Climate Change and Health Equity: Introduction to the new OCCHHE

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Overview

• How Climate Change and Health Equity are Connected
• How Climate Change Impacts the Health of Underserved Populations
• Introduction to the Office of Climate Change and Health Equity
• How OCCHE can Partner with HRSA and the National Health Service Corps
This map denotes the approximate location for each of the 20 separate billion-dollar weather and climate disasters that impacted the United States in 2021.
COVID-19 is a Health Equity Issue: Key Drivers of Disease Inequities

COVID-19 Inequities
Many social, political and environmental factors affect community health and contribute to adverse health outcomes, social inequities, and health inequities. The COVID-19 pandemic has further exacerbated existing inequities, with many people suffering from chronic illnesses and other conditions that increase their risk to severe illness. In addition, the lack of investment in addressing barriers to healthy and productive lives in marginalized communities leads to many other health and social consequences. Below are examples of some key interdependent drivers of disease inequities. A multi-sectoral approach is needed to reduce the impact of COVID-19 and other health issues among marginalized, vulnerable, and underserved communities.

Discriminatory Policies
Policies impacting healthcare, education, finance, criminal justice and other narrative systems which should serve to protect communities can lead to stress as well as act as barriers towards proper healthcare.

Limited Access to Essential Services and Resources
Barriers towards health insurance, childcare, sick leave, paid leave, or access to PPE among others, make some demographics more prone to COVID-19 inequities.

History of Racism & Social Discrimination
Systemic racism and other forms of social discrimination (e.g., xenophobia, gender discrimination, bias against the LGBTQ+ community) have contributed to discriminatory policies, limited investment in community wellbeing, lack of access to quality healthcare, and a poor sense of trust between communities and health and social systems.

Mistrust
Insufficient community engagement, combined with misinformation or a lack of consistent information as well as a history of discrimination causes many marginalized communities to lack trust towards health and social services.

Low Health Literacy & Misinformation
Many people from ethnically and racially diverse communities, as well as people of low SES didn’t have the opportunity to develop skills to identify credible news sources, which has been shown to correlate with low health status.

Chronic Stress
Continued stress can impact physical health, reducing conditions such as heart disease or high blood pressure, which could lead to COVID-19 complications.

Overcrowded Living Conditions
Many groups live in overcrowded conditions such as multi-generational homes or nursing homes, prisons, homeless shelters, or other kinds of group “homes.” This can make it difficult to social distance and increase the risk for COVID-19. Of great importance are factors such as unemployment which can lead to homelessness, and therefore increased vulnerability to COVID-19.

Poverty
For many people living in poverty, health is one of many priorities. Too many commitments, such as multiple jobs or concerns with access to food and shelter, make issues such as preventative health seem less urgent.

1) CDC, 2018
2) Pew Research Center, 2020
3) CDC, 2020
4) NY Times, 2020
5) NACCHO, 2020
6) Harvard, 2019
7) U.S. Census and G. Owen, 2020
8) J. Graham, C. Lubchenco, and D. C. Parmelee, 2020
9) CDC, 2016

https://www.healthequityinitiative.org/
Unequal Climate Vulnerability

Root Causes

- Racism, historical and current disenfranchisement, unequal distribution of power and resources rooted in institutions and processes

Environmental justice factors that may increase climate vulnerability

- Proximity and exposure to environmental stressors
- Unique exposure pathways
- Physical infrastructure, such as poor housing
- Multiple stressors, cumulative, and compounding impacts
- Capacity to participate in decision making

Unequal climate vulnerability

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1) Adapted from Climate Change, Health and Equity: A Guide for Health Departments, Public Health Institute and American Public Health Association, 2018
2) Adapted from Guidance on Considering Environmental Justice During Development of Regulatory Actions, EPA, 2015

Slide Courtesy of CDC NCEH
The Public Health Impacts of Climate Change

- Injuries, fatalities, mental health impacts
- Asthma, cardiovascular disease
- Heat-related illness and death, cardiovascular failure
- Malaria, dengue, encephalitis, hantavirus, Rift Valley fever, Lyme disease, chikungunya, West Nile virus
- Forced migration, civil conflict, mental health impacts
- Respiratory allergies, asthma
- Extreme heat
- Air pollution
- Changes in vector ecology
- Increasing allergens
- Rising temperatures
- More extreme weather
- Rising sea levels
- Environmental degradation
- Water supply impacts
- Water quality impacts
- Cholera, cryptosporidiosis, campylobacter, leptospirosis, harmful algal blooms

Source: CDC National Center for Environmental Health
EFFECTS OF CLIMATE CHANGE ON HEALTH SYSTEMS

- Costs
- Utilization
- Disruptions of Care
- Public Health

WHAT HEALTH SYSTEMS CAN DO

- Climate Resiliency
- Evidence-Based Adaptation
- Disaster Preparedness
- Carbon Footprint
- Training and Education
1923, City of Richmond, Virginia – “Residential Security Map”

Source: Nelson, Winling, Marciano, Connolly, et al., Mapping Inequality
Formerly redlined areas have less tree cover today than areas that weren’t redlined.

