-related threats.
- **Increasing Subject Matter Knowledge on Climate Health and Equity** – Commenters emphasized the importance of education, training and outreach, both for health professionals and communities most impacted by climate change. This included educating clinicians on how climate change may influence social determinants of health and how chronic conditions and behavioral health conditions are exacerbated by climate change. Commenters saw a clear role for healthcare providers in helping their patients be better prepared for climate change's impacts.
- **Increasing Funding** – Commenters often identified the need for additional funding from the federal government to support their efforts to address climate change. In addition to direct funding via grants and support for climate-related infrastructure investments, commenters also suggested that the government adopt incentives for healthcare facilities and insurers to enhance climate resilience and sustainability.

- **Increasing Technical Assistance** – In addition to funding, commenters requested HHS support organizations seeking to take climate-related actions by developing tools and supports and providing technical assistance. They noted that this could include clearinghouses for sharing best practices and hands-on learning networks at a national and regional level that assist organizations in becoming more resilient and reducing their emissions.
- **Strengthening Measurement and Data Collection** – Commenters noted the need for standard measures to assess community and facility resilience, as well as the sustainability and emissions of healthcare stakeholder organizations, and further requested that HHS strengthen data collection across agency programs related to climate change.
- **Developing Supportive Policy** – Many commenters recommended developing policies to address the harmful impacts of climate change. These included conditions of participation from CMS that would require more attention to climate-related threats as part of emergency preparedness regulations and other requirements on providers to report on emissions that contribute to climate-related health challenges.
- **Centering Equity** – Equity was also recognized consistently across the comments as central to HHS efforts to address health impacts of climate change, as commenters cited racial, ethnic, historical, and geographic factors contributing to greater climate-related exposure for certain populations living in the U.S. Commenters also identified specific threats for specific sub-populations, including lesbian, gay, bisexual, transgender, queer+ populations, institutionalized populations, indigenous populations, rural communities, persons with disabilities, children, and people living in poverty.
- **Enhancing Collaboration** – Collaboration and partnership was a key theme across the RFIs including support for enhanced coordination across federal programs and across disciplines and programmatic areas. Respondents noted that the challenges presented by climate change will necessarily require federal agencies to work together. Commenters also suggested partnerships between and among federal, state, tribal and local governments, and community organizations and key healthcare sector businesses including healthcare providers and suppliers.

Notably, the RFIs described here were not the only source of feedback to HHS. The Office of Climate Change and Health Equity and the Administration for Children and Families conducted conversations in communities around the country, culminating in an August 2023 Summit meeting in Washington, DC. In addition, advocacy groups, congressional offices and other stakeholders have submitted letters and published papers registering their strong opinions on this topic. By and large, these sources of information confirmed the views that were collected in the RFIs summarized here. In short, the healthcare sector understands that climate change represents an enormous threat to global public health, and they must prepare themselves accordingly.