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Climate Resilience for Frontline Clinics Toolkit

Module for

General Weather Guidance

in collaboration with

americares

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How To Use This Toolkit

The Climate resilience for frontline clinics toolkit includes a wide variety of resources for several different hazards. There is more material than anyone has time to read in one sitting. The following suggestions may help you make the best use of these resources. These suggestions are based on feedback, focus groups, and interviews with frontline clinic staff that implemented earlier versions of these toolkit materials.

Designate a weather resilience lead

Designate one person at your facility as a weather resilience lead. This person can:

- Take the time to review these documents in detail.
- Identify which materials will be most useful to colleagues in different parts of the organization.
- Track imminent weather threats.
- Sign up for and receive alerts from various systems, if desired.

See the **Critical Roles and Responsibilities** for more details.

Identify your clinical engagement strategy

Set up a meeting with members of your healthcare team to determine how you would like to use the clinical and patient facing resources at your facility. Frontline clinics that participated in the development of these resources use them in several different ways, including the following:

- Educating clinicians on the impacts of climate hazards and approaches they can use when counseling patients.
- Making sure printouts of patient facing materials are easily accessible alongside other counseling materials that are used in the clinic.
- Adding patient facing materials to electronic after-visit summary documents so that it is easy to distribute these materials along with other parts of the after-visit summary.
- Printing out patient-facing materials and leaving them in a prominent location in the waiting room.
- Conducting education sessions on the contents of this toolkit for staff, administrators, or patients.
- Assign a specific member of the healthcare team to ask patients about relevant hazards and provide educational materials. This could include roles such as nurses, doctors, social workers, pharmacists, community health workers, and others.

Tailor these resources to the needs of your institution

In some cases, it may be desirable to modify details in these toolkit resources to meet specific needs at your organization or to reflect your local situation. Examples of this could include:

- Adding more detailed information about how to reach local authorities.

- Providing information about specific city, county, or state level resources.
- Providing information about specific policies and practices at your institution.
- Providing information about resources in your community, such as how to find cooling centers available in your city or town.

The easiest way to do this is to modify the provided **Documentation Templates**, which you can import into after-visit summaries for your patients.

Alternatively, you may find it helpful to make a separate flyer with a list of local resources and phone numbers to accompany the materials from this toolkit.

Integrate resources into your electronic health record system

You may find it helpful to integrate resources into your electronic health record system.

- You are welcome to include the attached PDFs and content in after-visit summaries, or to link to them from internal institutional reference documents or databases.
- We have provided a set of documentation templates that you can easily import into your electronic health record system.
- If you need more advanced integration support, such as creating templates of these materials within your electronic health record system, we may be able to help provide the content in a compatible format. Please contact our team for more information.

Share your experience and ideas

Many of the clinics that helped develop these materials found it helpful to share ideas and learn from each other about how they used the toolkit resources. If you have insights or experiences to share, please contact our team. In some cases, your contributions may be shared with other clinics or healthcare workers, with credit to you and your institution if desired. Examples of what you might share include:

- A description of how you have been using a specific resource in the toolkit.
- An anecdote about a climate hazard that you have dealt with successfully.

Conduct periodic reassessments

It may be beneficial to periodically reassess your climate resilience activities. Consider doing this:

- Annually in late fall, after the risk of climate hazards has decreased.
- After specific climate-related events, such as a hurricane or heatwaves, to review and learn from the experience.

Notes:

Building an Emergency Kit

For Patients

An emergency "grab and go" kit will help you have everything you need in one place to take with you when extreme weather emergencies happen, especially when they are unexpected. Consider what items you will need while leaving and staying away from your home (such as an emergency shelter).

You may also want to make a "stay at home" kit if you need to shelter in place. This kit includes the supplies you need to stay in your home for up to 7 days, potentially without electricity or heat. It should have similar items to the "grab and go" kit.

Here is a list of things to have ready in case of an emergency. Some of these are only needed for children or pets, or if you are leaving your home. Keep everything together such as in a single bag, so you can easily grab it when you need it. You can also buy kits that are pre-assembled from various companies.

Food and water

☐ Bottled water (at least 1 gallon per person per day)

☐ Non-perishable food for at least 3 days

☐ Manual can opener (if needed)

☐ Paper cups, plates, and utensils

☐ Food and water for your pet

Communication

☐ Extra cell phone battery or charger

☐ A list of emergency phone numbers, including an out of state contact

☐ Local maps, marked with at least 2 evacuation routes and meet up spots

☐ Radio (with extra batteries or hand cranked or solar powered)

Infants and children

☐ Bottle and infant formula (and water for mixing) for at least 3 days
- Liquid ready to feed formula in single serve bottles (if possible)
- For safe formula preparation, use a camp stove, fuel, and pot for boiling water/sanitizing

☐ Diapers and wipes for at least 3 days

☐ Paper and pencil

☐ Books, games, puzzles

You can see https://www.cdc.gov/childrenindisasters/checklists/kids-and-families.html for more information for family and children emergency kits.

Pets

☐ Pet food for at least three days

☐ Pet water for at least three days

☐ Pet bedding

☐ Pet crate - some shelters may only allow pets in crates inside

☐ Any medications, toys, or other supplies for pets

Financial

☐ Copies of important documents (identification, insurance policies, bank account records) in a portable, waterproof container or on your phone, in the cloud, or on a USB stick

☐ Cash

Health and safety

☐ Prescription medications (7-day supply)
- If you fill prescriptions early (filling prescriptions up to about a week early is sometimes covered by insurance) then you can build up an emergency supply of your prescriptions.
- Make a written list of your medications, ideally laminated or in a waterproof bag. This will help medical professionals get you back on your medications if you lose them or need longer-term refills.

☐ Extra eyeglasses or contact lenses

☐ First aid kit (Band-Aids, antiseptic, gauze, tape, etc.)

☐ Fire extinguisher

☐ Whistle to call for help

☐ Flashlight with extra batteries

☐ Sleeping bag/warm blanket for each person

☐ Change of clothing for each person, including long-sleeved shirt, long pants, work gloves, and sturdy shoes

☐ Tampons or sanitary pads

☐ Moist towelettes

☐ Hand sanitizer

Miscellaneous

☐ An extra set of car keys or home keys

☐ Wrench or pliers to turn off utilities

☐ Garbage bags and plastic ties

☐ Matches or lighter in a waterproof container

For more information see here: https://www.elsolnec.org/wp-content/uploads/2020/08/ENG-Disaster-Ready-Guide.pdf

Notes:

Plan for Power Outages

For Patients

Extreme weather events frequently can lead to power outages. This can lead to issues with using electricity dependent devices and refrigeration. This in turn can impact health.

Here is how to prepare for power outages so that you do not have suffer the impact of power outages.

☐ I will see if I can sign up for local planned power outage alerts. For example, in California, people can sign up for PG&E Public Safety Power Shutoff alerts.

☐ I will try to conserve electricity if it is really hot. This can help prevent blackouts.

☐ If I use **medical equipment that needs electricity or batteries**, I will have a backup plan so I can use them if the power goes out.

If the power goes out, I will:
- ☐ Use my backup electricity generator
- ☐ Have a backup battery fully charged in my home
- ☐ Evacuate somewhere that has power

☐ If I have **medications that require refrigeration**, I will have a cooler and ice or ice packs ready to store them as well as a thermometer to check the temperature inside the cooler.

☐ If I get water from a **well with an electric pump**, I will have a backup plan so I will have enough water to drink if the power goes out.

If the power goes out, I will:
- ☐ Have ____ gallons of bottled water at my home (at least 1 gallon per person, per day).
- ☐ Have _____ meals that do not require cooking (several days of non-perishable food, per person).
- ☐ Evacuate to a safe location before a power outage occurs or flooding prevents evacuation.

After an extreme weather event, I may want to **test my well water for pollution** before drinking it. I can do this by contacting the local health department to have well water sampled and tested for contamination. Or I can call the state laboratory certification officer to find a certified lab nearby to bring a sample for testing. More information is available from the EPA Safe Drinking Water Hotline (1-800-426-4791).

☐ If I have **electric heat or air conditioning**, I will not:
- ◦ try to heat my home by burning fuels, such as wood or propane, indoors
- ◦ use a gas oven or stove to heat my home
- ◦ use an electricity generator or gas grill indoors
- ◦ run my car with the garage door closed for air conditioning

*These can all result in **carbon monoxide poisoning**, which can be deadly.*

If I am too cold or hot because the heat or air conditioning will not work from a power outage, I will go someplace where heat or air conditioning is available.

If I am too cold during a power outage, I will go to: _____

If I am too hot during a power outage, I will go to: _____

If I need help getting someplace warm or cool, I can call:

Name	**Phone**
1. _____	_____
2. _____	_____
3. _____	_____

Notes:

General Weather Hazard Guidance

For Caregivers

Whether you are caring for children, a family member with complicated medical issues or advanced age, someone with limited mobility, someone living with mental health challenges, or someone with other specific or special needs, it is important to think about how you can help them prepare for and stay safe during the types of emergencies that are becoming more common as a result of climate change.

