



A GUIDE TO CLIMATE AND HEALTH PROGRAMS

Defining
Practical Models
for Investment in
Climate and
Health Action for
Local Health
Departments

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Executive Summary

“A Guide to Climate and Health Programs” presents a typology of four climate and health program models tailored for local health departments (LHDs) along a continuum of increasing scope and resources. The guide includes an assessment of each model across the domains of cost, sustainability, programmatic scope and process scope.

LHDs that are interested in building or expanding their own investments in climate and health action can use this document to inform their efforts. The program models may reflect activities already happening in many jurisdictions, perhaps without an overarching infrastructure to support their sustainability. This material can provide LHD climate champions with language to describe ongoing work and to advocate for increased resources and institutional commitment to climate and health work.







Introduction

Local health departments (LHDs) have untapped opportunities to make meaningful and substantive contributions to climate resilience action in their jurisdictions.

The National Association of County and City Health Officials' Climate Change Policy defines the importance of climate action by local health authorities and provides a framework for climate and health work aligned with the *10 Essential Public Health Services* (NACCHO, 2021). In addition, NACCHO has outlined essential actions for local health authorities to begin examining and addressing the local health impacts of climate change (NACCHO, 2018).

NACCHO's "A Guide to Climate and Health Programs" complements and expands on NACCHO's vision, presenting four specific models for climate and health programs within LHDs along a continuum of increasing scope and resources, with an assessment across the domains of cost, sustainability, program and process. These models provide a framework for LHDs establishing a climate and health program for the first time or building capacity for an existing one.

Defining a Climate and Health Program

A “Climate and Health Program” is an organizational structure that builds public health department capacity to:

- Adapt programs and services to prepare for and respond to climate stressors.
- Bring a health and equity framework to interdepartmental and cross-sectoral climate resilience actions.

Intradepartmental Coordination: Climate change and related extreme weather events have significant, cascading, and inequitable health impacts (Balbus et al., 2016). These health impacts disproportionately burden populations most exposed to the hazard, most sensitive to that exposure, and least likely to have the economic, political, and social resources to prepare or respond (APHA & CDC, 2021).

As climate change will inevitably affect all public health programs, LHDs must adapt and plan on incorporating climate change preparedness into existing programmatic work. Collaboration among programs within an LHD will make climate and health adaptation more effective, efficient, and scalable over time.

Interdepartmental and Cross-Sectoral Coordination: Another challenge for LHDs is that the actions necessary to address these health impacts are also interdepartmental and cross-sectoral in scope (U.S. EPA, 2022). Adaptations are needed across the built and natural environment, clinical services and other public health services, and emergency preparedness and response actions. In addition, the work must center equity, environmental justice, and community resilience.

With dedicated resources, LHDs are well positioned to lead or support the design, communication, implementation, and evaluation of interdepartmental and cross-sectoral climate adaptation efforts. This work can take many forms as well as contract or expand based on available resources, but public health involvement can ensure that climate action is data-driven, people-centered, equitable, and effective (Rudolph et al., 2018).

Typology of Climate and Health Programs

While all public health departments are already engaged in climate change work to some degree (*see Appendix A on page 27 for examples of climate-related activities across local health departments*), increases in both climate-related health impacts and demands for public health services to address the health burden necessitates the establishment of climate and health programs. **An explicit, official program with dedicated resources can scale existing climate change work and implement climate and health actions.** The structure of these climate and health programs often depends on the resources available to support them.

