

2025

# FLOOD RESILIENCE INTERVENTIONS

Full Library



## **Flood Resilience Action Plan: Leveraging Community Interventions to Safeguard Patient Health**

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We extend our deep gratitude to all who contributed their time, insights and expertise to shaping these resources. From research and technical review to program implementation and partner engagement, their collective efforts have strengthened the usability and impact of these tools.

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## Introduction

The United States is experiencing more frequent and severe flooding, leading to rising damage costs. Environmental changes, continued development in flood-prone areas and outdated flood management practices all contribute to this growing threat. Floods not only damage property but also create serious public health risks such as contaminated waters, displacement and disrupted health care services that affect entire communities. They can worsen chronic illnesses, cause respiratory infections and injuries and increase stress and other mental health concerns.

Primary care clinics and community health centers are key partners in strengthening local flood preparedness and response. With their close understanding of patient needs and strong ties to local organizations, they can design targeted interventions to protect the most vulnerable. As trusted sources of health information, these providers also play an essential role in educating residents about flood safety and connecting them to vital resources.

# Purpose and Scope

The **Flood Resilience Action Plan (FRAP)** expands upon the tailored plan you received after completing the [flood assessment tool](#). This comprehensive FRAP document serves as a companion to your tailored plan. While the tailored plan provides five prioritized, ready-to-implement interventions, this comprehensive version serves as a reference library. Use it to explore additional strategies, identify new partnership opportunities or adapt existing interventions as your clinic's or health center's capacity evolves. You will also find operational considerations and illustrative case studies to elucidate your own application.

The FRAP is intended to help clinics and health centers identify and develop potential interventions to protect their community against flooding. The interventions included in this resource were selected as there are research studies and/or case studies to support their implementation. The amount of supporting material varies between interventions. Links to reference documents have been provided so that you can decide if a given intervention is right for your organization.

The intention is to offer you a broader perspective, enabling you to discover additional strategies and opportunities for adapting interventions to the local context and ways to leverage your clinic's or health center's resources to better cater to specific patient populations. This approach encourages a holistic understanding of clinic or health center-supported flood preparedness, ensuring that your clinic or health center is better prepared by integrating insights from the full spectrum of available interventions.

Interventions within the FRAP fall under the following categories:



1. Disseminate Flood Safety Information



2. Distribute Resources



3. Support Vaccine Clinics and Campaigns



4. Engage Local Partners



5. Offer Critical Services Support



6. Ensure Safe Medication Access



7. Conduct Remote Wellness Checks

# Definitions

### Key Terms and Abbreviations

**FRAP** – Flood Resilience Action Plan

**Flood Watch** – Conditions are favorable for flooding to develop in the area (e.g. heavy rains current or anticipated)

**Flood Advisory** – Flooding is minor or expected to occur, remain alert in case conditions worsen

**Flood Warning** – Flooding is imminent or occurring, taking action to protect property and/or life

**Hydrophobic soil** – Soil that is repelling water, preventing absorption of water, and contributing to flooding

**Resilience** - The intrinsic ability of a system to adjust its functioning prior to, during or following changes and disturbances so that it is able to sustain required operations under both expected and unexpected conditions

### Resources

Resource categories (under-resourced or adequately resourced, interventions requiring minimal to significant resource requirements) were developed to help match intervention recommendations with facility self-identified resource capacity, recognizing that resource availability can vary significantly based on geographic location, facility size, funding sources and local economic conditions.

**Under-Resourced** – Facilities that lack sufficient funds or equipment to implement additional intervention activities without external support. Note that what constitutes “under-resourced” may vary depending on facility context. Facilities that selected this category were recommended interventions identified as requiring minimal to moderate resource needs, with identified partnerships that can support resource capacity building.

**Adequately Resourced** – Facilities with sufficient funds or equipment to implement additional intervention activities. Note that what constitutes “adequate resources” may vary depending on facility context. Facilities that selected this category were recommended interventions identified as requiring minimal to significant resource requirements – with strategies designed to leverage existing clinic or health center resources to lead intervention activities.

### Staffing

Staffing categories (understaffed, adequately staffed, interventions requiring minimal to significant staffing) were developed to help match intervention recommendations with facility self-identified staffing capacity, recognizing that staffing needs and capabilities can differ based on staff expertise, workload distribution, existing responsibilities and organizational structure.

**Understaffed** - Facilities that lack sufficient staff to lead additional intervention activities without external support. Staffing adequacy is subjective and depends on factors including current staff workload, skill sets and the complexity of proposed interventions. Facilities selecting this category were recommended interventions requiring minimal to moderate staffing needs, with identified partnerships that can support staffing capacity enhancement.

**Adequately Staffed** - Facilities with sufficient staff capacity to lead additional intervention activities. This determination is context-dependent and considers existing staff bandwidth, expertise and organizational priorities. Facilities selecting this category were recommended interventions ranging from minimal to significant staffing requirements, with strategies designed to leverage clinic or health center staff to lead intervention activities.

### Patient Populations

Vulnerability to flooding varies widely in the general population due to age, health status, social isolation and access to financial resources. While interventions may be tailored for high-risk groups, strategies that benefit the general population can simultaneously support vulnerable individuals, even though their levels of risk differ.

**General population** – People who fall outside the high-risk patient population groups listed below

**Housing insecure** – People experiencing homelessness or unstable/uncertain housing, often associated with substance abuse, mental illness or lack of support systems

**People living with respiratory conditions** – Individuals with asthma, chronic obstructive pulmonary disease (COPD), cystic fibrosis, pulmonary fibrosis, bronchiectasis and/or other conditions affecting the respiratory system

**People reliant on electronic medical equipment** – Individuals dependent on oxygen concentrators, CPAP/ BiPAP machines, ventilators, nebulizers, suction machines, feeding pumps, dialysis machines, insulin pumps and/or other critical medical devices

## Proactive Care: Targeting Outreach

Flood risk isn't equal for everyone. By combining health and social information with maps of dangerous areas (vulnerability mapping), clinics and health centers can identify people facing the greatest danger. This approach ensures they prioritize outreach to the most vulnerable patients *before* flood season begins.

# What We Know

## Understanding flooding and how the hazard is changing

- ◆ There are a variety of ways that flooding can occur. It is important to recognize the variety of sources to assess your facility/patient/community risk. Flooding can occur from intense storms, river overflows, storm surge from coastal events, overwhelmed drainage systems, infrastructure failures such as dam or levee breaches, sea level rise causing tidal flooding, saturated soils that cannot absorb additional rainfall, hydrophobic soils in previous wildfire areas, urban runoff from impervious surfaces, rapid snowmelt events, groundwater seepage and combinations of these factors that can compound flood risks and create unexpected flooding in areas not traditionally considered flood-prone.
- ◆ Flooding can impact anyone directly or indirectly, almost anywhere. Historically, floods have been the [most common](#) disaster to occur within the United States. Flooding is becoming more intense and unpredictable as precipitation patterns shift, seas rise and soils become more hydrophobic due to wildfires and drought.
- ◆ As air temperatures rise, the atmosphere [can hold greater amounts of moisture](#), which can result in heavier precipitation during storms.
- ◆ Coastal flooding is growing in frequency and intensity due to [sea level rise](#). Sea level rise is caused by glaciers melting and thermal expansion (water expanding in volume due to warming).
- ◆ Hurricanes and tropical storms are becoming [stronger and slower moving](#). This increases the likelihood of more water coming down in a specific location.
- ◆ We are seeing increasing regional variation in flooding risk as precipitation patterns change. This means some areas with little historic flood risk may be seeing floods (and are likely unprepared), while regions more familiar with flooding are experiencing more intense flooding.

## Socioeconomic drivers and impacts

- ◆ [Economic costs from flooding are on the rise](#), driven by more frequent and intense floods, more expensive infrastructure damage and uninsured property losses. Flooding also increases personal health care costs. For instance, when clinics and health centers close, patients often have no choice but to use expensive hospital emergency departments for care that could have been handled at a clinic or health center.
- ◆ [Social impacts](#) from flooding are increasing, negatively affecting physical and mental health, safety and well-being. Furthermore, when floods displace individuals and communities, they lose their established social support systems that they depend on.
- ◆ Prolonged impacts from floods disproportionately negatively impact individuals and communities affected by poverty. People experiencing homelessness often take shelter under bridges or live in encampments near rivers, increasing the risk of drowning and/or losing possessions. [Redlining practices](#) and low-income housing developments have historically placed individuals and communities affected by poverty in flood-prone areas. Recovery from flooding, especially for uninsured or underinsured individuals, can cause significant financial strain.

