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Reports: [US Policy Brief](#), [Global Lancet Countdown Report](#)

In conjunction with *The Lancet Countdown: Tracking Progress on Health and Climate Change*,

## **Climate Crisis Linked to Spread of Illness, Disease, Early Mortality in United States, Say American Public Health and Medical Experts**

***Examining extreme heat, wildfires, and droughts, nation's top health professionals show that health and equity must guide response to climate change***

The United States must rapidly implement an all-encompassing, evidence-informed response to climate change that prioritizes and optimizes health and equity, according to new research released Wednesday by an international research collaboration of 40 academic institutions, United Nations agencies from every continent, and a diverse group of health experts from over 70 leading U.S. institutions, organizations, and centers.

The research comprises the fifth [U.S. Brief](#), accompanying the sixth annual [Report of the Lancet Countdown on Health and Climate Change published in \*The Lancet\*](#), also released Wednesday.

The U.S. Brief uses country-specific indicator data from the 2021 global *Lancet Countdown* report, as well as other recent scientific studies, to expose the inequitable health risks of climate change. It also highlights opportunities to improve health through swift action.

This year, the U.S. Brief examines three interrelated hazards - heatwaves, drought, and wildfires - to highlight the complexities and nuances of climate change. This also addresses how health risks vary, can be unexpectedly broad, and have far-reaching consequences.

“The data in this report are more than just alarming statistics and trends,” said **Dr. Renee N. Salas (she/her)**, a practicing emergency medicine doctor at Harvard Medical School and Massachusetts General Hospital, a climate and health expert at the Harvard Global Health Institute and Harvard T.H. Chan School of Public Health, lead author of the U.S. Brief, and an author on the global report. “These numbers represent patients that I care for, such as those with worsening asthma

attacks, Lyme Disease, or life-threatening illnesses from extreme heat. I took an oath to protect health and prevent harm, and I can't do that unless we address climate change. Acting on climate change is, first and foremost, a way for us to improve health in the U.S. and advance equity."

### **Extreme Heat**

- In 2020, adults over the age of 65 experienced a total of nearly 300 million more days of heatwave exposure in the U.S. compared to the 1986-2005 average baseline, making it the second highest year of exposure recorded since 1986.
- Infants under one year experienced a total of nearly 22 million more days of heatwave exposure in 2020 with respect to that same baseline.
- Policy failures -- such as historic redlining or lack of OSHA regulations -- disproportionately expose specific groups (such as people of color, outdoor workers, incarcerated persons, and those living below the poverty line) to extreme heat.

### **Wildfires & Smoke**

- Wildfires in the Western U.S. correlate with hotter temperatures, and the wildfire season has been lengthening. By September 2020, the maximum annual wildfire incidence peaked at approximately 80,000 wildfires, which is 8 times greater than the total incidence in 2001.
- There is emerging evidence that wildfire-related fine PM, or PM<sub>2.5</sub> from wildfire smoke, may be up to 10 times more harmful to human health than PM<sub>2.5</sub> from other sources -- with increased respiratory harm for children.
- Early evidence also suggests that smoke-related health impacts may be greater farther from the origin of the fire. This could be due, in part, to smoke becoming more toxic over time through a process called oxidation, as well as people not recognizing dangerous air quality and failing to change their behavior.
- Furthermore, PM<sub>2.5</sub> from climate-intensified wildfire smoke has been shown to increase susceptibility of contracting and dying from COVID-19, possibly by allowing the virus to travel greater distances and cause more lung inflammation.

### **Droughts**

- Drought harms health in indirect and under-recognized ways by compounding exposure to heat, increasing respiratory and infectious disease risks, worsening water quality, and exacerbating mental health issues -- particularly in rural areas.

### **Infectious Disease**

- The likelihood of dengue spreading through the *Aedes aegypti* mosquito in the U.S. has steadily increased since the 1950s.
- In the past 5 years (2016-2020), the transmission potential was on average 55.6% higher than in baseline years (1950-1954), and briefly rose above the threshold of one for the first time in 2017. (A transmission potential above one means that one case of

dengue can cause more than one additional infection, potentially leading to an outbreak in the right conditions.)

The authors centered public health and equity in developing a series of evidence-informed policy recommendations that would improve health outcomes for marginalized and frontline communities while mitigating the causes of climate change.

## **POLICY RECOMMENDATIONS FOR THE UNITED STATES**

### ***Mitigation***

**Urgent and equitable economy-wide GHG emission reductions:** Rapidly reduce economy-wide GHG emissions to 57-63% of 2005 levels by 2030, consistent with a 1.5°C national emissions pathway, with at least 40% of investments directed towards improving air quality in under-resourced communities, and a near zero-emission economy by mid-century.

### ***Economics & Finance***

**Incorporate health-related costs of fossil fuels into the social cost of carbon:** U.S. calculations must include these health-related costs to accurately analyze the costs and benefits of policies that contribute to the release of carbon dioxide.

### ***Adaptation***

**Rapidly increase funding for health protections:** Local, climate-specific health research conducted through multi-sectoral partnerships can directly inform the development, implementation, and evaluation of equitable health-protective actions.

“Resilience is about more than grid fortification and storm drainage, it’s also about an individual’s and community’s ability to recover and address their health needs after a disaster,” said **Dr. Jeremy Hess (he/him), Professor of Emergency Medicine, Environmental and Occupational Health Sciences, and Global Health at the University of Washington (UW), director of the UW’s Center for Health and the Global Environment, and co-author of the U.S. Brief.** “Resilience for health is about investing in ways that protect health, promote connectivity, and leverage opportunities. Fossil fuel pollution is making us sick and destroying our quality of life. We have to replace our toxic dependence on fossil fuels with healthy systems that nourish our communities and keep us healthy. Congress has an opportunity to do that with the reconciliation package -- they have to get it done.”

## **ABOUT THE US BRIEF**

The U.S. Brief is produced by a working group composed of leading experts and researchers from dozens of American medical and public health schools, research institutes, advocacy organizations, and nonprofits. It combines original findings with country-specific indicator data from the 2021 global *Lancet Countdown* report, as well as other recent scientific studies.

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