This guide is intended to give you a simple list of things to consider. It will be most effective if you talk about it with the person you are caring for and their healthcare team. If possible, you should talk about this with them now, so that if something dangerous happens you will be ready.

Learn about local hazards and health risks

Climate change is leading to more dangerous heat waves, hurricanes, floods, wildfires, and wildfire smoke events. These can cause health problems, particularly for people who are very young, very old, pregnant, living with disabilities, or living with certain medical or mental health conditions.

Wherever you live, there are one or more climate-related health hazards that you need to know about. Most people in the United States are at risk from heat and wildfire smoke. Many people are at risk from flooding; your risk will depend on local geography. If you live in the southern or eastern part of the country, you may face risks from hurricanes.

What you can do:

- Learn which hazards are most dangerous in your location. You can learn where to find information about each hazard in the patient information sheets in this toolkit. If you want more detailed information, the provider materials have additional information you may find helpful.
- Review the patient information sheets for each hazard.
- Write down a list of hazards (such as heat, flooding, fires, smoke, and hurricanes) that you need to pay attention to.
- Write down a list of medical issues related to each hazard that you need to think about for the person you are caring for.
- Ask your healthcare team for more information. They can help you understand how each of these hazards might affect the person you are caring for.

Plan ahead to prevent medical problems

You can prevent many of the health problems caused by wildfires, smoke, heat, floods, and hurricanes by planning ahead and taking specific actions. This can help the person you are caring for stay safe and avoid injuries or health problems.

- Talk to your healthcare team about making a plan for the person you care for. They can help you decide what is most important for them.
- Make sure that the person you are caring for has enough medication available to get through a climate related disaster and its immediate aftermath, during which pharmacies may not be open.

- Make sure that the person you are caring for is living in a home that supports their health. If possible, their home should provide them with shelter from severe weather, a cool space to stand when the weather is very hot, clean air when there are dangerous levels of air pollution or wildfire smoke, and a safe place to store medications and other supplies that they may need.
- You can refer to the patient materials in the sections of this toolkit focused on heat, fire, flood, and hurricanes, as well as general information, for additional ideas about how to keep the person you are caring for safe. These documents include checklists and action plans that you can fill out with them.

Check on and support people who live alone

If you are caring for someone who still lives alone, check on them regularly before, during, and after a weather disaster. You may be able to help them avoid medical problems and access important resources.

Before a disaster

- Check to make sure that they know something dangerous is about to happen.
- Make sure they have enough groceries, stored water (in case the water supply stops working), and other essentials.
- You can refer to the sheets on **Building an Emergency Kit** and **Plan for Power Outages** for more information.

During a disaster

- If possible, be present with them during the disaster. Transportation may become impossible, and you may not be able to get to them if you need to during a hurricane, flood, or wildfire.
- If you cannot be with them, check in regularly by telephone to make sure that they are safe.
- Checking in regularly is particularly important during heat waves because people can become confused and not realize how hot they are getting.
- Regular check-ins can save lives.

After a disaster

- Make sure they have a safe place to stay.
  - If they are staying in or returning to their home, check for structural damage, water damage, and/or smoke damage. If in doubt, ask for a professional evaluation.
  - If they are staying in a shelter, hotel, or another person's home, check to make sure that they have their medications, medical devices, and other essentials.
- Make sure their medical needs are met.
  - Make sure they continue to take their medicines and are able to get refills when needed.
  - Make sure they can get their regularly scheduled essential medical services such as dialysis.
  - Check-in with their primary care doctor about any refills or medical evaluations that need to happen.
  - Watch for signs of illness or mental health impacts and help them get appropriate medical attention.

- Help them access services and resources.
- See if they qualify for federal, state, or local financial assistance.
- See if there are programs to help support survivors.
- Reach out to patient advocacy organizations or disability groups to address civic needs or conditions of the person you care for. These groups may be able to direct you toward additional resources.

Have an evacuation plan

Pay attention to local media outlets for evacuation orders. Know how to get the person you are caring for out of their home - where the exits are and what windows can be opened. If they have special mobility needs, make sure you have the necessary equipment available.

Identify an emergency contact for them to call and update on plans, if relevant. This may be you or another person involved in their care.

Their emergency contact person is: _____

Their phone number is: _____

Identify both a preferred and backup evacuation location that has power if needed. If possible, these two locations should be in different directions from their home.

The evacuation locations we will take them to are:

1. _____

2. _____

If we need to evacuate them, the vehicle/transport we will use is: _____

Never drive or walk or take transport into standing water.

If we need help evacuating them, I can call:

Name	**Phone**
1. _____	_____
2. _____	_____

Information about specific hazards

Older adults who live alone are at exceptionally high-risk during heatwaves. They may not realize how hot or dehydrated they are getting. Checking on older adults during heatwaves can save lives.

People with limited mobility may have a hard time evacuating. This can put them in danger during floods, hurricanes, and wildfires. Evacuating well ahead of time will give everyone more time to deal with these challenges.

Hurricanes, floods, and wildfires can damage or destroy homes. If you must evacuate someone that you are caring for because of one of these hazards, bring everything you need to care for them away from their home for a long time. The emergency kit document has more information.

Wildfire smoke can travel hundreds or thousands of miles. If the person you are caring for has lung disease or breathing problems, pay attention to wildfire smoke conditions and air quality. Refer to materials in the **Module for Wildfire Smoke** for more information.

Self-care

Caring for another person is one of the most meaningful things that you can do. It is also one of the most challenging.

Many caregivers struggle to balance the needs of the person they are caring for with their own, and may also experience psychological stressors, financial hardships, and other challenges. It is important to give yourself permission to meet your own needs, both physical and psychological, in order to be there for the person you are caring for. Additional resources for caregivers are available at https://www.hhs.gov/programs/providers-and-facilities/resources-for-caregivers/index.html

In addition, hazards such as wildfires, hurricanes, floods, and heat waves can lead to anxiety, distress and PTSD, and other mental health impacts, even in people who do not have the responsibility of caring for another person. If you are experiencing fear, anxiety, feelings of helplessness or hopelessness or isolation, or other symptoms related to the stress, please reach out to your primary care doctor, a licensed mental health professional, your local ER, or other people who can help you address these feelings and get appropriate help. Symptoms to watch out for and resources you may find helpful are available at https://www.samhsa.gov/dtac/disaster-behavioral-health-resources

If you become overwhelmed and have thoughts of suicide or self-harm, please call 911, go to your nearest Emergency Department, or call the National Suicide Prevention Lifeline at one of the numbers below.

- English: 1-800-273-8255
- Espanol: 1-866-628-9454
- Deaf and Hard of Hearing: 1-800-799-4889
- Veterans: 1-800-273-8255
- Disaster Distress: 1-800-985-5990

Notes:

Documentation Templates

For Providers

These documentation templates have been developed for use in electronic health records or similar applications. They are intended to be modified by the user to meet the specific needs of their clinic or other practice environment.

In accordance with standard convention for documentation templates, use of "***" in these materials indicates either 1) a user modifiable section of the text or 2) text blocks that the user may choose to delete.

This document currently contains materials to help you document conversations with patients and to help you template detailed and appropriate after-visit summaries. Additional templates may become available in the future.

We are also interested in gathering information from users of these materials on how they have modified them for use in their clinical settings. If you modify these materials or develop new documentation templates and would like to share your templates with others, please reach out to our project team.

Use of these materials is intended to support your clinical practice, counseling, document creation, and documentation of your work. These are not intended to replace medical judgment or your knowledge of the specific needs of your patients. Users are ultimately responsible for any recommendations included in formal medical documentation or after-visit summaries that they create.

Documentation of counseling

.heatcounselhome

I counseled this patient regarding their current level of exposure to heat in their home, their personal risk factors for heat related illness, and steps they can take to reduce their risk. We discussed the importance of hydration, cooling, options for cooling outside their home included local community resources, the recognition of the related illness, and when to seek medical attention.

.heatcounselwork

I counseled this patient regarding their current level of exposure to heat in their workplace, their personal risk factors for heat related illness, and steps they can take to reduce their risk. We discussed the importance of hydration, shade, frequent breaks, the recognition of the related illness, and when to seek medical attention.

.firecounsel

I counseled this patient regarding the risk that wildfires may pose to their health. We discussed how to obtain information about wildfire activity in their area, actions they can take to prepare for evacuation, the importance of evacuation if a wildfire threatens their home or workplace, and steps they can take to maintain their health if their housing or medical care is temporarily disrupted by wildfire.

*** We also discussed the risk that poor air quality resulting from wildfire smoke may pose to their health. We

discussed how to monitor current air quality/smoke conditions and how to protect themselves from wildfire smoke by maintaining safe indoor air quality and/or use of approved respirators. We also discussed how wildfire smoke may exacerbate their underlying medical conditions and when to seek medical attention.

.smokecounsel

I counseled this patient regarding the risk that poor air quality resulting from wildfire smoke may pose to their health. We discussed how to monitor current air quality/smoke conditions, how to protect themselves from wildfire smoke by maintaining safe indoor air quality and/or use of approved respirators, and we discussed how wildfire smoke may exacerbate their underlying medical conditions and when to seek medical attention.