**Clinic and health center operations can be impacted by floods both directly and indirectly.**

**This includes:**



**Damage to facilities**



**Impacted transportation infrastructure**



**Supply chain disruptions**



**Increased demand for health care services**

# Operationalizing the Flood Resilience Action Plan (FRAP)

Below is a list of items to consider as you implement any of the interventions described in this FRAP.

## Establish Your Team

To ensure effective execution of the FRAP, you may find it helpful to assign specific staff to be responsible for different tasks of its implementation. Integrating the plan into the work of an already established emergency preparedness/response team (as designated in an emergency operations plan) or establishing a dedicated team (which can focus on various hazards/threats to your facility) at your clinic or health center can ensure accountability, oversight and validation of your flood resilience plan.

Administrative staff responsible for implementing various aspects of the plan (facility management, procurement, etc.) will be essential. Successful implementation of the FRAP also requires a well-coordinated effort amongst other stakeholders, including health care providers, local authorities and community organizations. Identify and engage community stakeholders relevant to your planned interventions early in the process and work to engage them in discussion about what actions are right for your clinic or health center, community and patients.

## Clarify Roles and Responsibilities

For any collaborative initiative to be effective, it is crucial to establish clear roles and responsibilities for each party involved - internally amongst clinic or health center staff and externally between the clinic or health center and community partners.

Establishing clear roles ensures tasks are executed efficiently, minimizes overlap or gaps in responsibilities and establishes accountability. By clearly outlining who is responsible for what, this plan ensures effective coordination and collaboration between relevant stakeholders.

## Consider the Timing

Timing is critical for the effective implementation of interventions outlined in this FRAP. Different actions are most appropriate at various times of the year, depending on local conditions, annual variability and environmental changes. While it's crucial to organize these measures around your location's typical flood season, it's equally important to recognize that floods can occur rapidly and at any time if conditions are conducive to flooding.

**Lead Time Varies by Flood Type:** The amount of advance warning available depends significantly on the type and cause of flooding:

- **River/Snow Melt Flooding:** Typically provides the longest lead time (days to weeks) as river gauges and snowpack monitoring allow for extended forecasting
- **Hurricane/Tropical Storm Flooding:** Moderate lead time (3-7 days) with improving accuracy as storms approach, though intensity and exact track remain uncertain
- **Extreme Storm/Flash Flooding:** Limited lead time (hours to 1-2 days) due to the localized and rapidly developing nature of severe thunderstorms
- **Burn Scar Flooding:** Very short lead time (minutes to hours) as post-fire landscapes can generate dangerous flooding from relatively modest rainfall

## Flood Resilience Interventions

- **Dam/Infrastructure Failure:** Minimal to no advance warning, requiring constant preparedness
- **Tsunami Flooding:** Lead time varies by distance from source (minutes for near-field, hours for distant events)
- **Drought-Related Flash Flooding:** Paradoxically short lead time despite ongoing drought conditions, as hardened soils increase runoff risk

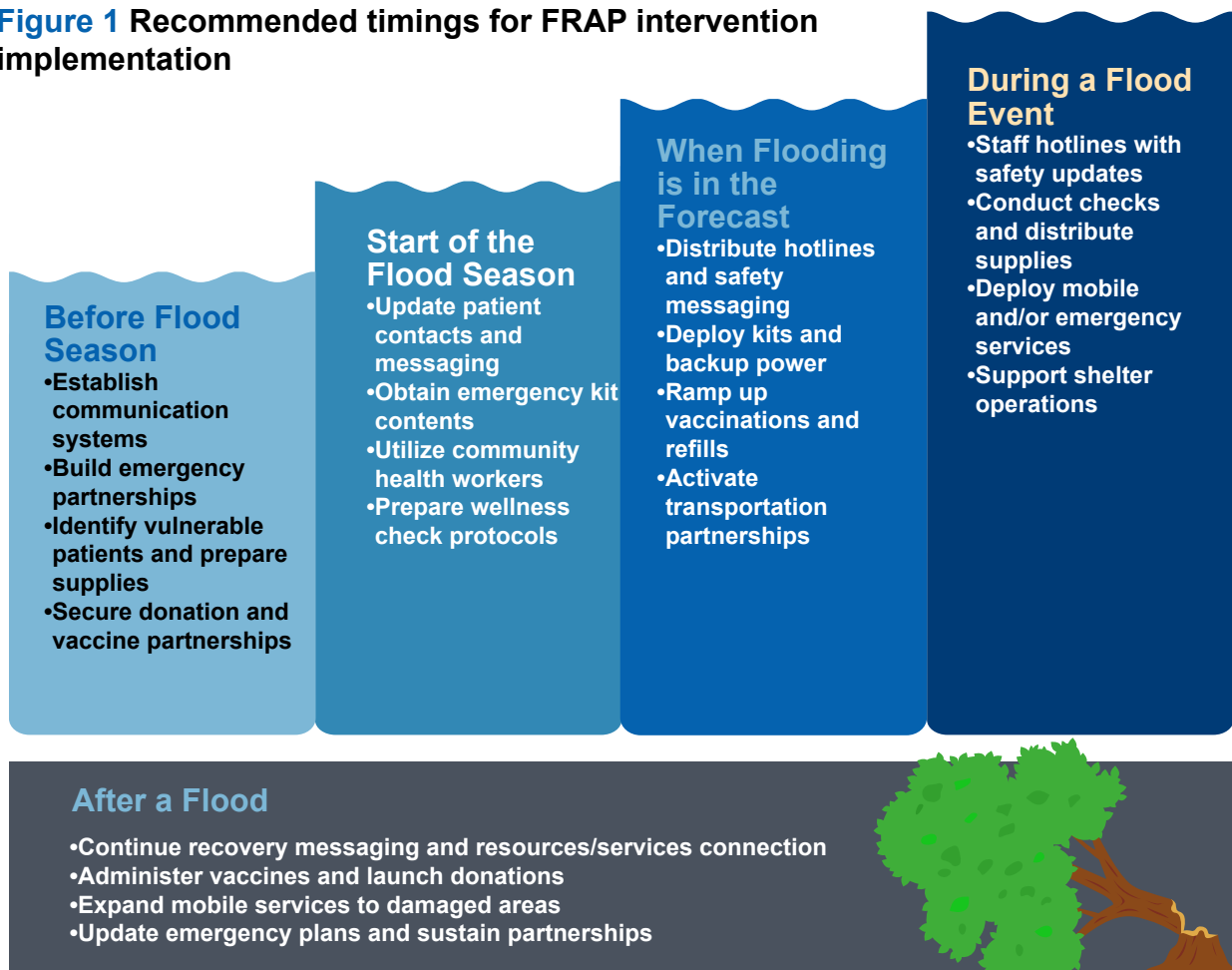
**Forecast reliability and data availability also varies considerably.** Meteorological forecasts for precipitation are most reliable, one to three days out or for hurricanes close to five days of lead time, while hydrological models for river flooding can provide useful information weeks in advance during snowmelt season. However, localized events like burn scar flooding may have accurate precipitation forecasts but limited modeling for flood intensity and timing.

By implementing “before start of flood season” activities, facilities can be prepared to act when flooding occurs, regardless of available lead time.

Recommended actions for each intervention will be designated under one of six timing categories:

- Before flood season (which will vary based on your geographic location and predominant flood risk)
- At the start of flood season
- When flooding/heavy rain is forecasted (acknowledging that forecast lead time ranges from minutes to weeks depending on flood type)
- During a flooding event
- In days and weeks after a flood

**Figure 1 Recommended timings for FRAP intervention implementation**



### Adapt to Your Local Context

Case studies from a variety of communities are included in each intervention summary in this FRAP and provide valuable insights into the practical application of strategies, their effectiveness and contextual modifications. Lessons learned from case studies can help guide the adaptation and improve the plan to meet local needs effectively but cannot replace your knowledge of the community you serve.

The FRAP is meant to be adapted to the unique demographic, geographic and cultural aspects of each community. We encourage you to modify the content to reflect your community's context and needs.

### Building Partnerships

Some of the strategies outlined below will be easier to implement if you enter into a partnership with other local organizations. Think about partner organizations that have similar goals and interests, especially when it comes to protecting your community from the dangers of flooding. If you are not already in contact with them, reach out and schedule a conversation. Share your FRAP with partner organizations and tell them what support you may need from them. For example, if you are considering advocating for your municipality to distribute flood safety supplies during a flooding event, this could benefit the local community at large and may be of interest to other community organizations serving low income or housing insecure populations.