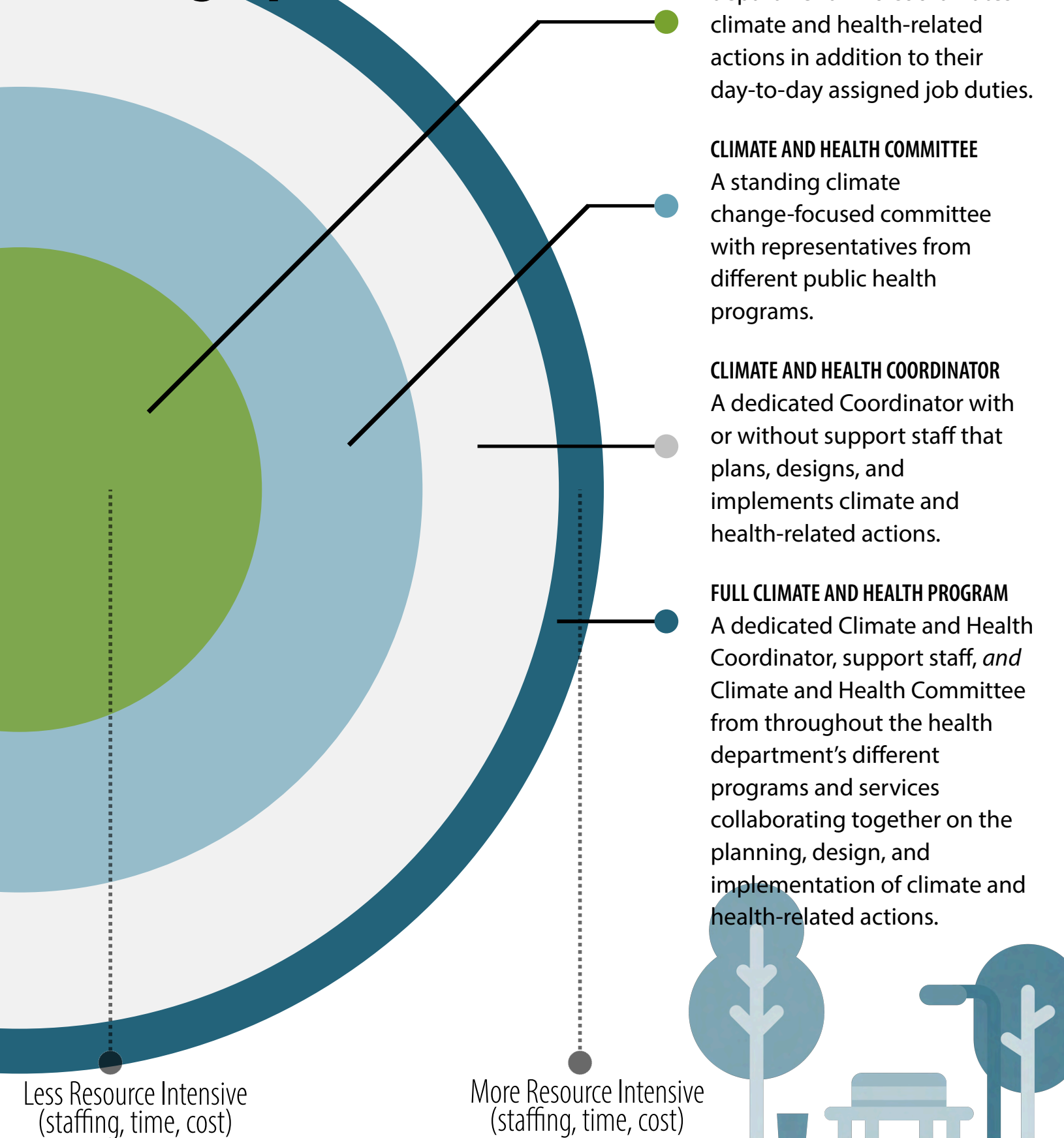
This guide examines four climate and health models; connects each of those climate and health models with possible staffing structures and example actions; and assesses opportunities and challenges unique to each model across the domains of cost, sustainability, programmatic scope, and process scope.

The four climate and health models are:

1. Climate and Health Champion
2. Climate and Health Committee
3. Climate and Health Coordinator
4. Full Climate and Health Program



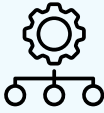

The purpose of this typology is to provide a framework for local health departments establishing or scaling existing climate and health programs. View the infographic on page 8 for an overview of the four models.

Climate and Health Models: An Infographic



Climate and Health Model Assessment: Guiding Questions

This guide presents a typology of four climate and health program models along a continuum of increasing scope and resources. Their placement is based on an assessment across the domains of cost, sustainability, programmatic scope, and process scope. For each domain, one or more guiding questions were used to define program breadth, potential impact, and specific challenges and opportunities.

