

State and Territorial Preparedness for Drinking Water Emergencies

Managing an effective response to public drinking water emergencies is essential to maintaining critical operations of community infrastructure and protecting public health. While there are robust programs in place to prepare for and respond to water emergencies across states and territories, there is also a need for increased coordination among the many stakeholders involved in communication and response activities. In alignment with our commitment to supporting states and territories, ASTHO has worked to collect data and facilitate dialogue to improve understanding of state and territorial water preparedness activities.

To better understand the current gaps in state and territorial water preparedness and response, ASTHO conducted an assessment of state and territorial health agencies' (STHAs) preparedness for water emergencies. In 2018, ASTHO queried state and territorial environmental health directors and directors of public health preparedness on their protocols, tools, resources, infrastructure, and self-recognized gaps. Participants included 70 individuals from 53 states and territories. Survey questions focused on how S/THAs organize their water preparedness activities and what processes they have in place to prepare for and respond to water emergencies. The findings of this assessment are published in the [State of Water Preparedness](#) report.

Following publication of this report, ASTHO held virtual stakeholder meetings in 2019 with seven states, as well as nongovernment organizations (NGOs) and federal partners, to identify priority challenges in state drinking water preparedness, particularly for the planning, response, and recovery phases. Beyond exploring and understanding gaps and challenges, these virtual stakeholder meetings allowed ASTHO to review existing resources and identify opportunities for continued cross-sector collaboration to address state and territorial needs.

This report aims to summarize key points, challenges, and recommendations for enhancing state and territorial water preparedness based on data collected by ASTHO.

Report Highlights

- Drinking water emergency response is a shared responsibility between multiple programs within S/THAs, as well as with external entities (e.g., environmental agencies).
- Most states could benefit from increased information-sharing and collaboration on risk communication strategies.
- Depending on the jurisdiction, management of response efforts may change depending on whether water supply is public versus private and whether the response is routine versus an emergency.

Gaps and Challenges

ASTHO found that the most pressing challenges for drinking water preparedness involved coordination and communication efforts between the various stakeholders involved in water safety. Although each jurisdiction may be organized differently, it is common for agencies and stakeholders within a jurisdiction to share the water emergency mission space and to have overlapping responsibilities, as well as varying levels of expertise.

One of the gaps identified by states and NGOs was a need for more state and territorial capacity-building efforts in coordinating emergency response activities. This includes a need for risk communication guidance and coordination of unified messaging across stakeholders involved in emergency response—especially for contaminants of emerging concern, such as per- and polyfluoroalkyl substances (PFAS) and harmful algal blooms. Collaboration can become complex when multiple state or territorial agencies are involved, particularly if agencies’ priorities are not aligned or if individual responsibilities are unclear.

Most state and territorial water preparedness programs have an Incident Command Structure (ICS). However, only about half of these jurisdictions have stood up their ICS for a drinking water emergency in the past two years. This indicates a need, as well as an opportunity, for states and territories to engage in more regular exercises to test their emergency response plans.

With respect to emergency response planning, states and territories identified a need for stronger relationships between water utilities and local health officers to facilitate communication prior to an emergency event. States identified this as a priority, since during a large-scale emergency response, communication between subject-matter experts and non-scientific staff can be strained.

Existing Resources

States and NGOs highlighted the following helpful resources for planning and responding to water emergencies. These include strategies for calling upon personnel or groups to aid with state, territorial, and local efforts, as well as toolkits and exercises that can be used for guidance and preparation.

Personnel/Groups	
ATSDR Duty Officers	Available upon request for support when dealing with emerging contaminants and trying to determine safe levels.
CSTE Disaster Epidemiology Subcommittee	Brings together epidemiologists to enhance technical tools and methods for disaster preparedness.
EPA Response Manager	Allows state or territory to have access to disaster data for reporting.
EPA Water Laboratory Alliance	National network of labs that provides testing resources for states responding to waterborne disease outbreaks.
Private Water Network	Serves as a virtual forum for information-sharing related to private water programs.

Toolkits/Exercises	
CDC Drinking Water Advisory Communication Toolbox	Shares templates and guidance materials to enhance water systems communication during water-related incidents. For additional CDC resources, see the CDC Water Emergency web page .
EPA Tabletop Exercises	Allows state and local stakeholder agencies to practice coordination and proactively build partnerships through participatory simulations.
FEMA Community Lifelines Toolkit	Supports communication of information specific to government, stakeholders, or media.

Resource Needs

States and territories noted the following needs for continued program development:

Funding Resources

Many states and territories cite a need for dedicated funding to support environmental health emergency response activities, and specifically drinking water emergency response. Jurisdictions vary widely in the types of resources they tap to fund their drinking water emergency response, which include emergency response or preparedness program grants, general funds, drinking water grants, FEMA assistance, and private utility insurance.

Field-Deployable Resources

There is a need for pre-made communication templates during an emergency response, including materials in multiple languages. This includes risk communication tools (e.g., talking points, message maps, discussion starters) health departments can use to communicate with drinking water operators at the local level.

Online Tools

- Pre-established and curated repositories of guidance resources from FEMA, CDC, and EPA for states' drinking water emergency response efforts, including links to toolkits, memos, guidance documents, and other drinking water-related resources that would be accessible in a single place.
- Protocols for a centrally coordinated response, which could facilitate coordination between subject matter expertise and emergency response planning.
- Guidance on monitoring unregulated contaminants.
- Repository for commonly found waterborne contaminants and related health information.
- Risk communication guidance for contaminants of emerging concern, such as PFAS.
- Guidance for addressing emergencies from coal ash ponds.
- Water quality guidance for private wells.
- Interactive trainings and/or videos on understanding water system operations and vulnerabilities.
- How-to guides on conducting hazard assessments for drinking water systems.
- Planning for resilience in vulnerable populations during emergency events.

Conclusion

Water infrastructure emergencies and waterborne outbreaks are serious public health threats that can also lead to widespread community disruption. Although water emergencies are handled differently according to each jurisdiction, water preparedness is generally a shared responsibility between epidemiology, environmental health, and preparedness programs, as well as state and territorial governmental agencies and stakeholders.

ASTHO's findings indicate a greater need for coordinated communication between the stakeholders involved in state and territorial water preparedness and response. In order to maximize the effectiveness of state and territorial response efforts, states can begin taking steps to enhance the partnerships within their existing response programs. These include setting up periodic informal meetings with local, state, and federal partners involved in water preparedness efforts to strengthen relationships; understanding how best to communicate with one another and request assistance when needed; and engaging in dialogue outside of an emergency response scenario.

During a water-related emergency response, health agencies often have shared responsibilities with partner agencies and organizations. Establishing effective communication channels prior to a disaster event is critical for identifying key information regarding partners' roles and responsibilities, common language and terminology, and protocols for coordination during an actual emergency event. Taking time to strengthen these relationships can serve to streamline response activities during an emergency event, while also enhancing the effectiveness of the overall response effort.

Next Steps

ASTHO will continue to engage water preparedness stakeholders at the federal, state, and local levels, as well as NGO partners, to collaborate on resource development, such as templates, guidance, and tools, to fill gaps. Additionally, ASTHO will further investigate challenges around contaminants of emerging concern and identify resources that can be deployed in the field to further enhance readiness for water-related public health emergencies.

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