A partnership could have powerful results for your community and will make it easier to reach your goals. For more information on how to find, build and maintain community partnerships, please review the [Health Professional and Community Collaboration Guide created by the Medical Society Consortium on Climate and Health](#).

### Resource Mobilization

Mobilizing resources is an integral part of any FRAP, but it doesn't have to be intimidating. Start by considering who within your community can help. Local businesses may be willing to donate flood cleanup supplies or offer staff time for volunteer efforts. Specialized organizations can contribute medical supplies critical during and after flood events, such as inhalers and other essential resources. Building these relationships and partnerships early allows you to tap into networks that can support donation drives and fundraising initiatives when needed. Engaging local organizations in preparedness activities creates stronger community networks even outside of disaster and can be mutually beneficial.

Community fundraising events serve a dual purpose: they raise awareness about flooding dangers among community members while generating funds to support your clinic's or health center's resilience plan. These events can create lasting connections with stakeholders invested in your facility's preparedness.

When planning donation drives, it is recommended that facilities check with other community-based organizations to understand what supplies are already being collected. Accepting all types of donated supplies can overwhelm storage capacity, require immense staffing time and create large amounts of waste. Many organizations find monetary donations offer a more efficient and effective form of support for families and communities.

Beyond community support, explore institutional funding opportunities. Your local Chamber of Commerce is an excellent starting point for identifying potential grants and resources. Local foundations may also offer funding that aligns with your needs. Additionally, presenting your FRAP to city or county officials and legislators can raise awareness of the critical role frontline health facilities play in community resilience, potentially opening doors to additional funding and resources.

## Develop a Communications Plan

An effective communications plan is a roadmap that ensures clear and timely information reaches all stakeholders before, during and/or after a flooding event. It outlines the messages you want to convey, who is responsible for sending the messages, who the target audiences are (staff, patients or public), the most appropriate communication channels and a schedule for disseminating information.

When considering communications interventions for flooding events, timing matters. The strategies this guide outlines includes actions your clinic or health center can take through a phased approach: before the start of flood season, at the start of flood season, when flooding is forecast, during a flood event and after a flood.

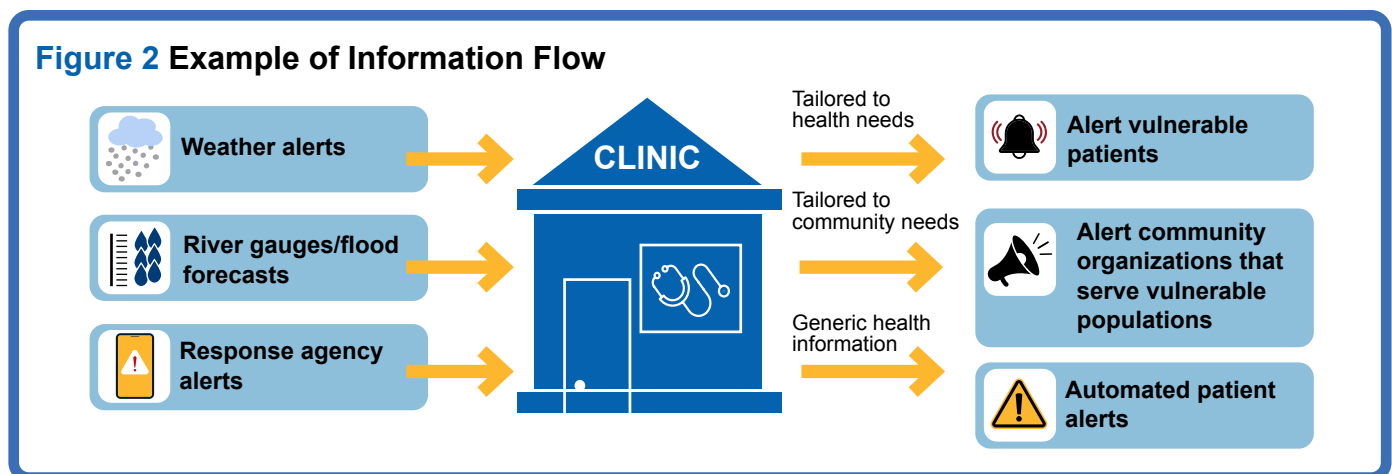
Example:

- Before Flood Season:** Establish SMS service and staffing plan, compose messages for different flood scenarios, ensure patients understand their individual flood vulnerability
- Start of Flood Season:** Ensure that patients can opt in to receive flood/health messages and indicate their specific vulnerability for easy message targeting, ensure contact information is up to date
- When Flooding is Forecast:** Schedule timing and frequency of SMS messages focused on evacuation and immediate safety
- During a Flood Event:** Activate messaging system with real-time safety updates
- In Days to Months After a Flood:** Send recovery and clean-up safety messages, resource connection information

A communications plan and interventions can extend beyond emergency information to also provide support for continuity of care, medication access and referrals. Additional strategies for disseminating flood safety information can be found in Intervention Annex 1.1-1.5.

To allow for smooth execution of the FRAP and to safeguard patient well-being, it's recommended to have effective communication channels established before a flooding event. These communications are both within the clinic or health center as well as with patients and community stakeholders.

Clinics and health centers are uniquely positioned to supply relevant information to vulnerable patients. Leveraging digital tools, such as electronic health record systems, SMS, social media and listserv emails to patients and community partners can play an important role in ensuring that vulnerable individuals are prepared and supported.



### Continuous Learning and Adaptation

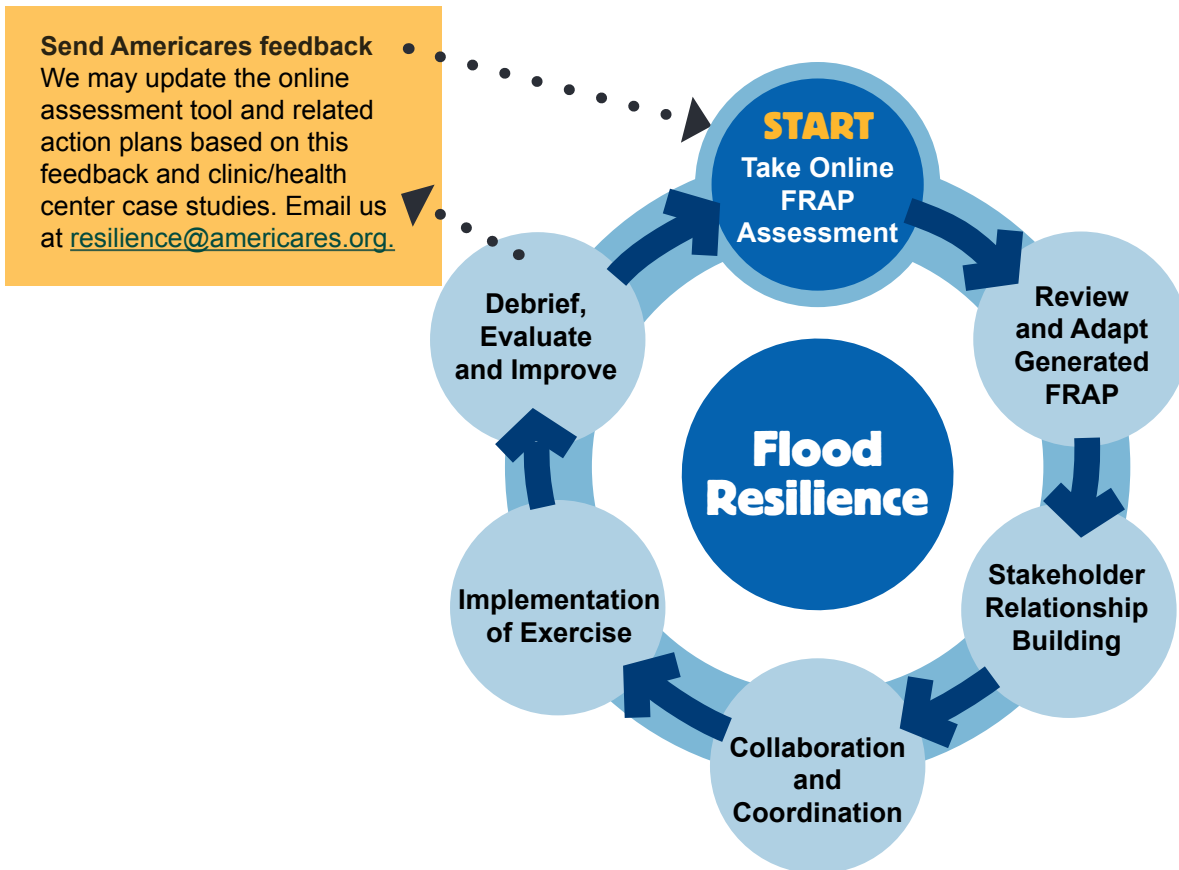
Collaboration with local organizations and authorities is key to ensuring the plan is comprehensive and successful and thus establishing robust feedback mechanisms is vital. Regular monitoring and assessment of the implementation process can help identify challenges and areas for improvement.