They have more **paved surfaces**, like roads and parking lots, that absorb and radiate heat.
That adds to up to **higher summer temperatures** compared to the city average.

Modern air pollution disparities in historically redlined areas

202 redlining maps drawn in the 1930s

Population wtd NO₂ (ppb)

Air pollution in 2010 increases with 1930s redlining grade
What does this mean for health care systems?

- Elderly populations
  - Heat-related morbidity, air pollution effects, West Nile Virus and other ID’s, Extreme events
- Low-income populations
  - Heat-related morbidity, respiratory diseases from air pollution, molds and pollens, vector-borne diseases (esp. outdoor workers), flooding and extreme events
- People with chronic medical conditions (durable medical equipment)
  - Heat or other weather extremes and loss of electricity in homes
- People with disabilities
  - Heat or other extreme events and ability to shelter, avoid exposures
- All populations
  - Need to improve Social Determinants of Health through infrastructure and other climate change related investments
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.
Examples of initiatives across the 3 priorities

**Priority 1: Climate & Health Resilience for Most Vulnerable**
- Extreme Heat IWG (launched)
- Direct outreach (regions, states, cities, tribes)
- Expansion of CDC/NIH Climate and Health programs
- Launch of HHS CC and Health Equity WG

**Priority 2: Climate Actions to Reduce Health Disparities**
- Climate health and equity measures in SDOH/ELTRR frameworks
- Exploring climate health considerations in HRSA, SAMHSA, IHS facility renovations

**Priority 3: Health Sector Resilience & Decarbonization**
- PPP with National Academy of Medicine
- IHS/VA/DoD learning network for EO 14057
- Updating resilience and mitigation tools (ASPR/AHRQ)
- CMS RFIs and potential tech assistance
- Exploring supply chain actions (FDA/CMS)
The OCCHE “Hub”:
Setting Strategy, Coordinating Action
Thoughts on partnerships with OCCHE

**OCCHE might:**
- Support development and delivery of training on CCHE
- Help identify and connect clinicians to resources to address climate resilience and SDOH
- Connect NHSC staff and members to learning networks

**NHSC and members might:**
- Help identify “adaptation gaps”
- Help connect OCCHE to communities and build health resilience narratives
- Conduct pilot interventions be early testers of tools and supports
- Conduct community-based research, esp. implementation research
Health and climate: co-benefits

Example interventions

- Produce more renewable energy
- Improve insulation in homes
- Encourage use of lower emission vehicles
- Promote active transport
- Reduce solid fuels used for cooking
- Less food from animal sources
- Encourage locally produced fruit and veg

Health benefits

- Better mental health
- Fewer deaths from extreme heat
- Less cardiovascular disease
- Less respiratory disease
- Lower rates of cancer
- Lower rates of obesity

Indirect benefits

- Fewer deaths and injuries from extreme weather events
- Less skin cancer from UV radiation
- Reduced spread of vector-borne diseases to new areas

Reduced climate change

- Lower CO₂ levels
- More renewable energy
- Reduced deforestation
- Reduced livestock production
- Less meat consumed
- Less deforestation
- Local fruit and veg
Scheme for Climate-informed Primary Care

Screening protocols include structural determinants of health and climate risks
Ex: Food security, water source, housing security and safety, energy security, depression and anxiety

Health promotion includes health and planetary benefits
Ex: Diet, active transportation and outdoor play, civic engagement

Care for all children considers and anticipates climate risks
Ex: Children with complex medical conditions and disasters, those participating in sports and extreme heat, children with asthma and allergies and poor air quality and pollen

Anticipatory guidance is informed by climate change
Ex: Never leaving children unattended in vehicles, heat and sun safety, street safety, accessing public health alerts, prevention of vector-borne diseases and emerging harms

Community resource network and referral plans are in place and center patient concerns
Pediatricians can support climate and public health preparedness and adaptation that centers the needs of children, equity and child health.

Fig. Aspects of climate-informed primary care pediatrics.
In Closing

• Climate change is compounding existing stressors and health disparities
• Populations served by NHSC are among those at greatest risk
• NHSC has a critical role to play in building health resilience to climate change at the community level
Thank you!

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