

# PARTNERING FOR CLIMATE RESILIENCE

## A PRACTICAL GUIDE TO COMMUNITY-BASED DISASTER PLANNING FOR HEALTH CARE

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# PREFACE

**Partnering for climate resilience: A practical guide to community-based disaster planning for health care** provides a new approach to disaster planning and climate preparedness built on a partnership between health systems and the communities they serve working together to plan for and mitigate the impacts of climate change. The intention is to move beyond the typical governmental and health system emergency response and preparedness staff who regularly participate in tabletop exercises, to deeply involve leaders and organizations with a different sense of the pulse of the community, its needs, and its assets. The approach considers the community's social infrastructure to be equally as important as its physical infrastructure.

This guide is based primarily on lessons learned during the planning, execution, and follow-up to a Department of Homeland Security (DHS)-style "tabletop" disaster preparedness exercise that Health Care Without Harm, health care partners, and community representatives conducted in December 2021 in Hampden County, Massachusetts, home to the City of Springfield. Community participation broadened the understanding of on-the-ground needs and concerns and identified existing informal and formal community networks that could be mobilized in the event of a climate or other emergency. We intend for this guide's templates, exercises, resources, and lessons learned to inspire and inform similar efforts by health care systems nationwide.

## AUTHORS

### Sarita Hudson

Public Health Institute of Western Massachusetts

### Paul Lipke

Health Care Without Harm

### Catherine Ratté

Pioneer Valley Planning Commission

### Joshua Shanley

Emergency Management Consultant

### Winston E.F. Vaughan

Health Care Without Harm

## CONTRIBUTORS

### Todd Bailey

Baystate Medical Center

### Eugenia T. Gibbons

Health Care Without Harm

### Rob Gough

Health Care Without Harm

### Caroline Shannon

Harvard T.H. Chan School of Public Health

### Jessica Wolff

Health Care Without Harm



**PUBLIC HEALTH INSTITUTE  
OF WESTERN MASSACHUSETTS**  
PARTNERS FOR HEALTH EQUITY

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# INTRODUCTION

## BACKGROUND AND CONTEXT

### Multiple disruptions

In recent years health care has been at the center of an unprecedented confluence of global disruptions. The ongoing COVID-19 pandemic has again and again pushed health care facilities and staff to their limits, and contributed to major social and economic disruptions and a death toll that, at time of publication, is nearly one million in the United States alone. In the midst of this pandemic, our country is also grappling with a racial reckoning and rebuilding from two years of record-breaking extreme weather events and natural disasters fueled by a rapidly changing climate.

Climate change impacts such as heat waves, increasingly unpredictable extreme storms, cold snaps, and flooding are **already inflicting tremendous harm** on individuals, communities, and economies across the country and around the world. Those impacts are expected to get worse without substantial action to reduce the greenhouse gas emissions that contribute to climate change, and to protect individuals and communities from the harm we are unable to prevent.

While the impacts of climate change are being felt in every corner of the world, the harm they cause is not felt equally. Inequities in economic and political status, as well as social connectivity and isolation, play large roles in determining how vulnerable individuals and communities are to climate

change impacts and how quickly and fully those individuals and communities can recover from those impacts.

All of these societal disruptions have played out in our hospitals and health care facilities, straining resources and staff and pushing hospital administrators and health care practitioners to begin to reimagine what it means to be an institution of healing in a complex, vulnerable, and quickly changing world.

### Facility and economic resilience

In many ways, this role is not a new one for health care. It has long been recognized that our health care facilities are essential infrastructure, most needed at times of crisis, when our social and physical infrastructure is under the most strain. As a result, health care facilities are often designed to be among our communities' most disaster-resilient facilities, able to continue operations and the provision of care even when the rest of the community they serve goes dark. And that resilience is not only important for taking care of patients during disasters, but also for the sustainability of the health care institutions themselves. As we have seen with extreme weather events and COVID-19 over the last two years, when high numbers of patients seek emergency care, it can profoundly disrupt operations, hurt an institution's finances and put tremendous pressure on staff, collectively and individually.



Health Care Without Harm has explored the question of health care facility resilience and the business case for investing in facility resilience in two reports, [Safe haven in the storm: Protecting lives and margins with climate-smart health care](#) (in collaboration with PricewaterhouseCoopers Advisory Services LLC), and [Building a climate-smart health care system for California](#). As those reports make clear, there are mission, fiduciary, risk management, and reputational reasons to invest in reducing health care’s own climate pollution while protecting health care facilities from climate impacts we are unable to prevent. These actions are essential to advancing health care’s healing mission and maintaining the financial well-being of our organizations and the communities we serve.

Both of the above reports also point to the need for health care providers to work outside the walls of their institutions, advocating for climate-smart policies and investing in their communities. The last few unprecedented years of crisis and change have amplified that need and revealed the importance of shared solutions. Just as with COVID-19, health care institutions must work to address climate vulnerabilities in the communities they serve, and the social and racial inequities that underpin those vulnerabilities, through deep community partnerships. This concept of community climate resilience and health care’s role in advancing it is explored in more depth in Health Care Without Harm’s 2022 paper, [Climate resilience for health care and communities: Strategies and case studies](#).

**Deep resilience requires effort to address systemic inequity**

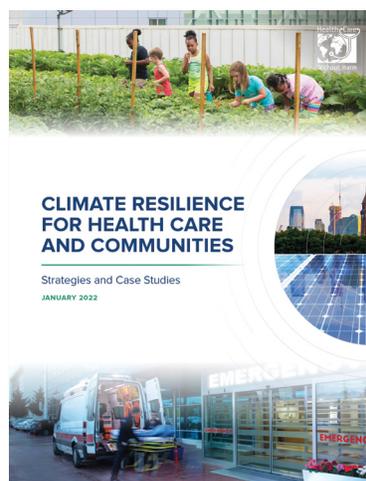
Climate change impacts such as natural disasters serve as an x-ray for our society, revealing old scars and breaks that have left some in our communities much more vulnerable to climate impacts. A [2020 article in the New York Times](#) (\$) showed that racist redlining practices of the past are directly linked to the disproportionate heat risks that communities of color face today – risks that are growing more acute as temperatures continue to rise.

But unlike x-ray machines, disasters don’t simply reveal past harm and the inequity they’ve contributed to; extreme weather events contribute to and even accelerate the growth of that inequity. Extreme weather is more likely to impact



already vulnerable populations who are more likely to live in floodplains and urban heat islands. In addition, disasters tend to cause more harm to those communities that have fewer resources to protect themselves and to recover, and that harm to vulnerable communities has long-lasting consequences. As a [2019 Urban Institute study](#) found, in the wake of disaster, historically disadvantaged communities receive less aid, less attention, and recover more slowly, exacerbating the very economic and racial inequalities that left them vulnerable to disasters in the first place.