Regular community feedback should be actively sought out from a variety of stakeholders to ensure the plan remains relevant and effective for the local population. Ongoing analysis of feedback data and sharing with community partners can help everyone understand the impact of the plan and identify gaps or unforeseen challenges.

Annual reassessment of clinic or health center staffing, resources and vulnerable patient lists will allow the plan to adapt to evolving needs. When assessing vulnerable patients, consider underlying health conditions ([CDC list of people at increased risk](#)) and likely exposure based on activity or their home environment.

Encouraging a culture of open communication and continuous learning within the implementation team fosters a responsive and dynamic approach to flood resilience action planning.

**Figure 3 Recommended cycle of FRAP planning, implementation, evaluation and improvement to be carried out annually by clinic or health center-designed flooding or emergency preparedness team**



## Flood Resilience Interventions

The interventions described in the following sections are based on the best available information at the time of writing (October 2025). In some cases, interventions have been the subject of published academic literature; in other cases, they have not been formally studied but have been or are being implemented by public health agencies, nonprofit organizations or other entities, providing case-specific information about their use.

It is important to recognize that community and individual adaptation and preparedness implementation to flooding is a topic of active study and that additional research is being conducted and will become available in future years. Interventions that have been studied in some settings or with specific patient populations may not perform in an equivalent manner in other settings or with all patients broadly.

Use your best judgment and your understanding of your patients and community to inform your decisions about which interventions may be most appropriate in your specific context.

**We'd love to hear your success stories or lessons learned. For questions, feedback or to share how you are implementing your FRAP, please contact us at [resilience@americares.org](mailto:resilience@americares.org).**



**FLASH FLOOD**  
WARNING ALERT



has been issued  
ground and  
Turn

## ANNEX 1

# Disseminate Flood Safety Information



Sharing safety information is a critical component of flood-related health and safety support. The following interventions illustrate how clinics and health centers can operationalize their communications plan (described in [Develop a Communications Plan](#)) to ensure timely and equitable information sharing before, during and after flood events.

The annex presents communication channels such as **telephone, SMS messages and social media platforms** alongside strategies like community partnerships. These tools are key for the rapid dissemination of crucial safety tips, health precautions, evacuation guidance and information on available assistance during the emergency and recovery phases of a flood.



## 1.1 Establish a Flood Safety Telephone Hotline

### Summary

A flood safety hotline provides vulnerable patients with real-time information during flood events. Callers receive safety guidance, health risk assessments from providers, help identifying evacuation barriers and locations of nearby emergency shelters and evacuation centers. This dedicated phone line serves as a critical resource for flood-related health and safety support.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Moderate to Significant:

- Dedicated phone lines or call forwarding system/software
- Staff training on flood safety protocols and call systems
- Multilingual capabilities or interpreter services
- Documentation systems for call tracking
- Backup communication methods for system failures
- Coordination with emergency services

### Staff Requirements

#### Significant:

Staff to:

- Identify and maintain partnerships
- Coordinate service delivery
- Participate in joint planning
- Ensure integration of health considerations into essential services
- Perform active outreach to community associations and organizations as required

### ⌚ Suggested Timing

- **Start of Flood Season:**
  - Establish phone line and staffing plan
- **When Flooding is Forecast:**
  - Distribute phone number to patients, focus on evacuation and safety information
- **During a Flood Event:**
  - Staff the hotline with emphasis on immediate safety and evacuation guidance
- **Days and Weeks After a Flood:**
  - Continue hotline for recovery and clean-up safety information, resource connections
- **Months and Years After a Flood:**
  - Continue hotline for disaster aid and resource connections

### + Additional Considerations

1. Prioritize vulnerable patients for hotline access; add lines if demand is high.
2. Reach at-risk patients without phones via alternative communication methods.
3. Prepare for language barriers with multilingual staff or interpreter services.
4. Clearly communicate hotline is information only; medical emergencies require 911.
5. Decide staffing: clinicians for medical screening vs. non-clinical staff for safety information only.
6. Provide [specialized guidance](#) for rural patients with private wells on pre/post flooding water testing.
7. Utilize [Americares Climate Resilience for Frontline Clinics Toolkit](#) for additional resources.
8. May require significant staff time.



## 1.2 Share Flood Safety Information via Automated SMS

### Summary

SMS alerts deliver cost-effective, location-tailored flood safety information to vulnerable patients. Messages can cover three information categories: immediate safety (evacuation routes, water dangers), recovery safety (contamination risks, utility hazards) and resource access (emergency aid, insurance support). This accessible medium provides potentially life-saving information, especially for those without internet access, and can be automated in larger systems.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Moderate:

- Automated messaging system or SMS platform
- Patient phone number database
- Multilingual message templates
- Staff training on protocols

### Staff Requirements

#### Moderate:

- Staff member to oversee automated system or draft and schedule manual SMS messages
- Staff responsible for patient registration and system maintenance to ensure timely and effective message delivery during flood events

### ⌚ Suggested Timing

- **Before Flood Season:**
  - Set up SMS service and staffing, compose and test messages for different flood scenarios and educate patients on their personal flood risk
- **Start of Flood Season:**
  - Enable patient opt-in for messages, collect vulnerability information for targeted messaging and update contact details
- **When Flooding is Forecast:**
  - Schedule timely SMS messages focused on evacuation and immediate safety
- **During a Flood Event:**
  - Activate the messaging system with real-time safety updates
- **Days to Months After a Flood:**
  - Send recovery and clean-up safety messages to support short and long-term recovery

### + Additional Considerations

1. Coordinate with local emergency management to align messaging, timing and content.
2. Partner with stakeholders already targeting residents with similar SMS alerts.
3. Test messages with a small audience to ensure they are easy to read and culturally appropriate.
4. Secure message translation capabilities for non-English speaking populations.
5. Brief emergency response officials and health care facilities about SMS timing to prepare for increased service demand.
6. Tailor messaging timing for flood types: immediate alerts for flash floods versus advance preparation messages for riverine flooding.
7. Include guidance for private well owners on pre-flood preparation and post-flood water testing.
8. Incorporate “[turn around, don't drown](#)” messaging to prevent water-related injuries or death.
9. Find more information in [Americares Climate Resilience for Frontline Clinics Toolkit](#).



## 1.3 Share Flood Safety Information via Social Media

### Summary

Clinics and health centers can use social media platforms to share critical flood safety information, recovery guidance and resource locations with their patient populations. This cost-effective approach leverages no/minimal-cost communication channels to rapidly disseminate safety tips, health precautions, evacuation guidance and aid information during flood events and recovery periods. Social media enables broad reach.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Minimal:

- Social media accounts on appropriate platforms
- Communication protocols and templates for different flood scenarios and information categories
- Multilingual content capabilities
- Coordination with local emergency management for consistent messaging alignment

### Staff Requirements

#### Moderate to Significant:

- Staff to monitor and manage social media accounts with ongoing engagement and content creation capabilities
- Multiple staff may be needed during flooding events for real-time posting
- Staff should have analytics skills to evaluate engagement and track reach

### ⌚ Suggested Timing

- **Before Flood Season:**
  - Identify platforms, create accounts and develop protocols and templates for the program covering immediate safety, recovery safety and resource access
- **Start of Flood Season:**
  - Promote resources for patient awareness and share educational flood preparedness content
- **When Flooding is Forecast:**
  - Notify patients via social media and post evacuation and safety information
- **During a Flood Event:**
  - Provide regular, real-time updates with timestamps and expiration notices
- **Weeks to Months After a Flood:**
  - Share recovery safety information and resource connections

### + Additional Considerations

1. Ask community and partners to re-share posts to expand flood safety reach.
2. Follow local emergency and partner channels to align and amplify messages.
3. Use translations and plain language to overcome language barriers.
4. Balance posting frequency to maintain engagement without alert fatigue.
5. Ensure content is accessible via multilingual and plain-language formats.
6. Tailor messages: immediate alerts for flash floods, prepare information for predicted events.
7. Provide rural residents with private wells guidance on pre- and post-flood safety.