.floodcounsel

I counseled this patient regarding the risk that flooding can pose to their health. We discussed their level of exposure to flood related risks in their home and/or workplace, and also discussed the importance of avoiding driving during flooded conditions due to the risk of water vehicle accidents. We discussed steps they can take to prepare for future flooding events and protect/maintain their health in the event that they have to temporarily evacuate from their home or re-enter their home after a flood event. We also discussed medical complications that can arise from flooding, including skin and bowel infections due to contaminated floodwater and respiratory conditions due to mold exposure, and when to seek medical attention.

.hurricanecounsel

I counseled this patient regarding the risk that hurricanes can pose to their health. We discussed their level of exposure to hurricane related risks in their home and/or workplace. We discussed the importance of evacuation well in advance of a hurricane, and steps they can take to maintain their health if they do have to evacuate. We also discussed the importance of avoiding driving during flooded conditions due to the risk of water vehicle accidents. We discussed steps they can take to prepare for future hurricanes and protect/maintain their health in the event that they have to temporarily evacuate from their home or re-enter their home after a hurricane. We also discussed medical complications that can arise after hurricanes, including injuries during cleanup, interruptions in normal medical care, skin and bowel infections due to contaminated floodwater, respiratory conditions due to mold exposure, and when to seek medical attention.

After-visit summaries

.heatavssimple

Heat can cause health problems. Some of these are very dangerous. There is a lot you can do to stay safe.

Take action to stay safe:

- Do not work during the hottest part of the day.
- Drink water and get electrolytes in food or fluids.
- Do not drink soda, energy drinks, coffee, or and alcohol.
- Wear light colored, lightweight, loose-fitting clothing.

Spend time somewhere cool:

- If you have air conditioning, use it, particularly at night when you are asleep.
- This might be a neighbor or friend's home, a local business, or a cooling center near you. Sleep in a cool area if you can.
- Spend time in cool or air-conditioned buildings.
- Basements and lower floors of buildings may be cooler than the top floors.
- If you are unable to access a cool building, a shaded location, such as a park, may provide some relief from the heat.

Talk to people around you:

- Check-in on friends, family, and neighbors that may need help in the heat.
- Know who to ask for help if you are feeling too hot.
- Make a heat action plan with your healthcare provider today.

.heatavsfull

During your visit today, we discussed how hot weather and heat waves can threaten your health. We also discussed steps you can take to stay safe.

*** Based on your history of ***, we are also attaching separate information about special tips related to this condition / risk factor.

*** Because you work outdoors or in a hot environment, we are also attaching separate information about special tips to stay safe in the workplace.

Heat is dangerous for your health. It can be dangerous even when the temperature is not extremely high. Things like humidity can make it feel hotter even when the temperature is not as high. High temperatures at night or unusual temperatures for where you live may be especially risky.

When to get medical attention

Seek immediate medical attention if you or someone around you experiences signs or symptoms of heat exhaustion, heat stroke, or other medical emergencies:

- Feeling faint or dizzy
- Confusion, weakness, headache, speech problems, or unconsciousness
- Nausea or vomiting
- Cool, pale, clammy skin, or red, hot, dry skin
- Chest pain, shortness of breath, or the sensation that you are going to pass out
- Any other new or concerning symptom

Stay hydrated

- Do not wait until you feel thirsty. Drink water and consume electrolytes in food or fluids throughout the day.
- Do not drink alcohol, energy drinks, sugary drinks, soda, coffee, tea, or coffee. These can make you dehydrated.
- Weight is your best indicator for dehydration: check your weight daily when it is hot. If you are losing weight, drink more water.
- If your urine is dark, you probably need to drink more water.
- If you have heart, liver, or kidney problems, ask your doctor how much you should drink.
- Eat regular meals. You may choose to add a little extra salt to your food or add some oral rehydration salts or electrolytes to your water. If you drink nothing but water and do not eat or take in electrolytes, you can experience health problems caused by abnormally low electrolyte levels.

Dress for success

- Wear loose, lightweight, light-colored clothing.
- Wear a hat or head covering.
- Use sunscreen. Sunscreen should be broad spectrum (UVA/UVB), at least SPF 30, and water resistant. It should be reapplied regularly, about every 2 hours, to be effective.

Take steps to cool down:

- Wet your body with cool water.
- Running a fan can help, but if the temperature is above 35°C or 95°F, also wet your skin with water, and try to move to a space with air conditioning.
- If you can, open the windows in your home when it is cooler outside (in the early mornings or late evenings) to cool the inside of your home.
- If possible, move to a space with air conditioning in your home, building, or neighborhood.

Spend time where it is cool

The safest thing you can do is stay in a place where it is cool. This will reduce stress on your body. If a room in your home has air conditioning and you can afford to use it, then that is a good option. If you cannot air condition your home, try to go to a cooler location, such as:

- The air-conditioned home of a family member, friend, or neighbor
- A local cooling center
- An air-conditioned public library
- An air-conditioned place of worship
- A shaded greenspace or park
- A community center or pool
- Other public buildings with air conditioning

Take your medicines as prescribed unless your provider tells you not to.

Talk to your nurse or doctor if you have chronic medical conditions, are pregnant or breastfeeding, or have other concerns about your health during the heat.

.heatavswork

Working during hot weather can be extremely dangerous. It can cause heat illness, increased risk of heart problems, kidney disease, and increases in injury.

If you can, do outdoor work when it is cool, in the morning, evening, or at night. If possible, reschedule work in very hot locations for a time that is cooler and less dangerous.

If you must work in the heat:

- Take breaks in the shade or in a cool space. During very hot weather, you may need to spend more time taking breaks than working in order to stay safe and prevent medical problems.
- Risk of injury increases when working in the heat, so be extra careful when working in hot weather
- Drink plenty of water, ideally at least one cup (8 oz) every 20 minutes while working outdoors. If you have heart, liver, or kidney problems, ask your doctor how much you should drink. You may also choose to eat salty foods and/or consume electrolytes in food or fluids.
- Talk about a heat safety plan with others.
- Use a buddy system to stay aware of the heat and check on one another.
- Know the signs of heat related illness including nausea, headache, muscle cramps, extra sweating, weakness or dizziness, confusion, and slurred speech.
- If you notice you or someone you work with is dizzy, confused, behaves unusually, or has other signs of heat illness, call for help (911) and move them to a cooler location such as air conditioning or shade. If they are displaying signs of heatstroke such as confusion or slurred speech or unconsciousness, cool them down using ice water (if available) or by removing their clothing, wetting their body, and running a fan across them until help arrives.

.heatavsdementia

Patients with dementia, including those with Alzheimer's or Parkinson's disease, have a higher risk of heat stroke, hospitalization, and death in hot weather. Dementia can impair temperature regulation and memory, making people forget to stay hydrated or take actions to stay cool such as taking off hot clothes or going somewhere cool.

- Regularly check in on individuals with dementia for their well-being.
- Offer those with dementia more fluids to drink and move them to a cooler place if they are in a hot environment.
- If you have dementia, make a plan to stay cool, drink water, and have someone check on you.

.heatavsdiabetes

High temperatures can lead to dehydration and cause problems with blood sugar control for people with diabetes. Diabetics should avoid sugary electrolyte drinks during hot weather as they can cause harmful spikes in blood sugar levels. Losing weight, dark urine, and a fast heart rate can be signs of dehydration.

- Keep your glucometer and insulin cool, but do not put insulin directly on ice. Insulin should be kept in a refrigerator at 36 to 46 degrees Fahrenheit.
- Monitor blood sugar before, during, and after activity in hot weather; adjust insulin if needed.

*** Insulin needs to be kept refrigerated. However, during an emergency, insulin can be left unrefrigerated at a temperature of 59-86°F for up to 28 days and continue to work. Do not use insulin if it has become frozen. Check with your pharmacist or read the medication instructions to learn how your medications need to be stored.

.heatavscvd

Hot weather can put stress on the heart and lungs and cause problems for those with cardiovascular diseases, such as heart failure or history of heart attack.

- Watch out for both dehydration and overheating. Nausea, headaches, and dizziness are symptoms you should watch out for.
- Weigh yourself daily when it is hot out and know your target weight; when it is hot, if you lose weight, it could mean you are dehydrated and need to drink more water.
- Discuss your ideal fluid intake with a healthcare professional.

***Some medications can make you lose more water when you urinate, sweat more, or make you less thirsty. Hot weather can increase your risk of dehydration. This can harm your kidneys and/or cause low blood pressure, making you faint or fall and putting you at risk of injury. You are taking the following medications that can increase your risk of dehydration:

Medication Name(s): ***

Special Instructions:

*** continue taking this at your current dose. Try to stay in cool areas and avoid exposure to hot conditions, exertion, or exercise.

*** we are temporarily changing your treatment plan to ***

*** check your weight every day. If you are losing weight, drink more water and electrolytes. If you are gaining weight, you may be drinking too much water and/or salt or electrolytes.

*** If you feel dizzy or faint, or if you have a rapid heartbeat, you might be dehydrated and may need to drink more water and electrolytes. If symptoms do not go away, seek medical attention.