Assessment Domain	Guiding Questions
Cost 	<p>What are the resources (staff time, salaries) allotted for climate and health program coordination and activities?</p>
Sustainability 	<p>How resilient is the climate and health program to outside stressors, including staff turnover, fluctuations in capacity, and political will?</p>
Programmatic Scope 	<ul style="list-style-type: none"> • To what extent does the scope of the climate and health program reflect the breadth of climate change-related health impacts and the actions necessary to prepare for, or respond to, those impacts? • How inclusive is it of all the other public health programs that will be affected by climate change?
Process Scope 	<ul style="list-style-type: none"> • How do the program activities map across the the core public health functions of Assessment/Monitoring, Policy Development, Program Implementation, and Communications and Outreach? • Is the program able to move from planning to implementation to evaluation? • Is the program empowered to advocate for resources necessary to implement climate and health actions? • How does the program balance centralization without creating new silos?



Climate and Health Champion

A Climate and Health Champion is a public health employee who coordinates the LHD's climate and health-related actions in addition to their normal, assigned job duties. A Climate and Health Champion often works in an area of the LHD particularly impacted by climate change and is motivated by the need to prepare for, and respond to, these impacts.

The actual work of a Climate and Health Champion depends largely on where they sit in the LHD, but often includes advocacy, coalition-building, and grant-writing.

The Climate and Health Champion represents an important first step to building LHD capacity to initiate and collaborate on climate-related actions.



- **Coordinates** with other public health programs on specific climate-related actions that are aligned with their own programmatic duties. For example, a Climate and Health Champion from Environmental Health Services may work with the Public Health Emergency Preparedness and Response and Chronic Disease groups to integrate climate preparedness messaging into an asthma home visiting program.
- **Increases** resources for climate adaptation such as: applying for state, federal, academic, or philanthropic climate and health funding; advocating to public health leadership for dedicated climate change staff; or recruiting new Climate and Health Champions.
- **Participates** in climate workgroups or other collaborative climate-related initiatives outside the LHD.
- **Joins** local, regional, or national climate and health communities of practice.

Climate and Health Champion Model Assessment

This is an assessment of the Champion model across the domains of cost, sustainability, programmatic scope, and process scope. The assessment highlights opportunities as well as potential challenges. For domain guiding questions, see page 9.

Cost: The Climate and Health Champion is a low-resource option for agencies without a dedicated climate change position.

Sustainability:

- The Climate and Health Champion has normal job duties, and may have to start and stop their climate work based on any fluctuations in their normal workload.
- If the Champion leaves the department, there is no dedicated funding stream to ensure their work continues.

Programmatic Scope:

- Based on their normal job duties, a Climate and Health Champion is often a subject matter expert in a particular domain.
- A Climate and Health Champion often approaches climate change from the perspective of their specific program expertise and may not have the capacity to evaluate all the ways their LHD may be impacted by, or could support, resilience against climate change.
- Because the Champion works on climate in addition to their normally assigned job duties, they may not have enough capacity to participate in climate initiatives with significant demands on time.

Process Scope:

- Because they are already integrated into a specific program, the Climate and Health Champion is often well-positioned to design, implement, and evaluate the climate actions that intersect with that program.
- A Climate and Health Champion may be limited by their own expertise and job duties in the type of climate and health activities they can pursue. For example, if they are an epidemiologist, they might be well-positioned to build out climate and health assessments, but limited in outreach and engagement.

Climate and Health Committee

A Climate and Health Committee centralizes climate change-related actions in the LHD as a standing, official work group. While the work of a Climate and Health Committee depends largely on the interests and capacity of its members, the Committee is generally a space for: high-level strategic planning; situational awareness about the many ways that the LHD engages on climate-related actions; and sharing data and best practices. **The Climate and Health Committee is an opportunity to build a cross-programmatic coalition that encompasses and supports the many climate-related activities that are already happening in the LHD.**

Staff



Comprised of many part-time (up to 5-10% time) staff members from throughout the LHD's different programs and services. The staff assigned to the committee may either be Climate and Health Champions or have climate change as a limited part of their job description. The Climate and Health Committee has regular meetings and may be attended by LHD leadership.

Cost



Low cost.



Climate and Health Committee Contd.