## 1.4 Partner with Community-based Health Workers to Share Safety Information

### Summary

Community Health Workers (CHWs) are vital links between health care systems and vulnerable communities during floods. They provide culturally tailored guidance on immediate safety (evacuation, water hazards), recovery safety (mold, contamination), and access to resources (emergency aid, insurance). CHWs identify barriers such as mobility limitations and connect patients to supportive services, using their strong community ties to protect at-risk populations.

### Implementation Examples and Additional Resources

CLICK HERE



### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Moderate:

- Education materials covering flood safety (immediate and recovery) and resource access
- Patient assessment materials specific to flood risks
- Multilingual resources for diverse communities
- Clear plan/procedures for disseminating information to CHWs

### Staff Requirements

#### Minimal to Moderate:

- Staff member assigned to manage relationship between clinic or health center and established CHW program
- Includes coordination of activities, resource development and ongoing communication
- Staff should have experience with community partnerships and flood safety resource development

### Suggested Timing

- **Before Flood Season:**
  - Train CHWs on flood safety (immediate and recovery) and resource access
- **Start of Flood Season:**
  - Support CHWs visiting vulnerable patients to provide preparedness education
- **When Flooding is Forecast:**
  - Collaborate with CHWs to visit patients for evacuation and immediate safety guidance
- **During a Flood Event:**
  - Support CHWs in conducting well-checks and emergency safety education
- **Days to Weeks After a Flood:**
  - Assist CHWs with recovery safety education and connecting patients to resources

### Additional Considerations

1. Leveraging community health workers to conduct wellness checks in tandem with information sharing to maximize community outreach and support.
2. Developing different CHW response protocols and safety considerations for various flood types, with immediate response procedures for flash floods versus preparation-focused approaches for hurricane-related storm surge.
3. Providing specialized training and resources for CHWs on safety messaging.
4. Incorporating “[turn around, don't drown](#)” and private well safety messaging into CHW communications to prevent water-related injuries, illness, or death.
5. Additional information and resources in the [Americares Climate Resilience for Frontline Clinics Toolkit](#).



## 1.5 Partner with Community Organizations to Share Safety Information

### Summary

Partnering with community organizations serving vulnerable populations enhances clinics' and health centers' abilities to share flood safety information. These collaborations leverage existing community reach and credibility to disseminate critical guidance before, during and after flood events. Partners help educate individuals on flood-related risks and preventive measures across immediate safety, recovery safety and resource access, extending health care providers' impact into hard-to-reach communities.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Moderate:

- Shared communication materials and templates
- Multilingual resources for diverse communities

### Staff Requirements

#### Minimal to Significant:

Staff to:

- Identify and maintain partnerships
- Coordinate service delivery
- Participate in joint planning
- Ensure integration of health considerations into essential services
- Perform active outreach to community associations and organizations as required

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Develop relationship and information sharing plan with community partner – including roles and responsibilities for each organization and assigning specific staff to implement across flood safety (immediate and recovery) and resource access
- **Start of Flood Season:**
  - Work with partner organizations to review expectations and information flow processes
- **When Flooding is Forecast:**
  - Initiate information sharing plan
- **During a Flood Event:**
  - Implement information sharing plan with emphasis on real-time safety updates
- **Days to Months After a Flood:**
  - Continue information sharing focused on recovery safety and resource connections

### + Additional Considerations

1. Check for existing municipal flood emergency plans with communication protocols.
2. Partner with community organizations with strong presence in target communities.
3. Tailor flood safety information to local needs, cultural contexts and specific flood risks (riverine, coastal, flash floods.)
4. Ensure timely information before, during and after floods with phase-appropriate messaging
5. Foster ongoing collaboration to assess and improve efforts.
6. Provide guidance on private well safety and “[turn around, don't drown](#)” messaging.
7. Identify funding for joint activities (see [Intervention 4.2.](#))
8. Additional resources in the [Americares Climate Resilience for Frontline Clinics Toolkit](#).



## ANNEX 2

# Distribute Resources



This section prioritizes equipping vulnerable patients with resources to prevent hazards and reduce health risks after a flood. The following interventions illustrate ways clinics and health centers can operationalize their resource strategies, described in the [Mobilize Resources](#) section of the FRAP, to ensure timely access to essential supplies, strengthen community partnerships and enhance overall flood resilience.

Supplying fans and dehumidifiers helps dry out flooded homes and prevent mold. Distributing kits with supplies and backup batteries will enhance community preparedness, reduce exposure and ensure continuity of care. Together, these interventions build resilience and speed up post-flood recovery.



## 2.1 Provide Fans and Dehumidifiers for Post-Flood Recovery

### Summary

Distribution of fans and dehumidifiers helps flood-affected patients prevent mold growth and maintain healthy indoor air quality. Fans circulate air and accelerate drying while dehumidifiers remove excess moisture from water-damaged homes. Combined with proper usage guidance, these tools significantly reduce respiratory health risks from dampness and mold. Due to equipment costs, clinics and health centers should consider partnerships, grants or targeted distribution to the most vulnerable patients.

### Implementation Examples and Additional Resources

[CLICK HERE](#) 

### Patient Populations

 Respiratory Conditions

### Resource Requirements

#### Significant:

- Funding for fans and/or dehumidifiers
- Educational materials on safe use for flood recovery
- Adequate storage space for equipment
- Delivery systems or transportation
- Potential partnerships for bulk purchasing or donations

### Staff Requirements

#### Moderate:

- Staff to identify at-risk patients
- Educate patients on safe use for flood recovery and mold prevention
- Coordinate distribution logistics
- Distribute units directly or connect with partner organizations for distribution services

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Seek funding or develop partnerships to create a distribution program, identify patients who may benefit
- **Start of Flood Season:**
  - Socialize resource for patient awareness, increase patient engagement through educational posting about flood preparedness
- **Days and Weeks After a Flood:**
  - Assess patient needs and distribute equipment, provide education on proper use for flood recovery

### + Additional Considerations

1. Give clear instructions on N95 mask use before entering mold-affected areas.
2. Align mold and N95 guidance with public health messaging.
3. Prioritize distribution by damage severity and vulnerability.
4. Use moisture meters to identify issues and check effectiveness.
5. Provide safe generator guidance for power-compromised areas.
6. Educate on mold thresholds; stress equipment isn't enough for severe damage.
7. Secure funding via partnerships, donations or grants; clarify loan or ownership.
8. Offer delivery, installation and patient education on proper use.



## 2.2 Provide Flood Safety and Recovery Kits for Patients

### Summary

Flood safety and recovery kits provide essential tools for safe cleanup and hazard identification in flood-damaged homes. Kits include protective equipment (gloves, N95 masks, waders), water testing supplies, disinfectants, flashlights, mosquito repellent, phone chargers, emergency contact cards and guidance materials. This intervention enhances community preparedness, reduces exposure to flood hazards and supports safer recovery efforts when combined with cleanup procedure education.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Moderate to Significant:

- Educational materials on kit usage
- Funding to purchase kit components
- Adequate storage space for protective gear and testing supplies
- Delivery or distribution systems
- Multilingual instructions
- Potential partnerships for bulk purchasing or donations

### Staff Requirements

#### Moderate to Significant:

- Staff to develop and distribute guidance on kit usage
- Procure kit components
- Coordinate assembly processes
- Manage distribution logistics
- Potentially supervise volunteers in kit preparation and distribution activities

### ⌚ Suggested Timing

- **Before Flood Season:**
  - Identify donors, plan for kits assembly and distribution (e.g., via volunteers)
- **Start of Flood Season:**
  - Obtain kit contents and assign distribution staff
- **When Flooding is Forecast:**
  - Distribute safety kits; avoid recovery kits unless impact is likely
- **During a Flood Event:**
  - Distribute safety and recovery kits to affected patients
- **Days to Weeks After a Flood:**
  - Continue recovery kit distribution
- **Months to Years After a Flood:**
  - Maintain recovery kit distribution as needed

### + Additional Considerations

1. Customize kit contents to local flood risks and patient recovery needs.
2. Include essential items: gloves, N95 masks, disinfectants, water strips, flashlights, batteries, sanitation and cleanup supplies.
3. Provide multilingual instructions; consider storage and perishable shelf life.
4. Prioritize distribution to medically vulnerable patients, those in flood-prone areas and low-resource households.
5. Partner with emergency management for funding, contents coordination and distribution logistics.



## 2.3 Distribute Backup Batteries for Electricity Dependent Medical Equipment


### Summary

Backup battery systems can provide life-saving power for patients relying on electricity-dependent medical devices during flood-related outages. This intervention ensures continued operation of CPAP machines, oxygen concentrators, insulin pumps, ventilators and medication refrigeration. Distribution includes proper charging instructions and battery maintenance guidance. Careful patient assessment and coordination with medical equipment suppliers helps prevent emergency situations and reduces disaster-related hospitalizations.