As these natural disasters become more powerful and frequent as a result of climate change, health care and our communities face a dangerous feedback cycle that turbocharges the growth of social and economic inequality and social vulnerability. Left unaddressed, it will leave our communities ever more vulnerable to these growing harms, while threatening the mission, service delivery, and economic viability of health care organizations and the health care system as a whole.





### Practical solutions: Adjusting our approach to disaster preparedness

Breaking this climate-fueled cycle of harm and vulnerability requires new approaches to disaster planning and climate preparedness – approaches that bring voices from the communities most impacted into planning exercises that are typically reserved for emergency response agencies and large institutions. This new approach requires creating partnerships with and securing resources for community organizations to proactively address their communities' vulnerability to disaster. We developed this guide to support health systems and communities in this new approach.



This guide is based primarily on lessons learned during the planning, execution, and follow-up to a Department of Homeland Security (DHS)-style “tabletop” disaster preparedness exercise that Health Care Without Harm and our community and health care partners conducted in December 2021 in Hampden County, Massachusetts, home to the City of Springfield, and its surrounding suburban and rural communities. This exercise, which we refer to throughout this paper as a community-based, climate resilience exercise, differed from a typical DHS-style preparedness exercise by bringing community leaders and community-based organizations (CBOs) together with health care, municipal governments, and first responders to design and simulate the impacts of a multi-day extreme heat event.



Based on the experience of that exercise, this guide provides a playbook for health care institutions to partner with emergency planners, public health professionals, and especially community-based organizations, to better understand how climate change will impact their communities and how they can work together to plan for and begin to mitigate the harm those impacts may inflict.



We intend for this guide's templates, exercises, resources, and lessons learned to inspire and inform similar efforts by health care systems nationwide. The health systems in Hampden County had forged deep relationships with others in the community through participating in the [Live Well Springfield Coalition](#), which includes partnerships between health care, public health, municipalities, priority populations, and the CBOs that support them. In some cases, this work will be built on similar, long-running partnerships, and in other cases, the planning and running of the exercise may serve to help initiate or deepen those relationships and collaborations.

By preparing for the challenges of a changing climate in partnership with communities, health systems will improve their core mission to heal, and advance public health by strengthening the well-being of those they serve. This guide serves as a playbook for advancing that work.

## PREPARING TO ACT

Every health care system is in a position to help address the climate crisis in its service territory. Because increasingly severe, unpredictable weather and/or stressed and aging infrastructure most severely impacts vulnerable community members and increases pressure on health care systems, it is never too soon to get started.

While resources, experience, and opportunities may vary, exploring answers to the relevant questions below will help you be a better community partner. It will help you and your communities work together to strengthen your shared resilience in the face of a changing climate.

Although health care system emergency medicine and emergency management personnel will be very familiar with emergency planning scenarios, such processes often get insufficient influential participation by CBOs and/or other entities serving priority populations and communities. Strong collaborations between CBOs and health care entities around climate and all-hazards preparedness can greatly enhance community and health care system resilience.

Any efforts at developing community relationships should include a long-term plan for funding and support for CBOs to continue participation and share leadership.



## “ COMMUNITY VOICES

“COVID has catalyzed significant growth in mutual aid networks targeted at communicating information and coordinating resources and health care systems can support and expand and maintain this work with funding and technical assistance.”

— Participant from Neighbor to Neighbor Springfield

“It would be great if health care systems could lead by example with long-term, sustained financial support of community-based organizations instead of just funding us annually and making us jump through a million hoops to secure limited, short-term funding.”

— Participant from Arise for Social Justice

## QUESTIONS FOR HEALTH CARE ENTITIES TO CONSIDER BEFORE PLANNING A COMMUNITY-BASED, CLIMATE RESILIENCE EXERCISE

You don't have to address all of these questions at once, but these are the types of questions that will help you analyze your relationships with community groups, provide ideas for engagement, and shape your outreach and engagement strategies.

- How well-positioned is your organization to carry this work forward long term, or are you 'just' a key catalyst? Who might be in a better position?
- How have you engaged CBOs in your institution's emergency preparedness exercises? What lessons were learned from those experiences, and how can you go further, deeper?
- Based on your engagement with CBOs in your community, how ready are they to engage in climate disaster preparedness planning?
- How is your institution viewed by the leadership of CBOs with whom you regularly engage? How is this different or similar to the views of the priority populations in your area?
- Have you measured trust in your organization by different priority populations and geographies? How might a third-party evaluation of your CBO relationships inform your understanding of the strength of those relationships, and opportunities to improve them?
- To what extent is this trust limited to community engagement/community benefit staff known in those communities? Who else in your health system has strong relationships with CBOs? What steps can you take to build on those additional relationships?
- Have you engaged qualified local CBOs to participate in your Community Health Needs Assessment (CHNA) process and product, e.g. as a consulting team and/or play a meaningful role in other ways?
- Have you engaged CBO staff and volunteers to serve on your Community Benefits Advisory Committee (CBAC)? What orientation, capacity building, and/or training support might you provide to ensure all members succeed in their service?
- Have you reached out to facilitate and catalyze City and County Health Improvement Plans (CHIPs) in collaboration with CBOs and local governmental entities?
- How are you investing in the community/regional CBOs more broadly? Do you provide capacity building and/or support to assure CBOs can effectively operate and compete for available funds?
- Have you joined, actively participated in, and supported local and county/regional healthy living coalitions? How: with funding, technical assistance, staff, printing, translation, and interpretation, etc.? If not, what are the barriers and opportunities to do so now?
- How are you encouraging and facilitating staff and volunteers serving on local boards, commissions, and working groups?

Health Care Without Harm's observation is that depending on the answers to such questions, it can take as little as 3-4 months to plan and conduct a community-based, climate resilience exercise. Some health care systems may find they need to invest more effort upfront to achieve sufficient goodwill amongst key community stakeholders for these groups to be comfortable participating in the exercise and making it fully productive.

# PLANNING AND EXECUTING A COMMUNITY-BASED, CLIMATE RESILIENCE EXERCISE

This section outlines a sample plan for developing and implementing a community-based, climate resilience tabletop exercise. The materials are designed to be modified by you and your community in ways that enable you to better understand your climate vulnerabilities and work together to enhance health system and community climate resilience.