Example Actions

- **Increasing** situational awareness of existing climate-related actions that are occurring within the LHD, citywide, countywide, or regionally.
 - Sharing resources such as emergency preparedness and response plans, climate-related data analysis, local or regional best practices, grant opportunities, current events, or other existing actions.
- **Coordinating** engagement with existing climate-related actions that are occurring within the LHD, citywide, countywide, or regionally.
 - Reviewing and commenting on climate action plans, climate adaptation plans, and other structural planning documents.
 - Triaging actions that need public health engagement to the most appropriate program for follow-up.
- **Strategic planning** and other high-level visioning exercises that can largely take place during committee meetings.



Climate and Health Committee Model Assessment

This is an assessment of the Committee model across the domains of cost, sustainability, programmatic scope, and process scope. The assessment highlights opportunities as well as potential challenges. For domain guiding questions, see page 9.

Cost: This is a low-resource option for agencies without a dedicated full-time climate change position.

Sustainability:

- A standing committee is able to retain institutional knowledge despite staff turnover.
- The enthusiasm for a Climate and Health Committee may wane if there isn't immediate value-add; resources and time are not allocated to the work; or if committee members have competing priorities. This may lead to attrition.

Programmatic Scope:

- The Climate and Health Committee can bridge silos in a local health department and lead to increased collaboration among staff that may not work together otherwise.
- The programmatic composition of the Climate and Health Committee is largely based on the existing capacity of each program. Any climate-related programmatic gaps cannot be addressed without additional resources to increase capacity. For example, if a local health department does not have the capacity to track climate-related health impacts, that gap cannot be addressed with coordination alone.

Process Scope:

- A Climate and Health Committee disintegrates silos around climate change and can elevate it as a local health department priority.
- The Climate and Health Committee can collaborate on grant applications or advocate for new climate and health funding sources.
- Committee members may not have capacity to work on new climate-related actions. A Climate and Health Committee often becomes a place for coordinating existing actions rather than designing new ones.

Climate and Health Coordinator

This model centralizes the LHD's engagement on climate change as a budgeted program distinct from other LHD programs. The work of the Climate and Health Coordinator is to facilitate the design and implementation of climate actions through research and analysis, evaluation, long-range planning and coordination, and grant-writing. **The Climate and Health Coordinator position represents a long-term and consistent commitment to climate change as a department priority.**

Staff



At least one full-time position dedicated to climate-related public health actions without any roles or responsibilities unrelated to climate and health. The Climate and Health Coordinator may sit in any part of the LHD and may supervise staff (full-time or part-time) who support their work. A sample team may look like:

- **Lead: Climate and Health Coordinator** supported by:
 - **Climate and Health Epidemiologist** to develop climate vulnerability assessments, establish hazard-specific surveillance, and manage climate and health-related research.
 - **Climate and Health Interdepartmental Planner** to work with other agencies to bring a health and equity perspective to interdepartmental climate sustainability and adaptation actions.
 - **Climate and Health Outreach Coordinator** to work with community-based organizations and local advocacy groups to support their climate and health actions.

Climate and Health Coordinator Contd.



Cost

Medium cost.

Example Actions

- **Representing** the LHD on citywide, countywide, or regional climate change adaptation and climate change mitigation initiatives (i.e., climate action plans, hazard mitigation plans, general plans). Ensuring these processes are informed by climate and health and health equity data and the social determinants of health.
- **Developing** climate and health vulnerability assessments, tracking health impacts of extreme weather events, evaluating actions, creating maps and other public data tools, and performing other research actions.
- **Supporting** community health needs assessments, developing climate and health adaptation plans, and other planning and policy documents to adapt programs and services to climate stressors.
- **Tracking and applying** for grants and other funding opportunities.



Climate and Health Coordinator Model Assessment

This is an assessment of the Coordinator model across the domains of cost, sustainability, programmatic scope, and process scope. The assessment highlights opportunities as well as potential challenges. For domain guiding questions, see page 9.

Cost: This model is a moderately costly option.

Sustainability:

- The Climate and Health Coordinator can focus on climate change when other parts of the local health department may be occupied by other public health priorities.
- A dedicated climate change position is resilient to staff turnover. If the Climate and Health Coordinator leaves, dedicated funding allows for a replacement.
- Without sustained engagement from throughout the local health department, the Climate and Health Coordinator may hold significant institutional knowledge. If the Climate and Health Coordinator leaves, this institutional knowledge will be difficult to replace.