### Implementation Examples and Additional Resources

CLICK HERE 

### Patient Populations

 Electricity dependent medical equipment

### Resource Requirements

#### Significant:

- Funding for backup batteries and portable power banks
- Educational materials on correct use and storage
- Adequate storage space for batteries before distribution
- Inventory system for tracking medical equipment needs
- Partnerships with organizations serving elderly and equipment-dependent patients

### Staff Requirements

#### Moderate:

- Staff to identify patients with medical equipment needs
- Procure equipment and discuss specifications with suppliers
- Manage logistics of battery purchases and storage
- Create educational materials on correct usage
- Coordinate distribution with volunteers or partners

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Identify patients using powered medical equipment and coordinate battery compatibility
- **Start of Flood Season:**
  - Distribute backup devices to patients who will own them
- **When Flooding is Forecast:**
  - Distribute loaned backup devices
- **During a Flood Event:**
  - Check on patients using equipment ([see Intervention 7.1](#))
- **Days and Weeks After a Flood:**
  - Assess functionality, replace damaged units and collect loaned devices

### + Additional Considerations

1. Conduct inventory of patients' medical equipment and power requirements for appropriate battery capacity.
2. Assess needs and establish prioritization based on medical vulnerability and device criticality.
3. Include instructions on battery operation, charging, maintenance and replacement.
4. Partner with medical equipment suppliers and utilities for purchasing, donations or support.
5. Provide guidance on runtime, power conservation and emergency help resources.
6. Educate on safety protocols, disposal methods and replacement if batteries are damaged or flood-exposed.
7. Ensure compatibility between batteries and devices through manufacturer verification.



## 2.4 Hold Donation Drives for Flood-Affected Patients





### Summary

Donation drives leverage clinic and health center community connections to gather supplies and funds for flood-affected patients. Clinics and health centers coordinate collection of supplies and monetary donations, using their position to identify greatest needs and ensure direct patient access. This intervention positions clinics and health centers as community hubs while strengthening resilience. In communities with existing mutual aid networks, clinics and health centers should connect patients to established programs rather than create competing drives.

### Implementation Examples and Additional Resources

[CLICK HERE](#) 

### Patient Populations

-  General
-  Respiratory Conditions
-  Housing Insecure
-  Electricity dependent medical equipment

### Resource Requirements

#### Moderate to Significant:

- Storage space for donated supplies
- Organizational materials for sorting and tracking
- Transportation systems for distribution
- Secure handling systems for monetary donations
- Accounting protocols for funds
- Volunteer coordination systems

### Staff Requirements

#### Moderate to Significant:

- Staff to coordinate donation drive activities
- Sort and organize physical donations
- Manage financial donations securely
- Coordinate distribution to patients
- Maintain donation records
- Conduct outreach to community associations and organizations about donation opportunities

### ⌚ Suggested Timing

- **Before Flood Season:**
  - Build donor relationships, develop protocols for supplies and secure financial donations
- **Start of Flood Season:**
  - Notify donors of needed supplies and donation process
- **When Flooding is Forecast:**
  - Prepare donation systems and alert donors
- **During a Flood:**
  - Accept donations if safe
- **Days to Months After a Flood:**
  - Coordinate drives, collection and distribution; provide financial support for patient needs

### + Additional Considerations

1. Determine useful donation types based on patient needs rather than accepting all items.
2. Establish systems for sorting, storing and distributing donations safely and equitably.
3. Implement secure financial donation systems with proper accountability.
4. Develop distribution criteria based on damage severity, vulnerability and needs.
5. Ensure cultural appropriateness and multilingual support during distribution.
6. Partner with local businesses for donation matching and supply discounts.
7. Establish transparent tracking and reporting systems for donor confidence.
8. Requires high staff and resource availability.
9. Explore partnerships with hotels, wholesale clubs, etc.



## ANNEX 3

# Support Vaccine Clinics and Campaigns



The interventions in this annex outline key strategies for launching and supporting vaccination campaigns as a vital component of the flood response effort. Vaccines are crucial because flood conditions (such as contaminated water and crowding in shelters) increase the risk of disease outbreaks. Implementing vaccination efforts helps prevent illnesses and reduce disease risks, thereby supporting community recovery.

Interventions here focus on partnering with health departments to run vaccination clinics and mass vaccination sites in flood-affected communities to quickly bolster community immunity.



## 3.1 Coordinate Facility-Level Vaccination Campaign





### Summary

Targeted vaccination campaigns address increased infectious disease risks from contaminated water, damaged infrastructure and crowded shelters during floods. Clinics and health centers partner with public health to offer walk-in vaccines before and after flooding, focusing on tetanus, hepatitis A and outbreak-potential diseases. Mobile outreach and culturally appropriate education enhance access. Public health staff and medical/nursing assistants can help address staffing challenges while preventing outbreaks.

### Implementation Examples and Additional Resources

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### Patient Populations

-  General
-  Respiratory Conditions
-  Housing Insecure
-  Electricity dependent medical equipment

### Resource Requirements

#### Moderate to Significant:

- Vaccine supply coordination
- Cold storage capacity
- Vaccination supplies and equipment
- Space to host vaccination clinics
- Patient education materials about flood-related disease risks
- Multilingual information materials about vaccine availability and documentation systems

### Staff Requirements

#### Minimal to Moderate:

- Licensed clinical staff to administer vaccines safely
- Administrative staff to coordinate vaccine supply and patient outreach
- Staff to provide education on flood-related health risks and vaccination importance to patients and community members

### ⌚ Suggested Timing

- **Before Flood Season:**
  - Coordinate vaccine supply (e.g., hepatitis A, tetanus/diphtheria boosters), identify high-risk patients
- **Start of Flood Season:**
  - Administer vaccines, identifying booster needs
- **When Flooding is Forecast:**
  - Increase vaccination coverage. Conduct community outreach detailing vaccine availability and preparedness for post-flood infections
- **During a Flood Event:**
  - If safe/operational facility, continue to administer vaccines for community members and responders
- **Days and Weeks After a Flood:**
  - Work with public health to identify vaccines needed and administer post-exposure vaccinations

### + Additional Considerations

1. Collaborate with public health to identify vaccines for local flood risks (hepatitis A from sewage, tetanus from debris, typhoid from water contamination and COVID/flu from shelters, etc.)
2. Establish prioritization based on exposure risk and coordinate with health departments.
3. Assess cold storage capacity during outages and ensure backup systems for temperature-sensitive supplies.
4. Implement patient education on immunization importance using evidence-based messaging.
5. Host vaccination events at recovery centers or with supply distribution; simplify documentation for those who lost records.
6. Ensure multilingual staff and materials; create tracking systems for follow-up doses.
7. Evaluate collaboration with public health to identify lessons learned to improve future preparedness.



## 3.2 Support Mass Vaccination Campaign

### Summary

Mass vaccination campaigns address large-scale floods exceeding clinic and health center capacity. Clinics and health centers partner with health departments to support community-wide vaccination sites, providing clinical staff, administrative support and resources while leveraging public health expertise. This combines clinics' and health centers' trusted community relationships with health departments' mass vaccination capabilities to deliver critical immunizations like tetanus and hepatitis A, preventing outbreaks in flood-affected populations.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Moderate to Significant:

- Educational materials with vaccine information
- Collaboration with health departments to identify and prepare vaccination sites
- Promotional materials including social media content and physical pamphlets with campaign locations and coordination systems for multi-agency operations

### Staff Requirements

#### Moderate to Significant:

- Staff or volunteers to manage logistics and coordinate mass vaccine campaigns
- Conduct active outreach to community associations and organizations
- Licensed clinical staff to work at vaccination sites
- Administrative staff for health department coordination

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Establish partnership agreements with local health jurisdiction, develop mutual aid protocols, train staff on mass vaccination procedures
- **Start of Flood Season:**
  - Reach out to local health jurisdiction, assess staff training
- **When Flooding is Forecast:**
  - Outreach to community about importance of flooding-related vaccinations. If sites already identified, outreach about vaccination sites (location, dates, hours, etc.)
- **Days and Weeks After a Flood:**
  - Activate partnership to support community-wide vaccination efforts, provide staff and resources to mass vaccination site

### + Additional Considerations

1. Assess clinic/health center resources: staff, supplies, language services and partnerships.
2. Balance patient care while supporting vaccination sites.
3. Train staff and address liability/credentialing for health department sites.
4. Leverage relationships with vulnerable populations for outreach.
5. Coordinate early with public health on priority vaccines by flood risk.
6. Host recovery-center events with simplified documentation for lost records.
7. Provide culturally appropriate, multilingual services and evidence-based messaging.
8. Deploy mobile units for damaged areas or displaced populations.
9. Explore partnerships with hotels, wholesale clubs, etc.
10. Implement safety protocols and coordinate with authorities.



