HARVARD T.H. CHAN | **C-CHANGE**
SCHOOL OF PUBLIC HEALTH | CENTER FOR CLIMATE, HEALTH, AND THE GLOBAL ENVIRONMENT

Climate Resilience for Frontline Clinics Toolkit

September 2024

in collaboration with

americares

Acknowledgments

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Project Background and Contributors

Project background

The Climate Resilience for Frontline Clinics Toolkit was developed to meet the needs of frontline clinics and the patients they serve, in an increasingly dangerous climate. The Center for Climate, Health, and the Global Environment at Harvard T.H. Chan School of Public Health (Harvard Chan C-CHANGE) and Americares collaborated to develop these resources, with the goal of helping protect people on the frontlines of the climate crisis. Biogen was the founding donor and supported the creation of these resources.

Climate change is leading to increasingly hazardous heat, wildfires, floods, hurricanes, and other hazards. While reducing greenhouse gas emissions as quickly as possible will help avoid the worst possible future impacts of climate change, it is now clear that the health of people across the United States and around the world will be impacted by climate related-hazards for decades to come.

Frontline clinics have an important opportunity to prepare themselves and their patients for the impacts of climate change. Clinics serve patients who face some of the highest risks from climate change, both because of their underlying medical conditions and, in some cases, because of their social situation or the setting in which they live or work. Clinics are also trusted institutions that have a unique and important opportunity to share knowledge about how to stay safe and take care of one another during increasingly common and dangerous situations resulting from climate change.

The three-year effort began with a survey of 430 clinic staff from 47 U.S. states and territories. This needs assessment survey identified knowledge gaps, climate impacts, and real-world challenges associated with caring for patients during and after climate shocks. From the data collected from the nationwide survey, we learned that:

- 81% of clinic staff said their clinic experienced some kind of disruption due to extreme weather within the past three years.
- Fewer than 20% of clinic staff feel their clinic is "very resilient" in the face of extreme weather.
- 77% of clinic staff say they do not have the knowledge or tools to implement climate change preparedness at their clinic.
- More than 80% of clinics want education and training to protect their patients from climate-related events.

The knowledge gained from that survey was combined with evidence from the scientific, public health, and medical literature, along with expert input from specialists in emergency management, climate change, and health to create the Climate Resilience for Frontline Clinics Toolkit.

Focus groups were conducted with nine pilot clinics in California, Massachusetts, North Carolina, and Texas. All focus group clinics had experienced recurring emergencies due to the climate crisis. Clinic staff provided information on knowledge gaps, real-world challenges, and opportunities for interventions for their patient populations, reviewed the toolkit content, and provided valuable feedback that helped ensure the effectiveness of these resources.

The toolkit was publicly released on the Americares website in December 2022. In two years following its release, these resources were downloaded more than 17,000 times by individuals from around the world and were featured in a wide variety of public media.
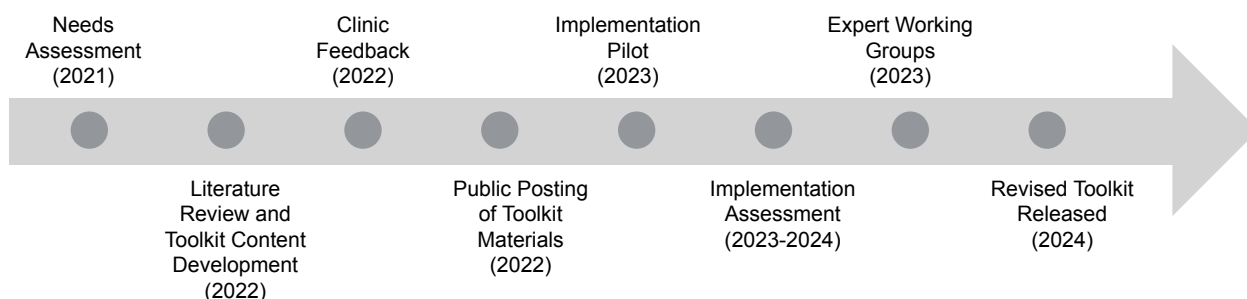
In the spring of 2023, a larger-scale pilot program was initiated with 19 clinics across the United States. Participating clinics completed a pre-intervention survey, an orientation to the materials, and then implemented these materials in their clinics, based on their clinical context, local hazards, and patient population. A series of focus groups were conducted over the summer of 2023 which brought participating clinic staff together to discuss how they were implementing the toolkit. In the fall of 2023, a post-season survey and a series of 27 semi-structured interviews were conducted with participating clinic staff members. The interviews focused on understanding how toolkits were used and how they could be improved.

Through the focus groups, surveys, semi-structured interviews, and input from outside experts, it was determined that the toolkit would need to be revised and updated to better meet the needs of frontline clinics and reflect the rapidly evolving scientific literature on climate change, its health impacts, and actions that can be taken to address them.

In early 2024, working groups consisting of subject matter experts, toolkit users, and patient advocates were convened to review existing toolkit materials and integrate feedback and input from assessments performed the previous year. Revised patient-facing materials were designed to have less text, more graphics, reduced redundancy between resources for different special populations, and lower page count when printing resources for patients with more than one relevant medical condition. Revised materials for healthcare providers, administrators, and other healthcare staff were reorganized to include information on long-term planning, pre-event preparations, actions to take during a climate related disaster, and actions to take in the aftermath.

The current toolkit, released during the summer of 2024, is based on the best available scientific literature, as well as three years of needs assessment, resource development, implementation experience, and feedback from end-users and experts. It will continue to evolve in response to the needs of its users and the state of knowledge on climate change, its impact on health and healthcare, and actions that can be taken to address them. Our goal is to provide resources that can help clinics become better equipped to maintain their operations and prepare patients for climate risks.

Project timeline

Contributors and project team members, past and present

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Pilot clinics

The Free Clinic of Simi Valley, California

Lestonnac Free Clinic, California

Cambridge Health Alliance, Massachusetts

The Community Care Clinic of Dare, North Carolina

Kintegra Health, North Carolina

The North Carolina Association of Free and Charitable Clinics, North Carolina

Matagorda Episcopal Health Outreach Program (MEHOP), Texas

San José Clinic, Texas

Ubi Caritas, Texas

Evaluation clinics

Rapha Clinic of West Georgia

St. Joseph Primary Care, Inc.

Christ Clinic

Greenville Free Medical Clinic

Cape Fear Clinic, Inc.

Community Free Clinic (Concord)

Charis Health Center

Hands of Hope Medical Clinic

Healing Bridge Clinic

Ibn Sina Foundation, Inc.

San Jose Clinic

Community Care Clinic of Dare

Heal the City Free Clinic

La Clinica de La Raza, Inc.

Helping Hand Clinic, Inc.

Ubi Caritas

The Center for Black Women's Wellness

Siloam Health

Working groups and external reviewers

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Extreme heat

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