Programmatic Scope:

- The Climate and Health Coordinator is known throughout the department as the landing place for new climate-related actions and technical assistance. The Climate and Health Coordinator can work throughout many programs and services to evaluate all the ways climate change may impact the department.
- The Climate and Health Coordinator can develop and maintain relationships with the other local and regional departments that initiate climate-related actions. The Climate and Health Coordinator uses these relationships to advocate for the local health department to be included at the inception of local climate actions.
- A Climate and Health Coordinator may not have specialized and technical skill sets that live in the different local health department programs and services.



Climate and Health Coordinator

Model Assessment

Contd.

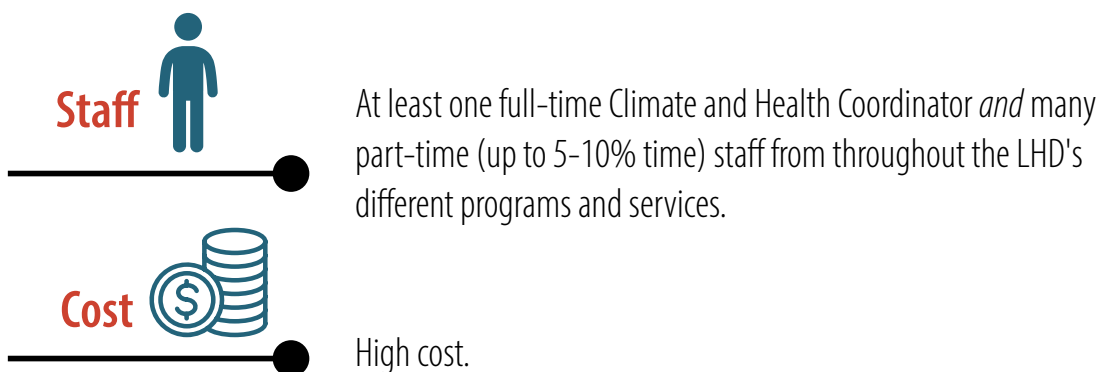
Process Scope:

- A Climate and Health Coordinator has capacity to initiate new actions, especially research and data analysis, planning and facilitation, and outreach and engagement actions.
- Without dedicated and consistent support from the different health department programs and services, a Climate and Health Coordinator may have difficulty moving projects from planning to implementation. In this model, implementation of the actions proposed by the Climate and Health Coordinator depends on the capacity and will of the programs where that implementation is expected to take place.



Full Climate and Health Program

The full Climate and Health Program includes elements from the Climate and Health Committee and Climate and Health Coordinator. Through consistent two-way communication between the Climate and Health Coordinator and LHD subject matter experts, the work of the full Climate and Health Program includes research, planning and coordination, and implementation of new actions to prepare for, or respond to, climate-related health impacts. **This model not only centralizes governance of climate actions, but also builds capacity throughout the department for federalized climate and health work to adapt services to respond to climate stressors.**



Full Climate and Health Program Contd.

Example Actions

All actions outlined for the Climate and Health Committee and Climate and Health Coordinator models and:

- **Utilizing** resources and expertise of various public health programs, such as Environmental Health Services, Public Health Emergency Preparedness and Response, Behavioral Health, Policy and Planning, and Clinical Services, to effectively transition plans into actionable implementation.
- **Connecting** citywide, countywide, or regional climate actions with the appropriate LHD stakeholders necessary to support and scale that action.
- **Monitoring and evaluating** the impact of implemented climate and health actions, including the collection and analysis of relevant data to inform future strategies and interventions.
- **Advocating** for policies and initiatives that prioritize the intersection of climate change and public health, aiming to enhance resilience and mitigate health risks associated with climate change.
- **Staying updated** on the latest research and best practices in the field of climate and health, continuously informing and evolving the program's strategies and approaches.



Full Climate and Health Program Model Assessment

This is an assessment of the Program model across the domains of cost, sustainability, programmatic scope, and process scope. The assessment highlights opportunities as well as potential challenges. For domain guiding questions, see page 9.

Cost: The higher cost of a full program may require new or external sources of funding to initiate and maintain.

Sustainability:

- The Climate and Health Program can focus on climate change when other parts of the local health department may be occupied by other public health priorities.
- Dedicated climate and health positions are resilient to staff turnover.
- The higher cost of a full Climate and Health Program requires political will, demonstrated department-wide prioritization, documented successes, and tangible resources to sustain.