## ANNEX 4

# Engage Local Partners



Strengthening ties with communities and organizations is an essential strategy to support recovery after a flood. The following interventions illustrate ways clinics and health centers can utilize their partnerships, described in the [Building Partnerships](#) section of the FRAP, to ensure critical and accurate information and other essential resources to enhance overall flood resilience.

Local emergency management and community-based providers are uniquely positioned to deliver services, share resources, mobilize funding and disseminate critical information to protect high-risk communities.

Together, these coordinated partnerships represent a vital step toward long-term recovery in the aftermath of flooding.



## 4.1 Partner with Local Emergency Management

### Summary

Partnerships with emergency management agencies and health care coalitions enhance clinic and health center flood response by integrating into broader community preparedness. These collaborations provide access to emergency resources, coordination systems and communication networks while leveraging clinics' and health centers' trusted relationships with vulnerable populations. Pre-disaster partnerships enable patient advocacy, ensure care continuity during disruptions and direct resources to isolated and medically fragile individuals.

### Implementation Examples and Additional Resources

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### Patient Populations

 General

### Resource Requirements

#### Minimal to Moderate:

- Time for relationship building and coordination meetings
- Communication systems for emergency coordination
- Shared planning materials and documentation
- Formal presentation materials for stakeholders
- Resources for periodic engagement meetings

### Staff Requirements

#### Minimal to Moderate:

- Administrative or clinical leadership to participate in emergency planning meetings
- Maintain ongoing relationships
- Coordinate during emergencies
- Conduct active outreach to relevant authorities
- Develop presentations
- Assign dedicated staff member to manage partnerships

### Suggested Timing

- **Before Flood Season:**
  - Join emergency/health coalition meetings and support community planning
- **Start of Flood Season:**
  - Update plans, confirm communication and identify resource agreements
- **Forecasted Flood:**
  - Activate communication, coordinate patient needs with partners
- **During a Flood Event:**
  - Maintain communication, share real-time patient needs
- **Days and Weeks After a Flood:**
  - Join hotwash and after-action reviews
- **Months to Years After a Flood:**
  - Update plans based on lessons learned

### Additional Considerations

1. Use clinic or health center knowledge of vulnerable populations to guide planning and advocate for medically fragile patients.
2. Assign staff as emergency liaisons for planning and response.
3. Set up communication systems with partner agencies during disruptions.
4. Provide culturally competent, trusted messaging to the community.
5. Access emergency management resources: transport, shelter and supplies.
6. Establish mutual aid agreements with health care facilities.
7. Join tabletop exercises and provide real-time health needs assessment during events.



## 4.2 Partner with Community Organizations and Service Providers





### Summary

Service coordination partnerships ensure vulnerable populations receive essential services during floods. Clinics and health centers collaborate with community organizations to co-locate services at distribution sites, coordinate donations and develop safety messaging. This leverages clinics' and health centers' expertise and relationships while partnering with organizations leading specific services based on their expertise. Coordinated services, such as food, housing and behavioral health reduce post-flood health deterioration.

### Implementation Examples and Additional Resources

[CLICK HERE](#) 

### Patient Populations

-  General
-  Respiratory Conditions
-  Housing Insecure
-  Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Moderate:

- Coordination time and materials
- Communication systems for partner collaboration
- Shared planning resources and documentation
- Potential supplies or funding contributions to partner efforts and relationship development resources for organizations serving vulnerable populations

### Staff Requirements

#### Moderate:

- Staff to identify and maintain partnerships effectively
- Coordinate service delivery across organizations
- Participate in joint planning activities
- Ensure integration of health considerations into essential services
- Conduct active outreach to community organizations

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Build relationships with community organizations, identify service gaps and partnership opportunities
- **At the Start of Flood Season:**
  - Convene partners to review delivery plans, assess community needs, confirm roles/responsibilities, identify resource sharing agreements
- **When Flooding is Forecast:**
  - Activate partner communication, coordinate pre-positioned services
- **During a Flood Event:**
  - Coordinate real-time delivery, share patient/community needs information
- **Days to Months After a Flood:**
  - Coordinate recovery services, conduct joint assessments, maintain service coordination

### + Additional Considerations

1. Prioritize essential services based on vulnerability and flood severity.
2. Advocate for health integration in all services (mold prevention, dietary needs).
3. Develop backup plans when primary partners are impacted; avoid duplication.
4. Address cultural/linguistic needs and use patient relationships to find gaps.
5. Strengthen partnerships via training and joint exercises.
6. Share information while maintaining privacy and dignity.
7. Secure sustainable funding for ongoing coordination.
8. Explore partnerships with hotels, wholesale clubs, etc.



## ANNEX 5

# Offer Critical Services Support



The following interventions illustrate ways clinics and health centers can work to provide support for critical services, including clinical support at shelters and transportation.

Support from clinical staff can be lifesaving. Deploying clinical teams to shelters during floods helps to ensure access to basic care, medications and urgent health support for displaced individuals. Additionally, partnering with transportation providers is essential to reach patients in flooded areas.

These interventions form a coordinated response that safeguards vulnerable populations and preserves access to critical health services during emergencies.



## 5.1 Coordinate Medical Support at Shelters

### Summary

Deploy staff and mobile units to shelters to provide medical care, behavioral health, medication management and referrals. Educate operators on flood health risks and first aid, manage safe operations, prevent chronic condition deterioration and reduce avoidable higher-level service use.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Housing Insecure

### Resource Requirements

#### Moderate:

- Medical assessment and treatment supplies
- Wound care supplies for flood-related injuries
- First aid equipment
- N95 masks for infectious disease prevention
- Basic medications
- Partnerships with shelter organizations for coordination and space allocation

### Staff Requirements

#### Significant:

- Medical personnel when shelters are operational
- Staff or community partners to provide comprehensive medical support at shelter locations
- Coordination staff to work with authorities or community-based organizations managing emergency shelter operations

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Establish relationships with shelter operators (e.g. Red Cross) or local emergency management, develop plan for clinic or health center engagement with shelters, prepare staffing plan to enable support of emergency shelters
- **Start of Flood Season:**
  - Confirm plans with partners and staffing
- **When Flooding is Forecast:**
  - Determine if shelters will operate, prepare medical supplies
- **During a Flood Event:**
  - Initiate staffing plan if emergency shelters is operational
- **Days, Weeks and Months After a Flood:**
  - Continue medical support for displaced individuals in temporary housing

### + Additional Considerations

1. Establish early relationships with shelter agencies; determine roles and responsibilities.
2. Develop staffing plans supporting shelters without compromising clinic or health center operations.
3. Train staff on shelter operations, HIPAA considerations, psychological first aid and flood-related health concerns.
4. Create welcoming spaces for vulnerable populations with effective resource sharing.
5. Consider mobile units at shelters and establishing safe medication storage for evacuees.
6. Implement documentation for continuity of care, work with emergency management and Red Cross.
7. Provide mental health and psycho-social support for staff, patients and people at the shelter to reduce long-term impacts.



## 5.2 Coordinate Transportation Support for Patients





### Summary

Transportation partnerships address mobility barriers during floods by connecting patients with evacuation, medical appointments and resource access. This includes partnerships with ride-share companies, public transit and community providers to ensure patient safety despite transportation impacts and mobility challenges. Clinics and health centers identify at-risk patients with transport needs, develop evacuation plans and coordinate transport to shelters, medical facilities and distribution sites.