.heatavsrenal

Kidneys work extra hard in hot conditions and can be damaged if you do not drink enough water. Individuals with chronic kidney disease or on dialysis face elevated risks in hot weather.

- Ensure proper hydration, indicated by light-colored urine.
- Medications for kidney disease can make it harder to handle heat; talk to your doctor for guidance.
- Discuss your ideal fluid intake with a healthcare professional.
- Monitor your weight; if you are losing too much weight you may be dehydrated.

***Some medications can make you lose more water when you urinate, sweat more, or make you less thirsty. Hot weather can increase your risk of dehydration. This can harm your kidneys and/or cause low blood pressure, making you faint or fall and putting you at risk of injury. You are taking the following medications that can increase your risk of dehydration:

Medication Name(s): ***

Special Instructions:

*** continue taking this at your current dose. Try to stay in cool areas and avoid exposure to hot conditions, exertion, or exercise.

*** we are temporarily changing your treatment plan to ***

*** check your weight every day. If you are losing weight, drink more water and electrolytes. If you are gaining weight, you may be drinking too much water and/or salt or electrolytes.

*** If you feel dizzy or faint, or if you have a rapid heartbeat, you might be dehydrated and may need to drink more water and electrolytes. If symptoms do not go away, seek medical attention.

.heatavspulm

Hot weather can be dangerous for people with lung conditions like COPD and asthma. Worsening air quality can trigger exacerbations of your lung disease.

- Monitor air quality using the Air Quality Index (AQI) to decide whether it is safe to be outdoors. If the AQI is below 50, outdoor activities are generally safe.
- Consult your medical provider if the AQI is above 50.
- Seek cool environments and stay indoors if you can when air quality is poor due to smoke or pollution, particularly on hot days when smog is visible.
- Use a well-fitting N95 or P100 mask.
- Search for cooling centers to go to if it is hot to stay safe inside if your home is too hot.
- Use air conditioning to cool your home and use portable air cleaners (air purifiers) to remove unhealthy particles of air pollution from the air in your home.

.heatavsbh

Hot weather can exacerbate symptoms of behavioral or mental health conditions and disrupt sleep, leading to worsened symptoms. Certain mental health conditions and medications can impair the body's ability to cool down in heat.

- Take extra care in the heat if you take antipsychotic or antidepressant medications.
- Avoid extremely hot places or workspaces, take breaks, and drink plenty of fluids.
- If you or someone around you appears lightheaded, confused, or behaves unusually, move to a cooler environment, notify those around you and seek medical attention.

***Some medications can make it harder for your body to cool down in hot weather. They can change how hot you feel, block natural cooling responses, or affect your ability to think clearly. You are taking the following medications that can increase your risk of overheating:

Medication Name(s): ***

Special Instructions:

***continue taking this at your current dose. Try to stay in cool areas and avoid exposure to hot conditions, exertion, or exercise.

*** we are temporarily changing your treatment plan to ***

.heatavsms

Hot weather and dehydration can make symptoms of MS worse. These may include fatigue and weakness.

- Stay hydrated, even if you have bladder control difficulties.
- If you are already feeling hot, avoid strenuous activities, as they can elevate body temperature and worsen MS symptoms.
- If you have MS, make a plan to stay cool, drink water, and have someone check on you. You may need to ask someone to help you get to a cooler location.

Some medications, like biologic medications which are used to treat MS, need to be refrigerated.

- If you need to transport refrigerated medications, keep them as cool as possible, ideally in an insulated cooler or pouch.
- If you use a cooler, do not store your medications directly on ice. Medications may be damaged if they freeze.
- If your medications get hot or if you think they might have been damaged by heat, talk to your pharmacist. They can tell you if they need to be replaced and help you get them replaced if needed.

.heatavspreg

Pregnancy can make it more difficult to cope with hot weather as the body is already working hard for you and the baby. Heat is associated with risk of birth defects especially when it is hot earlier in pregnancy. Later in pregnancy, heat can increase the risk of pregnancy loss or premature birth. Heat can also be associated with Braxton-Hicks or “practice” contractions.

- If you are pregnant, take precautions to stay cool and avoid excessive heat.
- Make sure to stay hydrated by drinking lots of water and taking breaks.
- If you are breastfeeding, make sure to drink lots of fluids and stay hydrated as you are at increased risk of dehydration and need to keep up with thirst for your baby.

.heatavsbaby

Babies and small children are at risk from heat due to their small bodies and difficulty controlling their temperature.

- Keep babies and children in a cool and shaded area during hot weather, but do not reduce skin-to-skin contact and kangaroo time even if it is hot.
- Covering strollers with a moist muslin cloth and a clip-on fan helps keep the stroller cool. Do NOT cover with a dry cloth as that can increase stroller temperatures.
- Ensure babies are well-hydrated with formula or breastmilk and that breast-feeding mothers are well-hydrated to keep up with thirst of their babies.
- Make sure children stay well-hydrated by providing them with lots of fluids.
- Make sure they are urinating regularly.
- If a baby or child appears pale, floppy, or exhibits unusual behavior, seek immediate medical attention.

.heatavselder

Older adults can have difficulty staying cool during hot weather. Many of those who are injured or die because of heat are over the age of 65 years. Prevention is the best medicine.

- If you are over age 65, be extra careful to stay in a cool environment and avoid strenuous outdoor activities during hot conditions.
- If you feel too hot, ask for help from neighbors, friends, or family.
- If your home is too hot, try to get to a safe, cool location. This could be a neighbor's home, a cooling center, or a local library.
- If your neighbor, friend, or family member is an older adult, check on them during hot weather, and, if possible, find them a safe place to stay until the weather cools down.
- If you - or an older adult around you - start behaving unusually during hot weather, appear pale or weak, or have difficulty walking, seek medical attention right away.

.heatavsmobility

People with limited mobility are at risk of heat illness and not being able to get to cool spaces.

- If you feel too hot, ask for help from others if needed, like neighbors, friends, or family.
- If your neighbor, friend, or family member has limited mobility, check on them during hot weather, and, if possible, find them a safe place to stay until the weather cools down.
- Getting to cooling centers can be challenging if you are living with limited mobility; see if your local transportation authority or local charities offer rides for qualified individuals who need to get somewhere cool during a heat wave.

.heatavssubst

People who use drugs or alcohol may be at higher risk of heat illness and not being able to get to cool spaces. In particular, alcohol can make you more at risk of dehydration and stimulants can increase your risk of overheating.

- If you feel too hot, ask for help from neighbors, friends, or family.
- Use a buddy system to look out for others when they may be less aware of heat.

- Try to find a safe place to stay cool especially if you or those around you may not be as aware of heat when using drugs or alcohol.

.heatavscoolplaces

The safest thing you can do is stay in a place where it is cool. This will reduce stress on your body. If you do not have access to a safe place of your own in which you can stay cool, and are not able to stay with friends or family, there may be other options, including:

- a cooling center
- an air-conditioned community center
- an air-conditioned public library
- a shelter with air conditioning
- an air-conditioned place of worship
- a shaded greenspace or pool
- some mass transit areas, such as train stations or subways
- public buildings with air conditioning

.heatmeds

***Some medications can make it harder for your body to cool down in hot weather. For example, blood pressure medications can make it harder for your body to increase blood pressure when dehydrated, which can lead to fainting. They can change how hot you feel, block natural cooling responses, or affect your ability to think clearly. You are taking the following medications that can increase your risk of overheating:

Medication Name(s): ***

Special Instructions:

***continue taking this at your current dose. Try to stay in cool areas and avoid exposure to hot conditions, exertion, or exercise.

*** we are temporarily changing your treatment plan to ***

***Some medications can make you lose more water when you urinate, sweat more, or make you less thirsty. Hot weather can increase your risk of dehydration. This can harm your kidneys and/or cause low blood pressure, making you faint or fall and putting you at risk of injury. You are taking the following medications that can increase your risk of dehydration:

Medication Name(s): ***

Special Instructions:

*** continue taking this at your current dose. Try to stay in cool areas and avoid exposure to hot conditions, exertion, or exercise.

*** we are temporarily changing your treatment plan to ***

*** check your weight every day. If you are losing weight, drink more water and electrolytes. If you are gaining weight, you may be drinking too much water and/or salt or electrolytes.

*** If you feel dizzy or faint, or if you have a rapid heartbeat, you might be dehydrated and may need to drink more water and electrolytes. If symptoms do not go away, seek medical attention.

Tips to protect medications from heat:

- Store in a cool, dry, dark place.
- Keep out of direct sunlight.
- Do not leave in a hot car.
- Protect from heat when traveling.
- Bring mail-order medications inside quickly.
- If your medications get hot or if you think they might have been damaged by heat, talk to your pharmacist. They can tell you if they need to be replaced and help you get them replaced if needed.

.smokeavs

During your visit today, we discussed how wildfire smoke can threaten your health. We also discussed steps you can take to stay safe.

Wildfire smoke harms everyone's health, but certain individuals may be more at risk. You could be extra sensitive to smoke if you:

- have a breathing condition, such as asthma or COPD
- have heart diseases, such as heart failure
- have chronic renal disease
- are over 65 or under 18
- work outdoors
- are pregnant (smoke can harm the fetus leading to preterm births and stillbirth)

Due to your history of ***, we recommend that if you are affected by wildfire smoke, you should wear a respirator to protect yourself from smoke inhalation when outdoors.