Programmatic Scope:

- The Climate and Health Program is able to bridge silos both between the local health department and other local governmental departments, and within the department among programs.
- The Climate and Health Program is positioned to evaluate the diverse ways in which climate change may impact public health programs and services.
- The Program is structured to integrate technical and program-specific expertise from across the local health department.

Process Scope:

- A Climate and Health Program is structured to move actions from planning to implementation by connecting researchers and planners with the programs responsible for implementation.
- There is no “right” home for this program within traditional public health programs. As a result, local health departments may find it administratively difficult to place this full program, since it works across all aspects of the department.

Conclusion

NACCHO has compiled a list of resources from our partners and members to assist local health departments building their capacity for climate and health action. This information is highlighted in the *Resources* section on page 24.

More resources on addressing the health impacts of climate change and what local health departments are doing can be found on NACCHO's website at www.naccho.org/climate-change.



Climate and Health Resources

1. Essential Actions for Climate Resilience in Local Health Departments | NACCHO -
<https://www.naccho.org/uploads/downloadable-resources/Essential-Actions-for-Climate-Resilience-Fact-Sheet.pdf>
2. NACCHO Statement of Policy: Climate Change | NACCHO -
<https://www.naccho.org/uploads/downloadable-resources/07-09-Climate-Change.pdf>
3. Ch. 1: Introduction: Climate Change and Human Health. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment | U.S. Global Change Research Program -
<https://health2016.globalchange.gov/climate-change-and-human-health>
4. Climate Change and Health Playbook: Adaptation Planning for Justice, Equity, Diversity, and Inclusion | Centers for Disease Control and Prevention -
<https://www.cdc.gov/climate-health/php/brace/jedi.html>
5. Climate Change Impacts on the Built Environment | U.S. Environmental Protection Agency -
<https://www.epa.gov/climateimpacts/climate-change-impacts-built-environment>
6. Climate Change, Health, and Equity: A Guide for Local Health Departments | American Public Health Association -
<https://www.apha.org/Topics-and-Issues/Climate-Health-and-Equity/Guide>
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<https://health2016.globalchange.gov/climate-change-and-human-health>
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Appendices

Appendix A: Climate-Related Activities Across Local Health Department Programs

Almost all public health departments are already engaged in climate change work, even if some of the work is not labeled “climate change.”

Routine public health is already responding to the health impacts of climate change, supporting community and government sustainability in the face of climate-related impacts and working to prevent adverse outcomes through adaptation and resiliency efforts.

The following pages provide examples of the many climate-related activities that can be taken by a public health program.

Public Health Emergency Preparedness and Response Programs:

- Design emergency preparedness and response plans for weather-related hazards, including establishing activation thresholds.
- Manage emergency activations before, during, and after extreme weather events.
- Disseminate alerts and other messages on how to stay safe during extreme weather events.
- Pursue “sustainability” within emergency contracts as well as embedding climate considerations into preparedness guides.
- Integrate climate projections into hazard vulnerability assessments, emergency response plans, and protocols.
- Review and revise emergency response plans to account for multiple, cascading events driven by climate change (e.g., drought, extreme heat, flooding and landslides).

Research, Epidemiology, and Data Analysis Programs:

- Develop and track indicators for measuring the health impacts of extreme weather events.
- Project health impacts of future extreme weather events.
- Measure social resiliency and cohesion, which are key to preparing for, withstanding and recovery from climate-related health impacts.
- Conduct epidemiological and modeling studies to understand relationships between environment, climate, and health impacts.

Environmental Health Programs

- Monitor and address any extreme weather impacts to the natural environment, including air quality or water quality.
- Monitor and address any extreme weather impacts to housing or the built environment, including mold remediation and disease vectors.
- Support “healthy homes” interventions that include weatherization.
- Collaborate across departments (e.g., Parks and Recreation) to address climate health risks.
- Integrate equity to address environmental injustice concerns.