### Implementation Examples and Additional Resources

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### Patient Populations

-  General
-  Respiratory Conditions
-  Housing Insecure
-  Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Significant:

- Agreements with local transport service providers
- Informational flyers with service details and contact information
- Coordination materials
- Potential vehicle access for mobile services, ride-share vouchers and/or mobile medical outreach equipment

### Staff Requirements

#### Minimal to Significant:

- Staff to coordinate transportation partnerships
- Operate mobile services
- Manage transportation voucher programs
- Coordinate with transit providers
- Support staff to assist vulnerable individuals
- Clinical staff for medical transport
- Liaison staff for logistics

### Suggested Timing

- **Before Flood Season:**
  - Partner with transportation providers (e.g., ride-share companies, public transit); develop list of patients needing transport support
- **When Flooding is Forecast:**
  - Activate transportation partnerships, prepare mobile services, distribute ride-share vouchers, coordinate with transit authorities
- **During a Flood Event:**
  - Maintain communication with transit partners, support coordination for at-need patients
- **Days, Weeks and Months After a Flood:**
  - Expand mobile services to flood-damaged areas, coordinate transportation for appointments, continue partnership-based transportation support

### Additional Considerations

1. Determine service delivery: bring patients to services, services to patients or telehealth.
2. Identify patients needing assistance; partner with transit, rideshare and/or community organizations.
3. Accommodate mobility limitations, medical equipment and pets; ensure shelters can meet medical needs.
4. Develop backup plans when partners are flood-affected; establish safety protocols for mobile services.
5. Coordinate to maximize efficiency and avoid duplication with emergency response (paratransit and emergency transport services.)
6. Establish communication protocols to activate transportation during evacuations.
7. Address insurance/liability and fuel security/availability during extended events.



## ANNEX 6

# Ensure Safe Medication Access



Medication adherence is essential for improving the health of the population. The following interventions illustrate ways clinics and health centers can ensure safe medication access for patients and the community.

By strengthening pharmacy access and ensuring proper medication storage, clinics and health centers can support patients in safely managing their treatments, avoiding disruptions and preserving medication effectiveness in the aftermath of a flood.

These efforts not only protect individual health but also contribute to broader public health by preventing complications and reducing risks.



## 6.1 Coordinate Pharmacy Access

### Summary

Medication access interventions maintain essential prescriptions when floods disrupt pharmacy operations through damage, outages and supply interruptions. This includes identifying backup pharmacy locations, establishing multiple provider relationships, emergency prescription transfers, early refill authorizations and telehealth coordination. Clinics and health centers work with pharmacy networks, insurers and emergency agencies to ensure medication continuity for chronic conditions during displacement and recovery.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

- General
- Respiratory Conditions
- Housing Insecure
- Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Moderate:

- Comprehensive pharmacy contact database
- Emergency prescription protocols and documentation
- Patient education materials about emergency medication access

### Staff Requirements

#### Moderate:

- Clinical staff to assess patient medication needs and coordinate emergency supplies effectively
- Administrative staff to maintain pharmacy relationships and educate patients on backup planning
- Coordination staff for insurance and documentation assistance during emergencies

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Encourage emergency med supplies, set protocols with local/out-of-area pharmacies
- **Forecasted Flood:**
  - Remind patients to refill, share backup pharmacy information, coordinate for high-risk patients
- **During Flood:**
  - Ensure emergency medication access and backup locations
- **Days to Months After a Flood:**
  - Locate open pharmacies, coordinate transfers, assist with insurance
  - Support displaced patients in accessing chronic disease medications

### + Additional Considerations

1. Identify pharmacies likely open during floods and build cross-zone relationships.
2. Create medication cards and teach proper storage to prevent contamination.
3. Train staff on emergency prescription laws, insurance overrides and evacuation protocols.
4. Prioritize patients needing emergency medicines (insulin, cardiac and psychiatric, etc.)
5. Build relationships with pharmacy chains, mail-order, hospitals and mobile services.
6. Educate on medication prioritization and provide replacement supplies.
7. Coordinate with shelter staff on dispensing and insurance navigation.
8. Ensure sufficient staff and resources.
9. Explore partnerships with large pharmacy access.



## 6.2 Coordinate Medication Storage and Access

### Summary

Medication storage support protects temperature-sensitive and critical medications when flood damage and power outages make home storage unsafe. This provides secure temporary storage at clinic and health center facilities for vulnerable patients, especially those experiencing homelessness or displacement. Includes secure storage and/or temperature-controlled/refrigerated storage with backup power. Patients drop off medications for safekeeping and access them on schedule, ensuring adherence and preventing emergencies.

### Implementation Examples and Additional Resources

[CLICK HERE](#)

### Patient Populations

Housing Insecure

### Resource Requirements

#### Minimal to Significant:

- May include pharmaceutical-grade refrigeration with backup power
- Secure locked storage areas
- Medication tracking systems
- Storage containers for patient use
- Cold packs or portable coolers
- Educational materials

### Staff Requirements

#### Moderate to Significant:

- Licensed clinical staff to manage medication storage and supervised access
- Administrative staff for detailed medication tracking and documentation
- Pharmacy technician if available for medication management
- Staff for patient follow-up
- Logistics staff for deliveries

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Identify patients with critical temperature-sensitive/high-value medications, establish secure storage protocols and tracking systems, obtain liability coverage. May benefit patients year-round, especially those with unstable housing
- **When Flooding is Forecast:**
  - Accept medications from patients who may lose power/be displaced/unable to keep medication secure, establish access schedules
- **During a Flood Event:**
  - Maintain proper storage, provide supervised access
- **Days and Weeks After a Flood:**
  - Continue storage for displaced patients, coordinate safe return when housing secured, assist with replacement if needed

### + Additional Considerations

1. Understand legal/liability implications; maintain documentation and tracking systems.
2. Maintain proper storage temperatures and security during outages; prioritize critical medications (e.g., insulin, cardiac, psychiatric, seizure and immunosuppressive.)
3. Coordinate pickup and administration while maintaining privacy; prevent medication errors.
4. Accommodate complex regimens; establish protocols if medications are contaminated/damaged.
5. Partner with pharmacies for secure storage capacity and expertise.
6. Notify displaced patients about access schedules through multiple channels.
7. Develop backup plans if clinic or health center is flood-impacted; ensure medication accountability.
8. Requires sufficient staff and resource availability.



## ANNEX 7

# Conduct Remote Wellness Checks



The following interventions illustrate ways clinics and health centers can leverage their relationships with patients to ensure their wellness and access to resources during a flooding event.

Conducting wellness checks on vulnerable communities offers critical guidance on safety and medications, while helping connect individuals with the support services they need.

Maintaining communication throughout an emergency is essential, even when in-person visits are unsafe or impossible, to ensure continuity of care and timely assistance.



## 7.1 Conduct Phone Wellness Checks





### Summary

Telephone wellness checks assess medically vulnerable patients during/after floods when in-person visits are unsafe or impeded. Staff call to evaluate health needs, safety, medication access and recovery challenges, offering advice and evacuation information. This cost-effective intervention identifies emerging health issues, connects patients with resources and determines urgent needs. Staff can call from home if clinics or health centers are inaccessible, though it requires functioning networks and charged phones.

### Implementation Examples and Additional Resources

[CLICK HERE](#) 

### Patient Populations

-  General
-  Respiratory Conditions
-  Housing Insecure
-  Electricity dependent medical equipment

### Resource Requirements

#### Minimal to Moderate:

- Dedicated phone lines or personal phones for wellness checks
- Phone triage protocols for assessing flood-related risks and needs
- Documentation systems for call tracking
- Patient contact database
- Potentially battery packs for patients to maintain communication (see [Intervention 2.2](#))

### Staff Requirements

#### Moderate to Significant:

- Staff or volunteers to conduct wellness check
- Clinical providers available for consultation when screening flags or complex medical needs are identified

### 🕒 Suggested Timing

- **Before Flood Season:**
  - Setup communication systems, develop staffing plan including remote workers, identify patients to call, prepare patients to expect wellness checks
- **Start of Flood Season:**
  - Train staff/volunteers on protocols, identify on-call schedule, ensure updated patient contact information
- **When Flooding is Forecast:**
  - Alert staff/volunteers, begin outreach to high-risk patients about resources and expect calls
- **During a Flood Event:**
  - Conduct checks on immediate safety, evacuation status, emergency needs
- **Days and Weeks After a Flood:**
  - Conduct follow-ups on housing, contamination risks, recovery needs, resource connections

### + Additional Considerations

1. Prioritize call lists by medical risk, location and support; notify patients in advance.
2. Use standardized scripts for health, safety, housing, water exposure and immediate needs.
3. Train staff on psychological first aid and escalation protocols.
4. Keep contacts updated, provide interpretation and backup communication.
5. Define protocols for unresponsive calls and emergency contact criteria.
6. Address network issues with flexible schedules and backup methods.
7. Document calls to track needs and follow-up.
8. Mask personal numbers so calls show as facility contact.
9. Ensure sufficient staff for extended outreach.

# Title:

## Summary

### Patient Populations

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Might be challenging to reach:

### Resource Requirements

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### Staff Requirements

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## 🕒 Suggested Timing

## + Additional Considerations

## NOTES:

## NOTES:



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