Stay informed about wildfire smoke and prepare your home:

- Check fire.airnow.gov and NOAA-HRRR (click the eye icon next to near surface smoke, then click the play button at the bottom of the screen) to track air pollution levels cause by wildfire smoke.
- Sign up for emergency alerts which you can get to your cell phone or email.
- Prepare your home for wildfire smoke by learning how to seal your home to protect your indoor air and make or buy air cleaners.

When wildfire smoke levels are high, we recommend that you:

- check fire.airnow.gov and NOAA-HRRR (click the eye icon next to near surface smoke, then click the play button at the bottom of the screen), or monitor local news for updates on air quality, as conditions can change quickly.
- Close doors and windows and stay inside when possible. If you have an air cleaner, run it to clean the air in your home.
- Consider sealing windows and running air cleaners in one room (a “clean air room”) so that you have somewhere that has safe air to breathe.
- If you have to go outside, wear a mask when exposed to wildfire smoke. Masks labeled N95 or P100 will effectively filter wildfire smoke. Do not put masks on young children under age 2.

After the smoke has passed, we recommend that you:

- Check and replace filters in any air cleaners in your home.
- Replace masks that are visibly dirty.
- Continue to monitor local air quality.

.fireavs

During your visit today, we discussed how wildfires can threaten your health. We also discussed steps you can take to stay safe.

Fires can result in burns, as well as injury from collapsing buildings and structures, falls, and car accidents as people evacuate.

Wildfire smoke harms everyone’s health, but certain individuals may be more at risk. You could be extra sensitive to smoke if you:

- have a breathing condition, such as asthma or COPD
- have heart disease (CVD), such as heart failure
- have chronic renal disease
- are over 65 or under 18
- work outdoors
- are pregnant (smoke can harm the fetus leading to preterm births and stillbirth)

Due to your history of ***, we recommend that if you are affected by a wildfire, you should:

*** arrange for an early evacuation so that you have enough time to leave.

*** wear a respirator to protect yourself from smoke inhalation when outdoors.

*** follow up with a mental health specialist to help manage emotions related to this traumatic event.

*** go to *** to reestablish dialysis treatments if you are unable to do so in your usual dialysis center.

Before a wildfire occurs, we recommend that you:

- Check fire.airnow.gov and NOAA-HRRR (click the eye icon next to near surface smoke, then click the play button at the bottom of the screen) to track air pollution levels cause by wildfire smoke.
- Sign up for emergency alerts which you can get to your cell phone or email.
- Know your evacuation route and how you will evacuate.
- Have a plan for where to go. Local shelters are managed by ***; you can find more information by calling *** or visiting ***.
- Have an emergency “grab and go” kit and a “stay at home” kit ready.
- Keep copies of important documents, including a list of your medications, ready and safe from flooding.
- Prepare your home for wildfire smoke by learning how to seal your home to protect your indoor air and make or buy air cleaners.
- Prepare your home for wildfires by creating defensible space and hardening your home so that it is less likely to catch fire.

During a wildfire, we recommend that you:

- Have a plan for evacuation and know who you can contact for help.
- monitor local news and emergency notifications so that you are aware of the fire and any evacuation orders that are issues.
- If you have time, turn off electricity, gas, and water supply before you leave your home.
- Bring essential items in your “grab and go” kit, including medications or medical devices and a list of your medications.
- Wear a mask when exposed to wildfire smoke. Masks labeled N95 or P100 will effectively filter wildfire smoke. Do not put masks on young children under age 2.

After a wildfire, we recommend that you:

- Do not burn fuels or use a generator indoors.
- Do not touch any downed power lines.
- Wear shoes with thick soles that will not melt when reentering burned areas.
- Use only bottled, boiled, or treated water for any water that will touch or enter your body until authorities confirm that your water is safe.
- Wear an N95 respirator to minimize smoke and dust exposure during cleanup.
- Do not walk underneath or inside anything that looks damaged.
- Avoid overexerting yourself as this can lead to injury or heart attacks.

.floodavs

During your visit today, we discussed how floods can threaten your health. We also discussed steps you can take to stay safe.

Due to your history of ***, we recommend that if you are affected by a flood, you should:

*** wear a respirator when reentering buildings after flooding to reduce risk of lung infection or inflammation and watch out for signs of worsening breathing.

*** follow up with a mental health specialist to help manage emotions related to this traumatic event.

*** go to *** to reestablish dialysis treatments if you are unable to do so in your usual dialysis center.

Before a flood occurs, we recommend that you:

- Sign up for emergency alerts which you can get to your cell phone or email.
- Know your evacuation route and how you will evacuate.
- Have a plan for where to go. Local shelters are managed by ***; you can find more information by calling *** or visiting ***.
- Have an emergency “grab and go” kit and a “stay at home” kit ready.
- Keep copies of important documents, including a list of your medications, ready and safe from flooding.
- Prepare your home for flooding.

During a flood, we recommend that you:

- Have a plan for evacuation and know who you can contact for help.
- If you have time, turn off electricity, gas, and water supply before you leave your home.
- Bring essential items in your “grab and go” kit, including medications or medical devices and a list of your medications.
- Turn around and do not drown! Do not walk, swim, or drive through flood waters.

After a flood, we recommend that you:

- Do not burn fuels or use a generator indoors.
- Do not touch any downed power lines.
- Use only bottled, boiled, or treated water for any water that will touch or enter your body until authorities confirm that your water is safe.
- Wear an N95 respirator to minimize mold exposure during cleanup.
- Avoid wading or driving through standing water because you may get injured or drown.
- Do not walk underneath or inside anything that looks damaged.
- Avoid overexerting yourself as this can lead to injury or heart attacks.

.hurricaneavs

During your visit today, we discussed how hurricanes can threaten your health. We also discussed steps you can take to stay safe.

Due to your history of ***, we recommend that if you are affected by a hurricane, you should:

*** wear a respirator when reentering buildings to reduce risk of lung infection or inflammation and watch out for signs of worsening breathing.

*** follow up with a mental health specialist to help manage emotions related to this traumatic event.

*** arrange to have pre-dialysis, if available, shortly before the storm makes landfall, so that your health is optimized before the storm

*** go to *** to reestablish dialysis treatments if you are unable to do so in your usual dialysis center.

Before a hurricane occurs, we recommend that you:

- Sign up for emergency alerts which you can get to your cell phone or email and monitor the news or weather services for information about the hurricane and possible evacuation orders.
- Know your evacuation route and how you will evacuate if necessary.
- Have a plan for where to go. Local shelters are managed by ***; you can find more information by calling *** or visiting ***.
- Have an emergency “grab and go” kit and a “stay at home” kit ready.
- Keep copies of important documents, including a list of your medications, ready and safe from flooding.
- Prepare your home for flooding and wind damage.

During a hurricane, we recommend that you:

- Have a plan for evacuation and know who you can contact for help.
- If you have time, turn off electricity, gas, and water supply before you leave your home.
- Bring essential items in your “grab and go” kit, including medications or medical devices and a list of your medications.
- Stay inside. Even if it looks calm, do not go outside as it may worsen again. Wait until you hear an official message that the hurricane is over.
- Watch out for flying debris. Stay in a room with no windows or go inside a closet if you are in a home.
- Listen to the radio, TV, or internet for updates on the hurricane.
- Turn around and do not drown! Do not walk, swim, or drive through flood waters.

After a hurricane, we recommend that you:

- Do not burn fuels or use a generator indoors.
- Do not touch any downed power lines.
- Use only bottled, boiled, or treated water for any water that will touch or enter your body until authorities confirm that your water is safe.

- Wear an N95 respirator to minimize mold exposure during mold cleanup and to prevent dust from damaged structures from getting into your lungs.
- Avoid wading or driving through standing water because you may get injured or drown.
- Do not walk underneath or inside anything that looks damaged.
- Avoid overexerting yourself as this can lead to injury or heart attacks.
- Watch out for injuries from debris during cleanup.
- Do not enter damaged structures until they have been evaluated and cleared by a professional or by local authorities.

Notes:

Personal Emergency Preparedness

For Providers

Healthcare workers can be personally impacted by climate-related hazards. For instance, some health care workers have lost their homes during wildfires, and others have been forced to evacuate during flooding. It is important that healthcare workers take steps to be personally prepared for climate events. As the saying goes, you must put your own oxygen mask on first before helping others.

Take these steps to prepare yourself and your family for disasters:

☐ **Sign up for emergency alerts which you can get to your cell phone or email.**

- ▫ You can sign up for emergency alerts at NIXLE.
- ▫ For general information on alerts: Emergency Alerts | Ready.gov.

☐ **Review resources on personal and family preparedness:** Plan Ahead for Disasters | Ready.gov; Emergency Preparedness and Response | CDC.

- ▫ Understand and plan for the most common emergencies, including poor air quality due to wildfire smoke, power outage, heat events, flooding, and evacuation.