Behavioral Health and Chronic Disease Programs:

- Address any increases in chronic diseases, such as respiratory illness and asthma, that are associated with exposure to wildfire smoke, extreme heat, or other extreme weather events.
- Address mental health impacts associated with extreme weather events.
- Mitigate increased risk of health impacts from climate among populations with mental health conditions (e.g., increased risk of heat-related morbidity among those with dementia).
- Advocate for policies and programs for “green” urban spaces and increase public access to natural areas to increase physical activity, alleviate the urban heat island effect, or address coastal or inland flooding.
- Increase both climate sustainability and resiliency in supportive housing.

Policy and Planning Programs (including equity initiatives):

- Develop community health needs assessments and other policy documents that may identify extreme weather as a departmental priority.
- Represent public health on citywide or countywide climate adaptation and climate mitigation processes.
- Use data to identify communities that carry the greatest burden of climate and health impacts in citywide plans to address health equity.
- Contribute climate and health and equity-focused comments on proposed local, state, and national legislation, and on relevant government plans and tools.
- Integrate climate education in health promotion and disease prevention programs (e.g., nutrition, physical activity, substance use).
- Collaborate with internal and external experts to understand and communicate the impact of climate change on food systems, housing, private drinking water, etc.

Clinical Services:

- Treat hospitalizations and emergency department visits exacerbated by extreme weather.
- Standardize how climate-related health impacts are tracked and reported.
- Encourage patients with pre-existing health conditions to prepare for climate-related weather events.
- Foster sustainable practices ranging from facility design and maintenance to choice of sustainable anesthetic gases to reduce greenhouse gases from healthcare sectors.

Community Resilience, Direct Service, and Outreach Programs:

- Work directly with populations disproportionately impacted by extreme weather including: older adults, people with pre-existing health conditions, undocumented populations.
- Support initiatives to build social cohesion through relationships with community- and faith-based organizations.
- Collaborate with community-based organizations and faith-based groups to build awareness and action around climate and health.

Communicable Diseases:

- Conduct research on the possible effects of climate change on zoonotic diseases.
- Participate in OneHealth initiatives, policy, and planning.
- Collaborate with food service establishments and food safety enforcement programs to address foodborne illness risks compounded by increasing outdoor temperatures.
- Work with housing sector partners to implement beneficial electrification in residential and commercial buildings that result in enhanced ventilation systems to reduce disease transmission risks.
- Educate businesses, providers, and community groups on the risks associated with climate-sensitive infectious diseases.

Appendix B: Collaboration Among Public Health Programs Makes Climate-Health Actions More Effective, Efficient, and Scalable

See infographic on Page 32.

Example Benefits of

Coordination: Working with Chronic Disease programs to target extreme heat alerts to community-members enrolled in diabetes programs.

Example Benefits of

Coordination: Working with Policy and Planning programs to ensure citywide adaptation and mitigation actions are implemented equitably and resources are targeted to the communities with the greatest health impacts.

Example Benefits of Coordination:

- Working with Community Resilience programs to distribute box fan filters to residents in housing without ventilation.
- Working with Research Programs to examine the relationship between precipitation and vector-borne illness to scale services and evaluate response strategies.

Example Benefits of

Coordination:

- Working with Environmental Health and Chronic Disease programs to deliver clinical provider education in advance of wildfire season on how to advise patients on using the EPA's Air Quality Index and improving home indoor air quality.
- Working with PHEPR to align climate-related emergency response plans with clinical surge plans to better anticipate and prepare clinical services for extreme weather events.

Example Benefits of Coordination:

- Working with Research programs to assess changing impacts of vector-borne diseases from ticks and mosquitoes, integrating human and ecological data on a dashboard or map to inform prevention activities and educate the public.
- Working with PHERP to track outbreaks associated with waterborne illness in flood events to inform emergency response efforts.

Public Health Emergency Preparedness and Response Programs (PHEPR)

Research, Epidemiology and Data Analysis Programs

Environmental Health Programs

Planning and Policy Programs

Clinical Services

Behavioral Health and Chronic Disease Programs

Communicable Diseases

Example Benefits of

Coordination: Working with Community Resilience programs to understand triggers of health impacts during extreme weather events.

Example Benefits of Coordination:

- Working with Planning and Policy Programs to incorporate community feedback into citywide or countywide Climate Action Plans, Hazard Mitigation Plans, or Land Use Plans.
- Working with PHEPR and Research Programs to have community members identify gaps and evaluate effectiveness of emergency preparedness and response actions.

Community Resilience and Engagement Programs

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