The materials are primarily based on a community-based, extreme heat resilience exercise in Hampden County (metro Springfield) Massachusetts in 2021, as well as the work of another Massachusetts-based climate resilience exercise by the [Resilient Mystic Collaborative](#). The latter assessed vulnerabilities in one of Metro Boston's heavy industrial regions in the event of an extreme winter storm. To learn more about the design of that exercise, including exercise modules and lessons learned, see [Appendix B](#).

In both examples, the intention was to move beyond the typical governmental and health system emergency response and preparedness staff who regularly participate in tabletop exercises to deeply involve leaders and organizations with a different sense of the pulse of the community, its needs, and its assets. The exercises' planners view the resilience of social infrastructure as being just as important as physical infrastructure. In both cases, community participation broadened the understanding of on-the-ground needs and concerns and identified existing informal and formal community networks that could be mobilized in the event of a climate or other emergency.

This plan is modeled on a typical, day-long (6-hour) tabletop exercise with 40-60 participants. We have also included plans for a kickoff event designed to put community-based stakeholders unfamiliar with tabletop exercises on more equal footing with emergency management personnel.



## WHO TO ENGAGE: BUILDING YOUR RESILIENCE TEAM

Organizing a community climate resilience exercise (sometimes referred to as a ‘scenario’) with community-based organizations deliberately included is a useful next step for health care systems who recognize that enhancing community resilience is essential to good prevention and greatly reduces the stress on health facilities during climate-related disasters or other community-scale emergencies.

We prepared templates based on our experience of planning, organizing, and implementing a community-based, climate resilience exercise focused on an extreme heat event. **Here are the critical steps in the planning process:**

1. Partner with existing organizations who convene Community Health Improvement Plan processes or other coalitions related to health and climate justice.
  - Hospital community benefit and community relations staff who fund or partner with local groups on addressing health inequities, as well as other local funders.
  - Physicians, case managers, and other staff from hospitals, home care programs, and community health centers (including Federally Qualified Health Centers) who are familiar with community needs and trusted by patients and have hands-on experience serving vulnerable populations during times of crisis.
  - Area Agencies on Aging and Community Action Agencies that provide a range of services, including in-home services, and can speak to their organizational needs, gaps in services, and the needs of their constituents
  - Transit and housing authorities
  - Members of coalitions focused on climate justice, older adults, and other health issues such as asthma that might be impacted by climate change.
  - Municipal emergency management staff
  - Depending on resources, the nature of the disaster participants will deal with, and other factors, it may be useful to consider including some or all of the following: experts in climate impacts in your region(s), providers of energy, food, water, and/or communications (especially for cell phones), public and/or private schools, higher education, and other anchor institutions and businesses.
2. Hire a workshop leader who is experienced in leading tabletop exercises, has relationships with local health care and municipal leaders, and ideally has experience in working with community-based organizations. A co-facilitator with experience in community engagement and virtual facilitation can bring additional expertise to make the event more participatory and engaging.
 

If your health system won't be coordinating or leading the envisioned community-based, climate resilience work over the long term, it is important to enroll and bring in those who will be doing so as soon as possible.
3. Identify and invite participants such as:
  - Frontline organizations that serve, and are staffed and directed by, people of color and other disadvantaged and/or climate-vulnerable groups. These groups include people of color, people who are low-income, the elderly, the unhoused, and those working outside, such as agriculture, landscaping, and construction workers. It is especially valuable if the frontline organizations have been engaged during past disasters or the pandemic, such as organizing mutual aid networks. The goal is to have those closest to climate impacts at the table and able to deeply influence what happens in the exercise and long term.
  - Community organizing and social justice advocacy agencies, especially those led by residents themselves.

**IMPORTANT NOTE:** While there are a lot of professionals who can add something to an exercise like this, it is important to pay close attention to the balance of participants, as having too many professionals in the room can be an obstacle to meaningful community participation.

## STAKEHOLDERS TO CONSIDER ENGAGING

### HEALTH CARE

- Public health
- Community benefits
- Emergency medicine
- Facilities and engineering
- Security
- General Medicine and community health  
Department of Medicine
- Safety
- Home health
- Supply chain manager
- Health center staff/providers
- Case managers

### COMMUNITY-BASED ORGANIZATIONS

- Community organizing and mutual aid networks
- Community coalitions
- Community action agencies
- Area Agency on Aging
- Housing authority
- Community services
- Older adult organizations
- Long term care
- Home care
- Transit authority

### MUNICIPALITY REPRESENTATIVES

- Town administrator / manager / mayor
- Council on Aging
- Emergency Management director
- Health department
- Disaster preparedness
- Neighborhood services
- Parks and buildings
- Cooling centers
- Housing

### OTHER STAKEHOLDERS

- Utilities: electricity, gas, water, phone, etc.
- Local funders and community foundations
- City or county legislators
- Communications providers, especially cellular
- Schools (public and private)
- Higher education
- Anchor businesses and institutions

## “ COMMUNITY VOICES

### HOW TO ENGAGE PARTICIPANTS

Outreach begins with an invitation to potential exercise participants that includes a description of a tabletop exercise, why it is important to address climate change vulnerabilities, and why it is important for their organization to participate. The invitation should lay out the details for participation, be succinct, and include headings or FAQs to help readers to quickly understand the purpose.

Since this type of event will be a new experience for many community-based stakeholders, it is necessary to personalize invitations for different stakeholders. For example, your invitation to the older adult services programs should highlight older adults' vulnerability and needs related to climate resilience. For organizations new to the emergency planning process, follow-up emails, phone calls, and meetings may be needed to make sure organizational staff understand why their participation is important and what value this can bring to their own planning and programming.

Use existing networks to find out who is the best person at an organization to reach out to and who might be missing from the list. Outreach should likely begin with the organization's executive director along with staff who have been identified as having deep on-the-ground knowledge. Look for stakeholders who are deeply trusted by vulnerable communities and populations to help close the “trust gap” that often exists between historically marginalized communities and large institutions, businesses, and governments.

★ Sample invitation to participants [[docx](#), [pdf](#)]

#### Invitation and reminder communications

Both the invitation and any follow-up should include registration information, including online registration if you are using it. Confirmation emails should be sent upon registration. As timing allows, communications should include the agenda, preparation materials, and any last-minute details. Depending on the length of time between registration and the event, reminders should be sent one to two weeks in advance, a day in advance, and on the morning of the event. In the Hampden County effort, some very valuable, insightful participants only showed up because they received reminders via text and calls that same morning.

#### Kickoff meeting

A brief kickoff meeting a few weeks in advance of the exercise is ideal for setting the stage for the tabletop exercise event. This is a great opportunity to solicit feedback from participants that can help shape the exercise, get buy-in from participants, help identify key missing people, help organizations identify which staff/volunteers should participate, answer logistical questions, and help them prepare.

“It is so helpful to be able to use the hospitals' translators and interpreters to make sure all our communications are in the languages our constituents speak. It would also be great if the hospitals could help us strengthen our official communications all year long to assure responsiveness and access in disasters and maybe help us by researching the social media influencers in our city so we could develop relationships with them so they can help us get the word out.”

— Participant from Hilltown Community Health Center

“At the beginning of the pandemic, there was no funding for communications, which turned out to be a huge oversight—we need to learn from that experience and make sure that hospitals, health care systems, and state (and federal) agencies prioritize funding for communications during disasters.”

— Participant from Longmeadow, Massachusetts

# “ COMMUNITY VOICES

## Stipends

Stipends (and child care) for some community-based organizations should be planned to allow for staff to participate fully. Depending on your region(s) and need, stipends could range from \$150 per individual to \$1,000 or more for an organization.

## In-person vs. virtual convening

The pandemic has dramatically accelerated the use of virtual meetings and workshops. We originally planned for an in-person event to build trust and lay a firmer foundation for future collaboration and partnership. However, we made the hard decision to switch to virtual as the delta and omicron COVID-19 variants caused a spike in cases and hospitalizations in Springfield and around the world. There are pros and cons to both formats, but our experience proved it is possible to hold a successful virtual tabletop exercise. Our experience demonstrates how virtual events enable participation by a broader range of community stakeholders, especially those who are new to this type of planning, geographically remote, time- or resource-constrained, and/or who may not yet see clearly the exercise’s value enough to attend in-person.

Emergency planning staff will already be familiar with this type of exercise and are more likely to see a tabletop exercise as a critical part of their work and to make time for a full day to do this work. That said, you will need to take time to explain to them how this approach is different from other exercises they’ve been a part of and the role you hope community groups will play in the work. For community stakeholders who are new to this process, this requirement may make it hard to participate and even discourage participation. Be flexible: if community stakeholders cannot attend the full event, allow for enough preparation for them to participate at some level. Even if they can only do part of the day, they can provide valuable feedback and it will help identify people that will be important for ongoing follow-up. The initial outreach process and the kickoff meeting are opportunities to expand the number and variety of interested parties, hear from different stakeholders, and create formats and processes that support meaningful participation and influence by a broader range of individuals and organizations.



“It is critical for government and anchor institutions such as our hospitals to acknowledge and remediate in collaboration with communities, the long term and continued strategies of disinvestment and overt disruption that have created inequities experienced by the non-white majority population, or “others” (Black and Latino/a, LGBTQ, homeless, differently abled, mentally ill, elderly, female)”

— Participant from Longmeadow, Massachusetts

“It has been great how Baystate Health has taken the lead on our issues with the digital divide. Now we know that it is not just rural areas or older adults or structurally and economically disadvantaged people who do not have access to the internet but all of us! And together we can make faster and better improvements.”

— Participant from Way Finders

## KICKOFF MEETING AGENDA AND SCHEDULE

### Kickoff meeting

A kickoff meeting is a short meeting held about two weeks in advance of the exercise to orient participants to the goals and format of the exercise and what sets it apart from others they may have participated in, and to solicit feedback that can inform the exercise structure and content. A key goal is to build comfort and buy-in from participants, especially those new to disaster planning.

The kickoff meeting is easily conducted virtually to get maximum participation and will likely need to last 1-1.5 hours. This event is primarily for newcomers to tabletop emergency preparation exercises, but it is also important for participants who are familiar with tabletop exercises to help them understand how this event is different and why you are bringing in participants they may not have interacted with before.

Another goal is to start to introduce stakeholders who might not know each other to develop those relationships and the foundation of trust needed for follow-up and ongoing collaboration. This event can also begin the work of building ownership among other organizations to participate in future climate resilience planning.

A short meeting requires a clear agenda, preparation materials sent in advance, and strong facilitation. Following the kickoff, organizers should send a list of topics and questions to participants to help them prepare for the exercise.

In addition, a 30-minute training for notetakers and facilitators of the breakout groups is essential to the proper completion of their tasks. We've created a facilitator and notetaker's guide to assist in this training.

### Resources

- ★ Kickoff meeting agenda for participants [[docx](#), [pdf](#)]
- ★ Kickoff meeting agenda for facilitators [[docx](#), [pdf](#)]
- ★ Kickoff meeting presentation [[pptx](#), [pdf](#)]
- ★ Sample opening remarks for kickoff meeting [[docx](#), [pdf](#)]
- ★ Pre-exercise prep questions for participants [[docx](#), [pdf](#)]
- ★ Climate resilience tabletop exercise facilitator's guide [[docx](#), [pdf](#)]

## “ COMMUNITY VOICES

“Municipalities ask residents to sign up for information services in disasters (such as Code Red) which raises concerns about personal information that people fear could be shared with other departments. Health care systems could serve an ‘honest broker’ role.”

— Participant from  
Live Well Springfield

“In Springfield the city secured funds from the State’s Climate Resilience program to fund an assessment of communications between the city and their climate-vulnerable residents. This effort has improved communications and built trust, and we recommend other cities replicate this great work.”

— Participant from  
Springfield Fire Department



## EXERCISE AGENDA AND SCHEDULE

### Conducting a community-based, climate resilience exercise

A community-based, climate resilience exercise will follow a structure similar to standard emergency management tabletop exercises in many respects, but is designed to solicit very different feedback and explore different kinds of vulnerabilities beyond infrastructure and traditional disaster response.

A typical agenda includes:

**Welcome and Introductions** should include a review of goals for the day, details on logistics, and any key background information participants will need to engage in the exercise. This is also an opportunity to help participants get to know each other and understand what their fellow participants bring to the exercise. Remember that relationship building between participants is one of the key goals of this exercise, will contribute to the success of the exercise, and can lay a strong foundation for future collaboration.

**Module 1** details an initial disaster scenario and response.

**Module 2** adds new scenario details to increase the emergency circumstances and stress-test emergency responses to reveal gaps and weaknesses.

**Module 3** outlines the scenario as the emergency starts to abate to explore community needs related to recovery and rebuilding.

**A hotwash debrief** or after-action discussion allows for time to review lessons learned and identify key challenges and opportunities while they are still fresh in the minds of participants. This can also include time for meeting evaluation through a plus/delta process and follow-up.

**Next steps** to outline the follow-up from the exercise.

Each module is planned to focus the discussion on key questions and follow the interests, experiences, and questions raised by participants. Facilitators are prepared to ask questions, but the goal of the modules is to gather information and ideas from participants that will be shared in report-outs, rather than to arrive at a specific conclusion.



Slides with visuals, role plays, and/or videos can be used to provide context for the modules. For virtual events, it is helpful to send out the materials in advance for participants to follow along. Breakout room facilitators can share the scenario slides as well. Based on the schedule, ensure that there is an identified time for breaks and/or lunch, particularly for virtual meetings.

## Resources

- ★ Exercise agenda for participants [[docx](#), [pdf](#)]
- ★ Exercise agenda for facilitators [[docx](#), [pdf](#)]
- ★ Exercise presentation [[pptx](#), [pdf](#)]
- ★ Sample opening remarks for exercise [[docx](#), [pdf](#)]
- ★ Exercise facilitator and notetaker’s guide [[docx](#), [pdf](#)]

## Polls and surveys

Polls are useful to engage participants and learn about who is in the room. Polls can ask about previous participation in a tabletop, whether organizations have an emergency preparedness plan, if they have used it, or their experiences with previous regional emergencies.

A meeting evaluation survey can be done at the end of the meeting either through polls or another survey mechanism. The survey can probe if participants feel more prepared, what they plan to do to improve their preparedness as a result, if they found the event valuable, and allow them to share feedback on the process. This can also be a way to find out who is interested in remaining involved in the project, and in what ways, and enable appropriate follow-up.

## Facilitation roles and breakout groups

Designate a facilitator/co-facilitators to lead the plenary section of the meeting. For virtual meetings, there should be additional facilitators to run the platform, handle breakout rooms, polls, and recording as well as troubleshoot entry into the meeting and breakout rooms. Breakout rooms should be set up to ensure a diverse mix of functional roles (health care, community groups, first responders, etc.) rather than grouping participants by sector. It can also be valuable to have folks from similar communities (rural, urban, suburban) to identify issues that are specific to that type of community.



## RECORDING AND REPORTING

Designate a facilitator and a notetaker for each breakout room or table. Each facilitator should be prepared with the scenario and potential questions to prompt discussion. Set up a system for note-taking that makes it easy for participants to see the notes.

### Ways to share note-taking

Options might include a butcher block for in-person meetings, a shared Google document, Google Jamboard, or other shared virtual note-taking platform for exercises held virtually. Facilitators and notetakers should be oriented to the note-taking plan in advance so they are able to concentrate on gathering input, instead of how to operate the technology.

If recording is desired for a virtual event for documentation purposes, be sure to note this in the invitation and reiterate at the beginning of the event how the recording will be used (i.e. for ensuring the accuracy of notes and action items). If photographs or videos will be used publicly, a release can be included in the registration process.

Breakout rooms should have no more than 8-10 participants to ensure everyone has a robust opportunity to participate and should be set up to encourage new connections by including representatives from health care, municipalities, and community stakeholders in each group. Although smaller breakout groups are ideal, it may be hard to manage the desired mix of participants from different sectors in a small group. For virtual events, brief introductions can take place in the chat and in the breakout room. Encourage participants to identify themselves with their name, organization, and pronouns on the virtual platform screen.

Recordings and notes from breakouts and whole group discussions will be most useful if they capture both high-level problems and solutions, and neighborhood- and stakeholder-specific details.



## “ COMMUNITY VOICES

“We have been getting better and better at checking in on isolated residents, because some of us remember the heat wave in Chicago in the ‘90s that killed so many people. I am really eager to learn how our hospitals and other health care systems can help us improve this work, like engaging the Meals on Wheels drivers, using variable message boards to communicate, and maybe even reminding people that the buses are air conditioned and could provide some respite.”

— Participant from Pioneer Valley Transit Authority

“In extended power outages, we have experienced people coming to the hospital because they saw the lights on and came to charge their cell phones, find water, or just get more comfortable, so now we are looking to support the city’s work establishing neighborhood resilience hubs to which people would have easier access.”

— Participant from Baystate Health

## FOLLOW-UP

Exercises such as these are designed to generate interest and ideas from community stakeholders who are not typically included in emergency planning activities. It is important to follow up with stakeholders to ensure that their ideas and input are taken seriously and will be included in future emergency planning. In addition, it is important to work with key emergency planning leaders at municipalities and health care systems to encourage them to maintain ongoing communications and participation with community stakeholders in future emergency planning processes. Trust-building through ongoing communication, shared strategies, and shared funding is critical to building resilience.

### Suggestions for follow-up include:

- Create “lessons learned” documents framed for key stakeholders, including:
  - emergency preparedness managers
  - health care: community benefit, community relations, senior leadership, emergency medicine, etc.
  - community-based organizations
  - municipal and legislative leaders
- Share a list of participants and a summary of exercise challenges, assets, lessons learned, and next steps with participants.
- Have a briefing for legislators and other community leaders to identify key policy changes, funding streams, and programmatic leverage points based on the lessons learned from the event.
- Share the results and planning at meetings of neighborhood councils, community coalitions, or other community meetings. Get feedback to further update your planning.
- Create a communications strategy for ongoing updates for community organizations and stakeholders, legislators, and community members. Set up a way for community organizations to know where and how to get help. Individual residents need to be able to access this as well.
- Encourage health care systems to work with municipalities to set up ongoing strategies to include community stakeholders in their planning and preparedness processes. This could be either by setting up or working with an existing Resident Advisory Board to share communications about emergency planning and other health care or municipal efforts.
- Advocate for emergency planning staff from municipalities and health systems to participate in racial justice and health equity training to build trust and better serve the communities that will be most impacted.
- Advocate for funding for community-based organizations to participate in emergency planning processes and to implement strategies and programs identified in the tabletop exercise.

### Resources

- ★ Meeting polls and post-exercise survey [[docx](#), [pdf](#)]
- ★ Sample post-exercise follow-up email to participants [[docx](#), [pdf](#)]

## ACKNOWLEDGEMENTS

Thanks to all of the staff and volunteers from community organizations and government agencies in Hampden County and beyond who participated in the community-based climate resilience exercise upon which this playbook is based, and who continue the work of building a more climate-resilient future.

- Arise for Social Justice
- Baystate Brightwood Health Center
- Baystate Medical Center
- Black and Brown Wall Street
- City of Springfield Health and Human Services and Emergency Management
- Harvard T.H. Chan School of Public Health
- Health Care Without Harm
- Highland Valley Elder Services
- Hilltown Community Health Center
- Massachusetts Department of Conservation and Recreation
- Neighbor to Neighbor
- Pioneer Valley Planning Commission
- Pioneer Valley Transit Authority
- Public Health Institute of Western Massachusetts
- Town of Huntington Council on Aging
- Town of Longmeadow Administration, Council on Aging and Emergency Management
- Visionary Acts, LLC
- Way Finders

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### Additional information

Health Care Without Harm works to transform health care worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability, and a leader in the global movement for environmental health and justice.

To learn more about our work, visit [noharm.org](http://noharm.org).

For more information please contact Health Care Without Harm's U.S. Climate and Health team at [info@hcwh.org](mailto:info@hcwh.org)

# APPENDIX A: TEMPLATES & SAMPLE MATERIALS

## Templates and sample materials

### PRE-EXERCISE PREPARATION

- A1: **Sample invitation to participants** [View or download: [docx](#), [pdf](#)]
- A2: **Sample opening remarks for kickoff meeting** [View or download: [docx](#), [pdf](#)]
- A3: **Pre-exercise kickoff meeting - Agenda for participants** [View or download: [docx](#), [pdf](#)]
- A4: **Pre-exercise kickoff meeting - Agenda for facilitators** [View or download: [docx](#), [pdf](#)]
- A5: **Pre-exercise kickoff meeting - Slides** [View or download: [pptx](#), [pdf](#)]
- A6: **Pre-exercise prep questions for participants** [View or download: [docx](#), [pdf](#)]

### DURING THE EXERCISE

- A7: **Sample opening remarks for climate resilience exercise** [View or download: [docx](#), [pdf](#)]
- A8: **Climate resilience exercise - Agenda for participants** [View or download: [docx](#), [pdf](#)]
- A9: **Climate resilience exercise - Agenda for facilitators** [View or download: [docx](#), [pdf](#)]
- A10: **Climate resilience exercise - Presentation** [View or download: [pptx](#), [pdf](#)]
- A11: **Climate resilience exercise - Facilitator's guide** [View or download: [docx](#), [pdf](#)]

### POST-EXERCISE FOLLOW-UP AND REPORTING

- A12: **Meeting polls and post-exercise survey** [View or download: [docx](#), [pdf](#)]
- A13: **Sample post-exercise follow-up to participants** [View or download: [docx](#), [pdf](#)]

★ To download a **complete folder containing all templates** [[zip](#)]  
go to <https://bit.ly/exercise-materials> or scan the QR code shown here:



# APPENDIX B: AFTER ACTION REPORT FROM THE HAMPDEN COUNTY EXTREME HEAT EXERCISE

## ADMINISTRATIVE HANDLING INSTRUCTIONS

1. The title of this document is Extreme Heat Climate Resilience Tabletop Exercise After Action Report and Improvement Plan (AAR/IP).
2. The information gathered in this AAR/IP is for participant's use.
3. Point of Contact: Catherine Ratté, Pioneer Valley Planning Commission 413-285-1174 or cratte@pvpc.org

## EXERCISE OVERVIEW

**Exercise Name:** Extreme Heat Climate Resilience Tabletop Exercise

**Exercise Dates:** December 9, 2021

**Scope:** This was a tabletop exercise that was held virtually due to the Omicron phase of the COVID pandemic. Exercise play was focused on a 10-day period, involving actions leading up to, during, and following a protracted high heat event spanning the region.

**Mission Area(s):** Preparation, Response, and Recovery

Regional capabilities of health care facilities, emergency management, and community-based organizations to manage responsibilities before and during a long and complex scenario.

**Objectives:**

1. Identify community vulnerabilities and the role of Hampden County's health care and community organizations in helping those most climate-vulnerable during and following a sustained heat wave.
2. Help clarify what investments can be made to reduce those vulnerabilities.
3. Strengthen relationships and understanding to establish more effective, equitable processes, decision-making, and resource allocations.

**Threat or Hazard** Sustained high temperatures

**Sponsor** Health Care Without Harm

**Point of Contact** Catherine Ratté, Pioneer Valley Planning Commission  
cratte@pvpc.org, 413-285-1174

## INTRODUCTION AND BACKGROUND

A recent report released by the United Nations shows the devastating impact climate change will have around the world. Communities in Western Massachusetts will certainly not be exempted.

Longer periods of sustained heat waves, maybe made more difficult by prolonged power outages and droughts will test those people already most disenfranchised. This is not breaking news - quite the contrary. The Pioneer Valley Planning Commission and the Commonwealth of Massachusetts have been working on climate action since the 2000s. Still, the latest Intergovernmental Panel on Climate Change (IPCC) report is a powerful reminder that our most imposing challenges are still ahead.

Working in collaboration with Health Care Without Harm and Baystate Medical Center, the Pioneer Valley Planning Commission (PVPC) and the Public Health Institute of Western Massachusetts (PHIWM) invited municipal representatives, community-based organizations (CBO) stakeholders, and the Pioneer Valley Transit Authority to participate in a tabletop exercise on extreme heat.

Tabletop exercises have been proven to be an effective way for officials to rehearse their roles and responsibilities during emergencies using a variety of scenarios. They serve as the basis for discussion of existing emergency plans in a low-stress environment while introducing participants to their expected roles. The overall goal was to welcome participants into this process in a no-fault and stress-free way that highlights strengths, knowledge and the value their respective organizations add to community resiliency.

The purpose of this tabletop exercise was focused on management of a protracted heat-related emergency that has pushed critical infrastructure to the breaking point. It was designed to challenge participants to anticipate how the people they have responsibility for will be directly impacted. By doing so, it is our hope that the organizations will develop a prioritized list of actions around climate change adaptation that will offset these repercussions, and ensure that the response is regional, sustainable, and equitable in the Pioneer Valley.

Focusing a tabletop exercise on a hazard as complicated as this was a relatively new concept for many of these participants, and introduced players to a process that has been limited to emergency management, public safety, public health, and health care facilities. It was a learning experience, and the challenges encountered were taken on boldly, and added value to the participants' time spent.

Broadly, the objectives of this tabletop exercise were to:

- Clarify roles and responsibilities of different stakeholder agencies in our communities to identify common goals and opportunities to collaborate on projects that will yield increased community climate resilience.
- Highlight gaps in planning or resources and determine how to best close the gaps in a manner that meets the most communities across the region.
- Provide a venue to test any existing disaster plans and share ideas on how to update them to reflect the specific challenges a sustained heatwave will bring.
- Understand how sustained heat waves may impact mutual aid and infrastructure to better anticipate where failures are likely to occur.
- Gather feedback from decision-makers on where to focus next steps.

## PURPOSE

This tabletop exercise was specifically designed to focus on and engage community-based organizations, emergency managers, health care facilities, and all the other entities in a simulated week-long response to an extended Extreme Heat disaster. This exercise was designed to test our response in a safe environment so we can identify gaps and fill them. This exercise was different in that it had a special focus on how hospitals and other health care system components can play a role in enhancing their communities' resilience.

Recent extreme heat events such as Portland, Oregon, and New Orleans, Louisiana have shown that the most vulnerable populations to extreme heat include:

- Older adults who are more likely to face social isolation in addition to being more likely to have pre-existing health conditions that can be exacerbated by extreme heat.
- People who are economically disadvantaged, as well as communities of color, are more likely to live in “heat islands” where temperature increases are most extreme, to live in substandard housing that lacks air conditioning, fans, insulation, and other measures that can mitigate heat impacts. They are also more likely to face disproportionately higher rates of health conditions such as asthma, COPD, and cardiovascular disease that can leave individuals more vulnerable to health impacts from extreme heat.
- People with disabilities are especially vulnerable to heat impacts and may have particular difficulty accessing help during a heat emergency.
- Communities with limited English proficiency may be culturally or geographically isolated.
- People who work outside or are unhoused are also more exposed to the impacts of heat events.

## PROCESS OBJECTIVES

Information gained through this event will inform a report that will help health care facilities better engage with and serve community organizations and the public in preparing for and responding to sustained climate disasters.

## EXERCISE FORMAT

This was a tabletop exercise. It began with a briefing on the scenario and relevant information. Following the briefing, participants were sent to pre-assigned break-out rooms. Each of the groups participated in the same script-based exercise.

The scenario was divided into three sections, during which situation updates occurred, and each section had questions designed to move the participants through the process presented earlier. Each of the three sections lasted about 30 minutes. Notetakers were assigned for each group and following completion of each scenario, all of the groups reconvened and breakout room facilitators shared key elements of each response phase in a report-out session.

## HEAT EMERGENCY EXERCISE SCENARIO

### Module 1

This section was designed to encourage participants to consider the preparation phase.

#### Friday, July 1

The National Weather Service (NWS) out of Boston is reporting an impending extreme heat event and high humidity centered in New England beginning tomorrow, Saturday. Western Massachusetts is expected to be one of the highest threat areas for increased humidity during the heatwave. Precipitation throughout the summer has been sparse, leading to conditions approaching drought-level across all of Hampden County.

The impacts are unknown at this time but projected to increase a public health threat to the widespread area encompassing each of your communities.

The Massachusetts Emergency Management Agency (MEMA) has warned communities to prepare for power grid failure around the commonwealth, including the Greater Springfield Area.

Temperatures have been greater than 95°F for two days and are forecast to remain so for the next 5-7 days.

### Module 2

This section was designed to encourage participants to consider the response phase.

#### Wednesday, July 6

New England has experienced extreme temperatures exceeding the original forecast. The majority of the region reported temperatures greater than 105°F and 75% humidity during daytime hours. The heat index (the so-called “feels like” temperature) is forecast to be 112°F and will not fall below 100°F until after 9pm tonight. There is a visible haze in the afternoon sky and the Massachusetts Department of Environmental Protection (MassDEP) has declared the air quality as poor, further raising concerns for those with chronic respiratory illness across Hampden County.

State-wide water restrictions are in effect, and cooling shelters are full.

Rolling blackouts were occurring frequently, lasting for hours at a time. At this point, power is out and it is expected that service will not be restored for between 48-72 hours.

Brush fires are taxing volunteer fire departments in the rural areas of Hampden County. These fires will not only stress emergency responders and divert them from assisting at shelters and cooling centers, but also further impact air quality and cause added stress to those with chronic respiratory conditions, such as asthma.

Local officials are urging the cancellation of all unnecessary outdoor events.

Housing in the region is less likely to have air conditioning--elders, young children, and people with health conditions are particularly at risk.

Facilities noted staff shortages due to child care and other family emergencies.

## Module 3

This section was designed to encourage participants to consider the recovery phase.

### **Monday, July 11**

The heat wave lasted a total of six days, with temperatures finally falling below 90°F on Saturday. Electricity was restored shortly afterward but utility providers warned the community to prepare for additional rolling blackouts for several days ahead. Forecasters are warning of a high likelihood of a follow-on event beginning by the following Wednesday.

A presidential declaration of disaster has been made across all counties in Massachusetts.

Facilities continue to struggle with staff shortages. Businesses are attempting to return to normal, but issues with supply chains and infrastructure disruptions are causing difficulties and slow recovery efforts.

Shortages persist for critical items such as gas in some areas.

## HEAT-RELATED EMERGENCIES TABLETOP EXERCISE PERFORMANCE IMPROVEMENT (PI) ITEMS

Heat-related emergencies present a relatively new and emerging threat to communities in the Northeast. Like other prolonged hazards that span large geographic areas, heat emergencies will stress systems dependent on mutual aid as it pertains to sharing of resources. Every community is dealing with a similar situation so there are limited personnel, equipment, supplies, and facilities to share. Additionally, heat-related emergencies are highly likely to lead to cascading failures where electrical grids will be prone to failure during sustained hot weather, which in turn will cause further stress with loss of air conditioning and refrigerators. Transportation assets will be stressed by operating in these conditions and access to fuel could become a challenge.

Municipal and health care-specific emergency managers maintain an All-Hazards approach as a practice, so while heat-emergencies are handled in that fashion, the scenarios connected to this hazard do present unique threat profiles. Nonetheless, the methods to address this hazard are no different than any other, namely, looking at these situations through the four phases of the comprehensive emergency management cycle: mitigation, preparation, response, and recovery.

In emergency management parlance, mitigation efforts are those that take place on an ongoing basis, not as preventative measures but to make preparation, response, and recovery phases more efficient.

Mitigation is commonly divided into structural and non-structural, with the former focused on infrastructure and the latter on improvements to relationships, processes, and plans. Once a threat is recognized as imminent, partners can begin the preparation phase. In some cases, as with heat emergencies, the lead time may be more than 24 hours as forecasts come in and the details can be fully analyzed and resources activated. In other cases, an earthquake or tornado, for example, there is often a very limited warning and subsequently, the preparation phase is severely compressed and partners are forced to move directly into the response phase.

In the response phase, the hazards are fully underway and the focus is on immediate efforts to save lives, prevent injuries and protect property and the environment (where practical). The recovery phase begins as the immediate threat has passed and community partners can begin to assess damage, get people back in homes, and make initial repairs that will allow for restoration of local economy and social services. Requesting financial assistance where declarations of disasters are made also begins during the initial stages of the recovery phase.

Finally, ways in which to improve processes (non-structural) and upgrades to systems (structural) in anticipation of subsequent events are also taken into account during the recovery phase and implemented where possible, or at least noted for implementation later on.

The focus of this project was to engage community-based organizations (CBOs) in the well-established cycle but with the understanding that heat-related emergencies are different, in that they have not been a typical threat to this point and are likely to become more frequent due to the anticipated impacts of climate change. Further, CBOs often have responsibilities for populations that are already underserved and require additional, and in some cases unique, support and resources. The purpose of this exercise was to explore those needs and make recommendations on how to better integrate CBOs with their respective emergency management and health care partners.

With that established, these recommendations are not focused on the respective emergency managers, health care facilities or specific CBOs, but rather are designed to highlight opportunities to make improvements to collaborate, communicate, coordinate and cooperate in a manner that will be realized during heat emergencies and other hazards as well.

## PERFORMANCE IMPROVEMENT RECOMMENDATIONS

- Health care facilities have dedicated internal planning teams focused on exercises (tabletop, functional, and full scale) using a variety of scenarios. These drills typically occur in concert with local emergency management and public safety partners twice a year. CBOs would benefit from participating in these exercises and should be invited as a participant, observer, or evaluator. Beyond the official process, these exercises are often an opportunity to improve existing relationships with the personnel that they will be working with during an actual incident but in a lower-stress environment. Participating in exercises is also vital to gaining experience and a better understanding of how emergency management sets priorities and allocates requests for resources, which will lead to better CBO confidence and performance during an incident.
- Similarly, tabletop, functional, and full-scale exercises are often held locally or even regionally and are excellent opportunities to meet partners and gain experience around All-Hazards Emergency Management.
- The Incident Command System (ICS) is the flexible and expandable model emergency managers and health care officials utilize during an emergency. CBOs should consider completing this training and even implementing a version of it internally. While ICS training is available for free and online, emergency managers and/or health care facilities could conduct the training for CBOs during a workshop.
- By design, this tabletop exercise was focused on relationships, not infrastructure. That stated, CBOs should consider conducting an internal assessment of their infrastructure and identify needs and where improvements might be made. For example, it might not be feasible to have an emergency generator installed at a CBO office, but having a transfer switch put in that would allow for connection to one delivered during an event is likely more practical and would greatly improve continuity of operations.
- CBOs that have not yet developed Continuity of Operations Plans (COOP's) should consider doing so in order to maintain their mission when/if some personnel are unavailable/unable to work. Emergency managers and health care facilities have a great deal of experience developing COOP's and may consider funding and hosting workshops for CBOs to help them make their own. Additionally, where internal emergency planning is not robust or has not been reviewed in some time, CBOs may consider evaluating these plans and updating details such as contact information. This process does not have to be intensive and may be part of a routine update and even with the support of local emergency management to offer input.
- Community disaster planning occurs on a regular basis with Local or Regional Emergency Planning Committees (LEPC's/REPC's). CBOs should be invited to these meetings and consider attending these meetings and consider serving on the committee to better represent their constituent's needs at this level and be part of the overall process.
- Most communities, facilities, and organizations do not have capacity to maintain operations during a sustained emergency such as a prolonged extreme heat event. It is essential to consider what existing volunteer groups are established and available to assist during these times. Many emergency managers and health care facilities engage coordinated volunteers in training and exercises, and CBOs could seek out opportunities to engage with them as well, perhaps in concert with those managers and facilities.
- Funding is often available to conduct different aspects of emergency planning, before and after an event. Local, regional and state agencies should reach out to and engage the CBOs in their communities in order to better understand the sometimes complicated requirements that would make them eligible for these resources. Joint efforts including CBOs to reach out to funders, such as community foundations and hospital community benefit programs, might ease the burden and increase the chances for success.

- Communications are likely to be one of the most difficult elements to maintain during an emergency. Municipal emergency management departments and health care entities should support CBOs to develop a full emergency communications plan that is designed to reach internally for staff and outwardly to constituents and emergency management and health care partners. This plan should go beyond social media and include print, television and radio resources. This plan is also an opportunity to ensure that emergency managers and health care facilities have a means of reaching out to any of the CBOs' specific needs (cultural, social, language-based, etc.). All partners should explore alternatives to cell phones in their respective areas because cell phone service may go out during climate disasters.
- There are pre-established and redundant communications networks existing that are dedicated to emergency management purposes. Municipal emergency management staff and health care entities should make sure CBOs have access to these, or at least have a direct connection with a local official monitoring them to ensure timely, accurate information is received, so they can act in service to their constituents.
- Following any emergency, emergency managers and health care facilities conduct an after-action review in order to improve efforts during the next event. CBOs should consider adopting this process internally.
- The above list is by no means comprehensive but does provide adequate means of beginning an ongoing process to prepare for, respond to, recover from, and mitigate heat-related, and a variety of other emergencies.

## CONCLUSION

Planning and designing an emergency response tabletop exercise with a focus on community resilience and community-based organizations and the roles they play in providing front-line service to most vulnerable populations, and proactively building resilience in the communities they serve is a relatively new approach to planning for climate resilience. We are introducing new players to a process that has traditionally been limited to emergency management professionals, large health care entities, and anchor institutions.

This was a learning experience for everyone involved and challenges were no doubt encountered. That is the purpose of running this exercise: to expose, highlight, lift up, and identify all the actions missing, connections not being made, resources not being marshaled, people being left out, etc as well as highlighting and celebrating all the actions to protect people, and get information out effectively.

## **PARTICIPATING ORGANIZATIONS**

### **Planning Team**

Health Care Without Harm  
Baystate Medical Center  
Pioneer Valley Planning Commission  
Public Health Institute of Western Massachusetts  
Joshua Shanley, Emergency Management Consultant

### **Participants were from the City of Springfield, towns of Longmeadow and Huntington**

Arise for Social Justice Springfield  
Baystate Brightwood Health Center  
Baystate Medical Center  
Black and Brown Wall Street  
City of Springfield Health and Human Services and Emergency Management  
Harvard T.H. Chan School of Public Health  
Health Care Without Harm  
Highland Valley Elder Services  
Hilltown Community Health Center  
Massachusetts Department of Conservation and Recreation, Climate Resilience  
Neighbor to Neighbor  
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Town of Longmeadow Administration, Council on Aging and Emergency Management  
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Health Care



Without Harm

12110 Sunset Hills Road  
Suite 600  
Reston, VA 20190

[noharm-uscanada.org](http://noharm-uscanada.org)  
[info@hcwh.org](mailto:info@hcwh.org)

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