☐ **Create a Family Disaster Plan, including:**

- ▫ Make sure all members of your family know each other's contact information.
- ▫ Have a designated meeting place in case you and your family are not together when a disaster occurs.
  - • Remember that cellular and phone service may be unavailable.
- ▫ Have a communication plan, including an out of area/state contact person who can help you coordinate.
- ▫ Medical planning: discuss management strategies if there are family members with health conditions that might be exacerbated during an emergency.
- ▫ Do not forget to include your pets and any elderly or extended family members in your plan.

☐ **Have a home disaster kit:**

- ▫ This type of kit assumes that people can safely remain in the home. This is called a "sheltering in place".
- ▫ This kit includes the supplies you need to stay in your home for up to 7 days, potentially without electricity or heat.
- ▫ Items to consider include water and food, medications/prescriptions, eyewear, First Aid items, comfortable clothes and shoes, personal hygiene items, bedding, pet needs, money, important documents, electronics and chargers, safety, and tools.
- ▫ Please see **Building an Emergency Kit** for more information.

☐ **Have an emergency "grab-n-go kit":**

- ▫ This is a kit which you can grab and carry with you if you must evacuate in a hurry. You can buy pre-assembled kits or create your own. When people evacuate, they usually stay in a hotel or evacuation shelter. Some people may be able to purchase what they need after they leave, while others may need to bring supplies with them. Please see **Building an Emergency Kit** for more information.

☐ **Create an Evacuation Plan for you and your family, including:**

- ▫ Have a plan for what you will take with you. Consider what you will grab if you only have 5 min, 10 min, or 30 minutes to get ready to go.
  - Items to consider include family heirlooms, photographs, documents, passports, insurance policy, computers with important information, medications, a list of your medications, cash.
  - This resource may be helpful for developing a plan: Evacuation plan.

☐ **Know your reporting instructions for work:**

- ▫ Follow just-in-time instructions if received.
- ▫ Always keep your ID with you.
- ▫ Stay safe! Do not go into an evacuation zone!

Based on materials developed by Mary C Meyer, MD, MPH of The Permanente Medical Group.

Notes:

Critical Roles and Responsibilities

For Administrators

Designating a weather resilience lead

Designating a Weather Resilience Lead is crucial for coordinating weather preparedness and response tasks within the clinic or health center. This role ensures there is a clear point of contact responsible for overseeing the development and implementation of weather-related policies and procedures described in this toolkit.

The Weather Resilience Lead can be a healthcare provider, qualified safety and health professional or a facility manager. Having a primary and alternate Weather Resilience Lead helps maintain continuity in case of staff absence.

The Weather Resilience Lead and their alternate should regularly monitor weather forecasts and alerts for all types of hazards, including extreme heat, wildfires, hurricanes, and floods (see **Weather Hazard Monitoring**). They should be signed up for local emergency alert systems to ensure they receive location-specific hazards alerts. While some systems are automatic, many are opt-in and require visiting the local emergency management website to sign up.

The Weather Resilience Lead(s) should facilitate emergency preparedness and response actions across the clinic, working with clinic leadership, clinicians, and staff to ensure they are aware of safety procedures, expectations, resources, and understand who is responsible for these operations.

During a weather event, the Weather Resilience Lead(s) should monitor impacts on transportation and utilities that may affect staff and patients getting to the clinic or the clinic's ability to operate. They should also reach out to local response agencies and community partners to confirm the availability of community resources, such as cooling centers or cleaner air shelters. This information should be shared with clinicians, staff, and patients.

The *Primary Weather Resilience Lead* for our clinic is: _____.

The *Secondary Weather Resilience Lead* for our clinic is: _____.

Core weather resilience lead multi-hazard

- Identify and register for emergency notifications and warnings from your local city/county emergency management.
- Identify the potential hazard risk for your facilities by researching hazard maps (FEMA Risk Map) and build collaborative relationships with your local city/county emergency management office to assist with preparedness and response planning.
- Establish a communication plan to rapidly notify both employees and patients in the event of clinic closure.
- Work with clinical staff to identify referral sources for patients in the event of an extended closure of the clinic/facility (this becomes more critical the more essential/timely the service is).
- Create remotely accessible backups of all emergency contact and response information to allow for access in the event the facility is inaccessible. Patient information and records should be securely stored off site or in the cloud.

- Facilitate clinic or health center staff personal preparedness and family preparedness to ensure staff feel confident they are prepared for emergencies.
- Brief staff on local risk, developed inclusive plans and resources for your facility and staff based on your clinic or health center's unique patient population, location, and other context-specific information. Ensure expectations of staff are clear and reviewed on an annual basis.

Committee

With support from clinic leadership, the Weather Resilience Lead should establish a committee to oversee the development and implementation of policies for facility improvements and cost planning for extreme weather-related emergencies. If possible, this committee should be connected to longer-term clinic or community health center improvements and broader community resilience efforts. The committee should work in close collaboration with clinic leadership. The committee can help:

- Advise on infrastructure improvements and develop longer-term improvement plans that align with emergency preparedness, resilience recommendations, and the clinic or health centers longer-term strategic goals.
- Develop strategies for procuring, replacing, and maintaining infrastructure. This may include phasing out energy intensive or polluting equipment and transition to sustainable, renewable energy sources.
- Plan the acquisition and review of emergency supplies, such as water, food, first aid kits, and backup power sources.
- Support the development and implementation of clinic preparedness programs: staff training, exercises, resource acquisition, plan reviews and updates.

By establishing a dedicated Weather Resilience Lead and committee, clinics and health centers can ensure a comprehensive and coordinated approach to preparing for and responding to the various weather-related hazards.

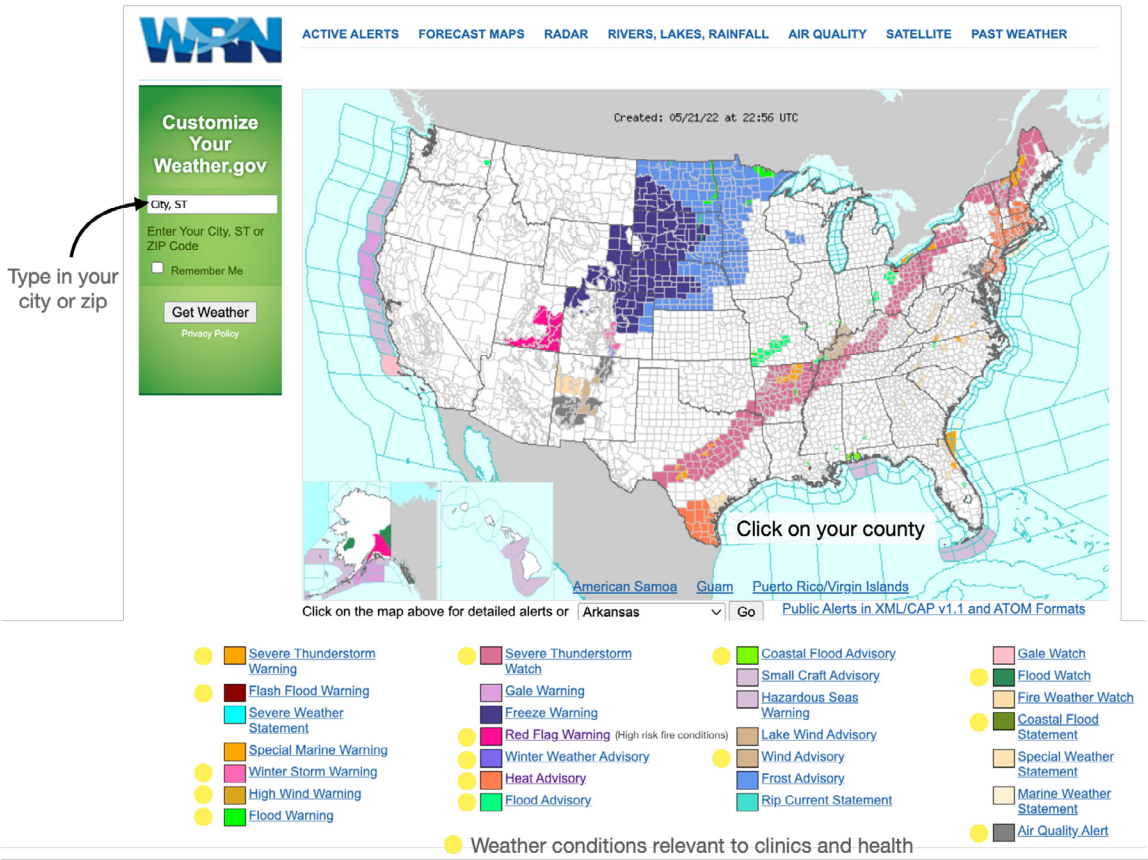
Notes:

Weather Hazard Monitoring

For Administrators

The Weather Resilience Lead and their alternate should regularly monitor weather forecasts and alerts. The Weather Resilience Lead should sign up and monitor the local and national forecast resources provided in this document. Registering for local emergency alerts via the local emergency management office can ensure the Weather Resilience Lead receives location-specific hazards alerts. While some systems are automatic, many are opt-in, and you may need to visit the local emergency management website to register.

The Weather Resilience Lead and clinic staff can access real-time weather alerts for their location on the National Weather Service (NWS) Weather.gov website. To do this, enter the clinic zip code or click on the map. NWS provides a wide range of weather-related health risks including heat, flooding, poor air quality, tornadoes, strong winds, and more.



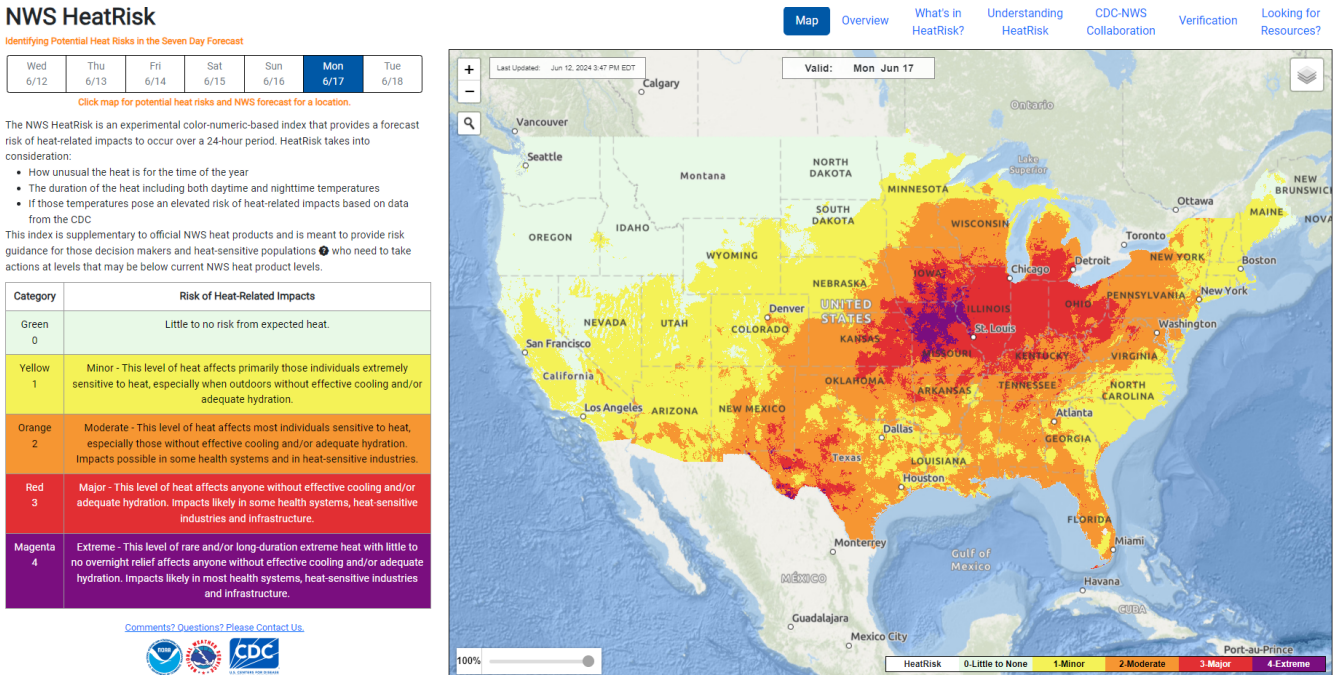
In the map above, you can see that counties are color-coded by weather event. Some counties may have more than one alert, so you should directly access your county or zip code to see all active alerts.

The National Weather Service typically issues “watches” to indicate the potential for extreme weather and “warnings” when extreme weather is actively occurring. For more details, see below. You can also find specific definitions for various watches, warnings, and advisories at weather.gov.

Heat

For many weather hazards, the NWS uses consistent alert criteria across the nation. However, criteria for extreme heat and extreme cold can vary depending on location. While you do not need to memorize these regional differences because the NWS accounts for them when they provide an alert, it's important to understand what each type of alert signifies. For instance, a **Heat Advisory** indicates that extreme heat is expected, an **Excessive Heat Watch** means that extreme heat is possible, and an **Excessive Heat Warning** signals that extreme heat is currently occurring.

Another important consideration is that NWS alert thresholds are tailored to the public. As a result, vulnerable individuals and patients may be at risk before the NWS puts out an alert. For this reason, it is also important to check the NWS/CDC HeatRisk tool during heat season, which provides heat risk information based on location-specific health impact data and considers vulnerable/sensitive groups. As clinics and health centers care for vulnerable populations, aligning heat response and communication actions to the HeatRisk tool is recommended. A screenshot of the HeatRisk tool can be seen below.



Hurricanes

The National Hurricane Center (NHC) is the primary agency responsible for monitoring and forecasting tropical cyclones (hurricanes) in the Atlantic and Eastern Pacific basins. The NHC website provides comprehensive information on current and potential hurricanes, including their location, intensity, and projected path. If your clinic or health center is in a region historically impacted by hurricanes, the Weather Resilience Lead should regularly monitor the NHC website during hurricane season (June 1 to November 30) for any developing storms that may impact the clinic's location. In addition to the website, the NHC also provides a mobile app (National Hurricane Tracker App) for easy access to hurricane information on-the-go.

Wildfires

To monitor wildfire risk and smoke conditions, the Weather Resilience Lead should utilize several key resources. The National Interagency Coordination Center (NICC) provides a seven-day wildfire risk outlook that highlights areas of elevated fire potential across the country. For more region-specific wildfire information, the NICC also maintains a list of Geographic Area Coordination Centers that provide detailed updates on fire activity and response efforts in their respective areas.

Smoke

In addition to monitoring wildfire risk, it is crucial to track smoke conditions, as wildfire smoke can have significant impacts on air quality and public health, even in areas far from active fires. The Environmental Protection Agency's AirNow website offers real-time and 24hr forecasts of air quality for locations across the United States. To use this resource, simply enter the zip code for which you want air quality information.

The AirNow Fire and Smoke Map is another valuable resource that combines data from multiple sources to provide a comprehensive view of wildfires and smoke conditions. Wildfire information may not be updated regularly and should be cross referenced via other sources.

Lastly, the National Oceanic and Atmospheric Administration (NOAA)'s High-Resolution Rapid Refresh (HRRR) provides the most accurate current and future smoke forecasts data. Once you are viewing the map screen, select the small eye icon for surface smoke under the NOAA's Rapid Refresh (RAP) category, or the eye icon for near surface smoke under the HRRR category. Then press the play button on the bottom left corner of the screen. This will provide current and future smoke forecasts.

By regularly monitoring these resources, the Weather Resilience Lead can stay informed about climate change risks and take appropriate actions to protect the health of clinic patients and staff.

Notes:

Health Center Power Outage Preparedness and Response

For Administrators

This document provides recommendations for policies and procedures in the event of a power outage that can be included in a facility's emergency plan or in a standalone power outage plan. These plans can help ensure the safety of staff and patients in the event of a power outage. Improving clinic resilience may have the added benefit of improving clinic sustainability and cost-savings.

Power outage preparedness

1. Develop policies and procedures for a) periods of time when a power outage occurs, and clinic operations can rely on backup power and b) situations when backup power is unavailable or fails.
    a. Responses to power failures may include closing the facility, limiting services, communicating operational changes to staff and patients, and assisting high risk patients out of the facility.
2. Have an inventory of what equipment is and is not powered when using a generator or battery.
    a. Have equipment clearly marked, including power outlets.
    b. Update inventory when new equipment is purchased, or facility electrical upgrades occur.
3. Explore partnerships with local hospitals for short-term refrigeration of vaccines and medications in case of power outage.
4. Implement policies to reduce energy demand during normal operations, which translates into less backup energy needs during outages:
    a. Install a smart thermostat.
    b. Install motion sensor lights.
    c. Use LED bulbs throughout the facility (LEDs use less electricity and produce less heat).
    d. Install more efficient insulation and weatherization (may be subsidized by your utility provider).
    e. Conduct an energy audit to identify other opportunities for energy savings.
5. Develop a purchasing schedule policy to procure energy efficient equipment to limit the strain on generators during power outages.
6. Understand the capability of your backup generators, including the anticipated length of time they can run with various electrical loads with the current amount of fuel.
    a. Create an easily understood comparison chart of electrical load to length of time the generator can function, with examples of equipment, to improve duration of backup power.
7. Identify staff members to oversee the implementation of each of these policies and ensure they are followed through.

Partnerships and vendors

Contacting partners

Establish relationships with power related companies, such as electrical utility companies, generator service companies, electricians, and others. Plan for at least annual communication with these companies to check on the status of any verbal or written agreements, especially those that pertain to power outages. All formal business relationships such as with vendors should have written agreements. Create agreements with partners to receive emergency maintenance in case alternative power sources fail during an extreme heat event.

1. **Utility Companies:** Contact your power company to identify if your clinic is listed as a priority location during a power outage. Priority locations may receive preferential access to electricity during system outages or have electricity restored earlier. Utility companies may have a “Critical Infrastructure and Key Resources” (CIKR) list that identifies priority locations.
    a. Also inquire as to whether notice can be given in advance of planned outages and provide them with point of contact information for your clinic.
2. **Electricians & Contractors:** Establish a relationship with an electrical or contractor company to have the facility generator regularly inspected and maintained to prevent deterioration.
3. **Rental Companies:** Work with rental companies and develop partnerships to ensure the clinic can obtain extra generators and equipment in case the generator fails to operate during an extreme heat event.
4. **Community Organizations or Businesses:** Work with local businesses, organizations, or health centers to identify back-up cold chain options in case supply gets too warm.
5. **Staff members:** Identify who will oversee the implementation of each of these policies and ensure they are followed through.

Emergency power sources

Emergency power options

1. Work with an electrician to receive an evaluation of the possibility of installing generators or backup batteries and prices for the installation. An evaluation may be able to identify the right size of generators or batteries needed to run a portion of the facility or the entire facility, along with the price of labor required to complete the installation.
2. Generators
    a. Gas/Diesel generators are the most affordable backup power source available. These can range from portable generators to industrial generators which can be installed into the ground and configured to turn on when the power grid fails.
        i. Benefits: These are generally less expensive up-front and may be more reliable for large facilities.
        i. Drawbacks: Requires purchase and storage of combustible fuels, requires regular maintenance and refueling during extended power outages, and contributes to local air pollution.

b. Solar power systems are more expensive but more environmentally friendly, do not contribute to local air pollution, and can be more cost effective in the longer term. These can also range from small portable systems to larger stationary systems with panels and energy storage.

   i. Benefits: These do not rely on fuel sources during prolonged power outages, and they do not contribute to local air pollution. These can often be used during non-emergency times to reduce energy costs.
   i. Drawbacks: More expensive up-front than fuel generators. Powering a full facility may require more space for solar panels than is available on a facility's roof.

3. Battery Storage

   a. Battery storage is necessary for solar power systems to be practical during power outages. Backup batteries can also be used without solar by charging batteries from grid power, however, during outages, recharging these systems will be unlikely until grid power is restored. While battery storage can be expensive up-front, the size and carrying capacity of battery systems is increasing while manufacturing costs have been decreasing over time. While solar power systems and battery storage are more expensive than fuel generators, they can often qualify for local or federal rebates and be connected to the grid allowing for energy cost savings during non-emergency times.

      i. Benefits: Quieter than a generator. Can be stationary or portable, does not rely on purchasing fuel, and does not emit pollutants.
      i. Drawbacks: Significant expense up front, especially to power a full facility.

4. Hybrid Systems

   a. A hybrid solar, battery, and fuel generator system may be a cost-effective way to ensure power to essential equipment.

Procurement

1. Identify a purchasing schedule to buy gas/diesel generators (or replace old ones as they become outdated or inefficient), back up battery storage, and sustainable energy such as solar.

   a. Create policies to set aside funds in a reasonable period for each large purchase over time.

   b. Consider guidelines for generator specifics (such as energy output, size, weight, and other factors that could be critical to effectively powering your clinic).

2. Create policies for generator placement to encompass safety, such as away from windows, doors, air-conditioning units, or any air intake for the facility to prevent carbon monoxide and other pollution from getting into the facility if it is a gas or diesel generator.

3. Create policies for generator placement to ensure the generator is easily accessible for maintenance but also remains cool, receives adequate airflow during days of extreme heat, and minimizes air pollution near patient and staff areas.

4. Identify staff members to oversee the implementation of each of these policies and ensure they are followed through.

Upkeep

1. Schedule annual maintenance and inspections for the clinic's emergency power sources.
    a. Maintenance and upkeep are critical to ensuring equipment will turn on and run properly when needed.
    b. Schedule maintenance during the off-season to save on costs.
2. Schedule a regular cycle to ensure the clinic's generator is running properly and continues operating.
    a. It is optimal to run a generator monthly for at least 30 minutes to keep it functioning smoothly.
3. Identify staff members to oversee the implementation of each of these policies and ensure they are followed through.

Refueling

1. Create a refueling schedule to ensure the generator(s) is ready to operate when least expected.
2. Identify personnel and/or vendors with the task of refueling the generator(s) and establishing a schedule to refuel during emergency operations.
3. Fuel Sources: Establish an agreement with suppliers to ensure fuel can be delivered or picked up during emergency operations or so fuel supplies can be held for your clinic's needs.
4. Identify staff members to oversee the implementation of each of these policies and ensure they are followed through.

During a power outage

1. Implement policies to reduce energy demand, especially while on back-up power.
    a. Set thermostats to 76°F.
    b. Install motion sensor lights.
    c. Use LED bulbs throughout facility (use less electricity and produce less heat).
    d. Turn off and unplug all computers and monitors that are not in use.
    e. Unplug appliances such as microwaves and coffeemakers.

Notes:

Guidance and Checklist for Facility Repair and Re-Entry After Storms or Flooding

For administrators

Before returning to your clinic, ensure the appropriate authorities have said it is safe to return. If the building has been damaged by a storm or flooding, do not enter the building until a proper safety inspection has been completed to ensure structural integrity. If repairs are needed, consider how your clinic will communicate with staff, patients, and stakeholders to keep them informed about the status of the building and any changes to normal operations.

Considerations for high wind:

- Structural integrity and inspection should include:
  - Roof inspection
  - Load bearing beams and walls
  - Stucco, siding, and concrete
  - Structural metals
  - Windows
  - Interior walls and framing
  - Exterior equipment systems (HVAC, solar, etc.)
  - Cracks or gaps in the building envelope (windows, doors, and utility penetrations)

Considerations for facility flooding:

- Excess water removal and drying time.
- Mold remediation including minimizing spore dispersion during the cleaning process.
- Determining what medical and office equipment can be salvaged.
  - Has all furniture and equipment been inspected, repaired, and disinfected?
  - Has porous furniture that was wet been discarded?
  - Were mattresses discarded if they have been under water or wet?
  - Have all linens been laundered?
  - Have medications and supplies that were damaged or contaminated been discarded?
  - Are medical gas and suction systems including air lines operable and cleaned?
  - Have ice machines been flushed, cleaned, and disinfected?
  - Structural integrity (In addition to the considerations for high winds):
    - ☐ Cracks in the foundation (new or widening)
    - ☐ Structure dislodged from the foundation
    - ☐ Flooring (spongy or newly uneven / wavy materials)
  - Requirements prior to re-opening:

- Potable water
- Functional sewage system
- Adequate waste and medical waste disposal system
- Certification of occupancy

General safety considerations and assessment needs:

Trained professionals should do assessments of infrastructure and critical equipment. This includes assessment of the following systems:

- Structural integrity and missing structural items
  - Assessment of water damage, hidden moisture, and signs of mold growth
- Electrical system damage, including high voltage, insulation, and power integrity
- Water distribution system damage
- Sewer system damage
- Fire emergency systems damage
- HVAC system damage including all ductwork and filtration systems
- Medical waste and sharps disposal system
- Medical gas system damage
- Properly cleaned, disinfected, and calibrated medical equipment
- Hazardous chemical storage and/or disposal system

Facility repair and re-entry checklist

Done	Task	Assigned to
✓	Only return to the area when it is deemed safe by local emergency management or appropriate authorities.	
✓	When it is safe to return, inspect the clinic from the outside to look for tilting or displacement of the structure, cracks in the foundation, and any buckling or sagging of the roof or flooring (if visible from the outside).	
✓	Look for heavily damaged trees that could fall and harm people or structures. Contact a tree-removal company for management.	
✓	Look for downed or damaged power and communications lines. Contact utilities companies if observed.	
✓	Check for the presence of snakes, rodents, and other animals inside the facility.	
✓	Check for the smell of natural gas. ☐ Contact the gas company if observed. ☐ Shut off the gas supply if it is outside the building.	

Facility repair and re-entry checklist (continued)

Done	Task	Assigned to
✓	Once an expert has deemed the building safe to enter, take protective measures such as wearing thick soled shoes, heavy work gloves, long pants, and a long-sleeved shirt. If there is the possibility of mold, don a fit tested N-95 mask before entering the building. Staff with respiratory conditions (e.g., asthma) or immunosuppression should not enter buildings with water leaks or mold growth.	
✓	Check functionality of the clinic including: ☐ Exam rooms ☐ Office furniture ☐ Computer systems ☐ Refrigeration systems ☐ Pharmacy supply and equipment ☐ If the clinic uses paper documentation, check for damage to patient and pharmacy records.	
✓	Ensure any private patient data and pharmaceuticals are well secured. They may need to be moved to a secondary site.	
✓	Call the clinic's pre-identified assessment team(s) to start inspection of the building. The results of this inspection will determine what steps to take for building restoration and should at minimum address all General Safety Considerations listed above.	
✓	Contact the clinic's pre-identified restoration team to prioritize and begin work.	
✓	Work with the assessment and restoration teams to identify if some sections of the clinic may be able to open before others. This will help with planning a staged re-opening.	
✓	Document all damage with photographs and written descriptions for insurance claims and repair references.	
✓	Keep detailed records of repair costs, contractor invoices, and any communications with insurance providers.	

Adapted from guidance from the CDC, FEMA, AIHA, and Rytech Restoration.

Notes: