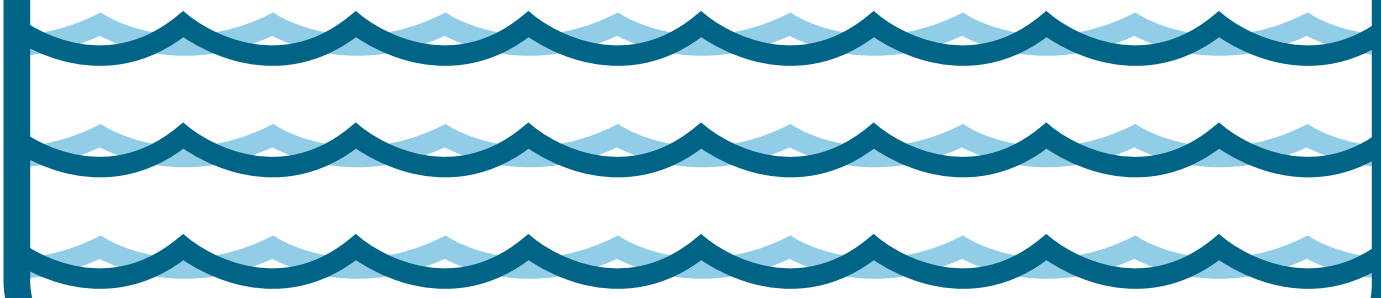
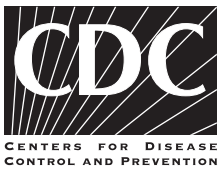
Drinking Water Advisory Communication Toolbox





Use of trade names is for identification only and does not imply endorsement by the Centers for Disease Control and Prevention, the Public Health Service, the U.S. Department of Health and Human Services, or the American Water Works Association.

All information found in this document can also be accessed online and printed from CDC's Healthy Water website at **http://www.cdc.gov/healthywater/emergency/drinking_water_advisory/index.html**

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About the Drinking Water Advisory Communication Toolbox

The goal is to provide a protocol and practical Toolbox for communicating with stakeholders and the public about water advisories that is based upon research and identified practices. The project focuses on water systems and addresses the range of situations that generate drinking water advisories.

This project was a collaborative effort among the **U.S. Centers for Disease Control and Prevention (CDC)**, **Environmental Protection Agency (EPA)**, **American Water Works Association (AWWA)**, **Association of State and Territorial Health Officials (ASTHO)**, **Association of State Drinking Water Administrators (ASDWA)**, and **National Environmental Health Association (NEHA)**.

A technical workgroup of public health and drinking water agencies and drinking water system experts advised and guided the project. The project also engaged a broad cross-section of relevant stakeholders and technical experts including local government, emergency response, and hazard communication experts.

Research

More than 500 documents, protocols, regulations, and other resources related to the issuing of drinking water advisories were compiled. Nearly 100 interviews were conducted with water systems, primacy agencies, and local public health departments in the United States and Canada.

The research revealed:

- Advice to the public varies widely from state to state and community to community.
- Advisories are a common occurrence in some states and a rare event in others.
- Major events or disasters were the primary reasons for collaboration between drinking water systems and health departments.
- Terminology for advisories is inconsistent.
- Templates and advisory content are difficult to change or adapt to specific audiences or needs.
- The EPA Public Notification Handbook is the primary information source for drinking water advisories.
- Agency responsibilities for communicating with institutions, such as hospitals, schools, and restaurants, are highly variable.
- Good relationships between water systems and local public health departments are often dependent on established relationships between individuals.
- Local health departments may lack the resources or expertise to address drinking water issues.
- Local health departments are willing to be consulted by water systems when requested.

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Partner Organizations and Programs

Association of State and Territorial Health Officials

Association of State Drinking Water Administrators

American Water Works Association

Centers for Disease Control and Prevention, National Center for Environmental Health, Environmental Health Services Branch

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Environmental Protection Agency

National Environmental Health Association

Introduction

- Overview
- Why Are Drinking Water Advisories Issued?
- Small Water Systems

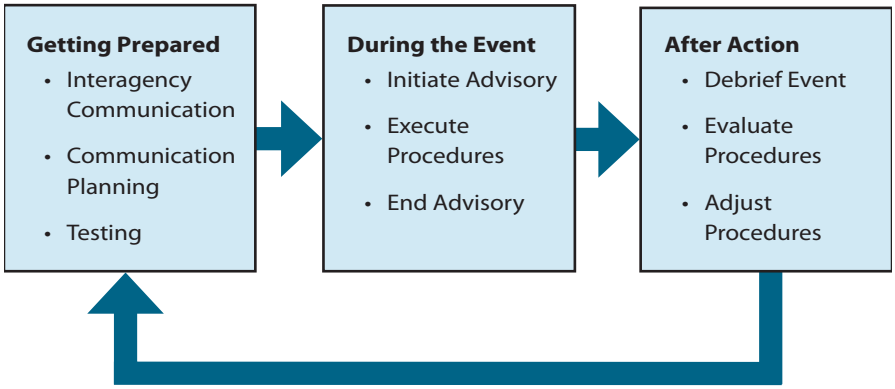
Overview

The Drinking Water Advisory Communiation Toolbox provides information on how to plan for, develop, implement, and evaluate drinking water advisories. The approach presented recognizes the differences in scope, scale, and severity of situations that trigger advisories – a main break, a hurricane, a drop in pressure, or intentional contamination. These differences affect the types of tools, planning, and communication used by drinking water systems.

This Toolbox includes instructions on how to get prepared, what to do during an event, templates and tools to use during an event, and recommendations for follow-up actions and assessments. The purpose of the Toolbox is to enable water systems to communicate effectively with partners and the public in order to protect public health.

Figure 1 shows the process for preparing for, issuing, and following up after a drinking water advisory.

Figure 1: Toolbox Flow Chart



Each section includes a checklist of steps. Not every step applies in all circumstances. Each section has a set of tools that applies to its content. The tools can be adapted by water systems to fit their needs.

Icon Key

Tools and Templates

Resources

Text Message

This Toolbox complements the EPA's Public Notification Handbook.

Different Names for Advisories

Individual states have different names for drinking water advisories depending on the situation. Advisories are frequently called "notices," "alerts," and "orders."

Why Are Drinking Water Advisories Issued?

Water systems and state or local agencies issue drinking water advisories when they believe water quality is or may be compromised. Advisories tell individuals, schools, hospitals, businesses, and others about the situation and how to take immediate action.

Drinking water advisories:

- **Provide information** – An advisory may be issued when consumers need to receive important information but do not need to take any action. For example, a water system may issue an advisory to inform households about seasonal changes in water taste.
- **Encourage preparedness** – Advisories may help customers prepare for planned disruption in service or anticipated water quality threats. These advisories may affect a small area; such as, during distribution system construction or repair. Or, they can urge customers to prepare for an event, such as an oncoming hurricane. This type of advisory alerts people to watch or listen for more information.
- **Recommend action** – Advisories may give customers advice to take specific actions, such as boil water or use bottled water. These advisories may be issued as a precaution or in response to a waterborne disease outbreak.
- **Meet public notification requirements** – Advisories are required by the Safe Drinking Water Act (SDWA) when specific circumstances exist. The SDWA requires communication with customers when the water system does not comply with a regulation.

Notes

Precautionary and Mandatory Advisories

State regulations specify when drinking water advisories are required. In other instances, water systems or the local public health department may issue precautionary advisories at their discretion.

- *Precautionary* advisories are issued as a protective measure.
- *Mandatory* advisories are issued as required by state law in order to be issued to protect public health.

Consult with state primacy agencies when developing drinking water advisory protocols.

Main Types of Advisories

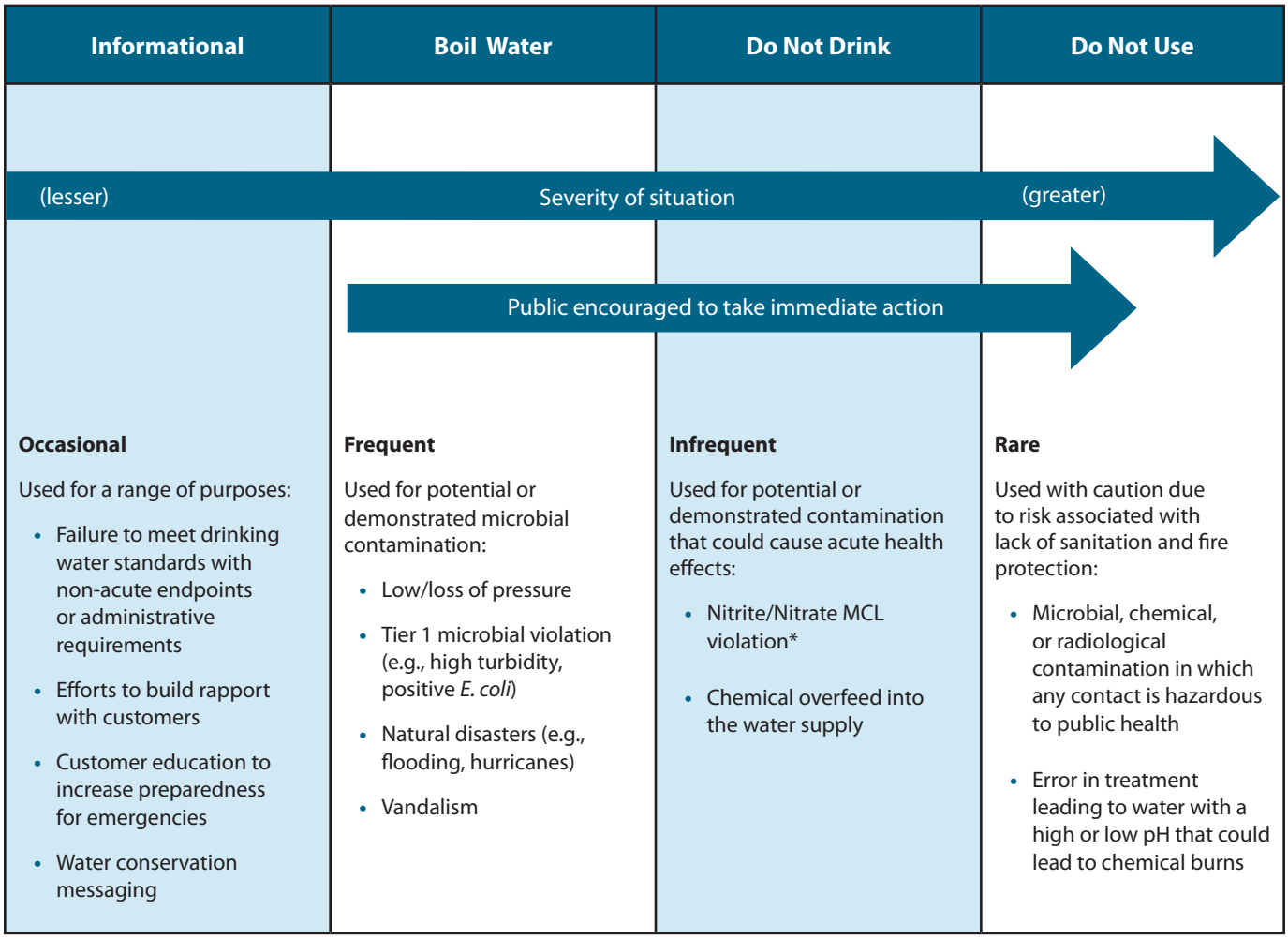
- **Informational** – These advisories communicate planned or anticipated changes in water quality and provide advice on appropriate action.
- **Boil Water** – Most common type of advisory. They may be precautionary if there is a potential threat to the drinking water supply, or they may be mandatory as required by state regulations. Boil water advisories typically are issued because of concern about microbial contamination.
- **Do Not Drink** – Tells customers to use an alternative source of water. Do Not Drink advisories are typically issued for chemical contamination.
- **Do Not Use** – Customers cannot use tap water for any purpose, including flushing toilets and bathing. Do Not Use advisories are typically used only in cases of known microbial, chemical, or radiological contamination when any contact with the skin, lungs, or eyes, can be dangerous. Such advisories are rare because of the risks associated with the lack of water for sanitation and fire protection.

Figure 2 shows the range of situations that might trigger a drinking water advisory and the type of advisory that would be issued in each situation.

Advisory Information

Advisories include information about preparing food, beverages, or ice; dishwashing; and hygiene, such as brushing teeth, bathing, and flushing toilets.

Figure 2: Range of Situations for Drinking Water Advisories



Note: These are examples of potential reasons to issue an advisory; this is not intended to be a comprehensive list. Consult your primacy agency for more information.

** Maximum Contaminant Level*

Small Water Systems

Because small water systems often have less capacity to implement advisory protocols than larger systems, this Toolbox also was designed and tested with small water systems in mind.

Implementing the actions described in this Toolbox generally should not require outside support from consultants or others. However, building an effective network by collaborating with other public sector partners and community organizations will help small systems succeed in their efforts.

Suggestions for Small Systems

- Identify and prioritize specific tools or sections to use.
- Incorporate water advisory protocol planning into regular activities, such as sanitary surveys and updating emergency response plans (ERPs).
- Build water advisory protocols into regular communication, such as customer updates.
- Partner with local public health and neighboring water systems.

Notes

Section 1: Before an Advisory

- Overview
- Pre-Event Checklist
- Organizing for Drinking Water Advisories
- Collaborating with Partners
- Developing a Message
- Conducting Exercises
- Tools and Templates: Before an Advisory

Overview

To issue a drinking water advisory, a water system must act quickly and in close coordination within its organization and among its partner agencies. Preparation is essential. Most of the work can be done in advance of a planned or unplanned event.

Pre-event planning allows a water system to design advisories and issue them through a predetermined process. Advance preparation speeds delivery of accurate, useful information to affected customers. This information can be reused for future events.

Icon Key

- Tools and Templates
- Resources
- Text Message

Notes

Before an Advisory: Pre-Event Checklist

Organizing for Drinking Water Advisories

- ☐ Conduct an assessment of assets and resources needed to issue a drinking water advisory.
- ☐ Review state regulations and guidance for public notification and the EPA Public Notification Handbook.
- ☐ Consult your organization's strategic communication plan.
- ☐ Plan for media activities.
- ☐ Integrate communications as part of your emergency response standard operating procedures (SOPs).

Collaborating with Partners

- ☐ Identify partners, such as critical and wholesale customers.
- ☐ Record and update contact information.
- ☐ Develop a communication network of public agencies and private entities for collaboration during an advisory.
- ☐ Meet and discuss protocols and resources for drinking water advisories with agency partners and community organizations.
- ☐ Plan and conduct regular communication among partner agencies and private organizations.

Notes

Developing a Message

- ☐ Collaborate with your communication network to develop messages for various advisories and specific audiences.
- ☐ Translate and format messages for special populations (e.g., non-English speakers, visually impaired, etc.).

Conducting Exercises

- ☐ Refer to the **National Incident Management System** (NIMS) and the **Homeland Security Exercise and Evaluation Program** (HSEEP).
- ☐ Plan exercises.
- ☐ Conduct exercises.
- ☐ Debrief after exercises and incorporate appropriate changes in protocols.

Notes

Organizing for Drinking Water Advisories

Conduct an Assessment

Understanding your system's operations, vulnerabilities, and audiences is an important first step in your planning efforts. Begin by evaluating the following:

- Existing relationships among partners, including public health, public safety, schools, businesses, and local government. See **Table 1** for examples.
- Internal and external audiences and stakeholders.
- Information needs of different audiences.
- Existing communication plans and resources (e.g., bill inserts, Consumer Confidence Reports, media contacts).
- Skills, technologies, staff, time, and money available to support an exchange of information among agencies. See **Table 1** for examples.
- Resources for public outreach, such as Reverse 911 or e-mail alerts.
- Existing requirements set by state or local agencies or by the water system's governing body.
- Threats and infrastructure vulnerabilities.
- Emergency response plans (ERPs).

Gap Analysis

Once you've conducted the assessment, it is important to identify the gaps and additional resources needed to meet responsibilities for issuing drinking water advisories.

Considerations

When planning for a drinking water advisory, consider:

- *A range of event scenarios*
- *Normal and challenging operating conditions*
- *Time of day, day of the week, and season of the year*

Review Regulations and Guidance

Primacy Agency

Each state has specific regulations for public notification and information sharing. Local public health and water systems personnel need information for a 24/7 point of contact at the primacy agency.

For information on state-specific contact information, regulatory requirements, guidance, and templates see the **State Primacy Agency Finder** from the **Association of State Drinking Water Administrators** (ASDWA). See **Appendix B: Online Resources, Primacy Agency**.

Federal Guidance

There is federal guidance for developing public notices under the Safe Drinking Water Act (SDWA). Resources are also available from the Environmental Protection Agency (EPA):

- **PNiWriter**— A Web -based tool for preparing public notices.
- **Public Notification Handbook**— EPA guidance explaining regulatory requirements.

Know Your Primacy Agency

Every state is unique. Know your state agency's practices, communication channels, and responsibilities related to drinking water advisories.

Consult Strategic Communication Plan

A strategic communication plan is the foundation for decision-making and resource allocation, both ongoing and in times of crisis.

A strategic communication plan helps a water system prepare to issue a drinking water advisory by identifying ahead of time:

- Audiences and stakeholders.
- Critical issues for the water system (such as risk, safety, quality, infrastructure).
- Points of integration for operations and communication SOPs.
- Communication objectives (information, preparedness, etc.).
- Strategies to accomplish objectives.
- Actions required to carry out the strategies.

See **Information for Communication Planning** for more information.

Effective Risk Communication

Drinking water advisories are a form of risk communication.
The protocols for issuing an advisory must effectively describe:

- When to distribute an advisory (and when not to).
- What information to provide.
- Who is(are) the specific audience(s) for that event (including susceptible populations).
- How to recognize and communicate the conclusion of the event.
- Where to distribute messages.
- What actions must be taken.
- Why these actions must be taken.
- For more information on effective risk communication, see **Appendix B: Online Resources, Risk Communication**.

Where to Find Help

*If your water system does not have a strategic communication plan, see **Appendix B: Online Resources, Risk Communication** for more information that may be helpful in developing one.*

Plan for Media Activities

Successful advisories rely on multiple types of communication. Door hangers, websites, automated messages, and other methods of communication must be combined for an effective drinking water advisory. The media is a primary channel for public notification and is critical to issuing an advisory.

Planning for media activities can improve implementation of the advisory. Scope, scale, and severity determine the level of media involvement— the larger the event, the larger the media effort. Factors to consider include:

- **Timing:** Consider the operations of your local media. Many media outlets are not able to respond on weekends or after hours. Contact local media outlets to understand their staffing, hours, or other limitations. Plan appropriately for media outlets and communication channels. For example, if an advisory is issued during business hours or commuting times, radio reaches homes, offices, and cars.
- **Audiences:** If an advisory covers a wide area, use a media release to multiple outlets. Smaller areas may call for use of specific media channels as well as other methods of communication. Audiences with special needs, such as a large population of people who speak little or no English, are part of the decisions about media, including ethnic media. See the **Communicating with Susceptible Populations Worksheet** and **Appendix B: Online Resources, Risk Communication**.
- **Channels**: Identify the media outlets that cover specific areas of the water system service area and the region. In rural areas, television news may come out of a large urban area far away. Partners and their communication networks will have additional information about communication channels. Identify criteria on which to prioritize media outlets based on the scope, scale, and severity of the situation. For example, if an advisory is issued during working hours, radio, e-mails, and news websites may be the most immediate and viable outlets to use to distribute the message to the working public.
- **Media Messages:** Use the **Message Mapping Template** and **Sample Message Map** or the **Single Overriding Communication Objectives (SOCO) Worksheet** to prepare press releases and statement templates specific to the water system and different scenarios. These materials can be generalized

Tip

Ask media outlets about their timing. How long will it take them to post information on websites and announce on television? Also ask how they would they use maps and graphics to show the advisory area.

Small System Note

If a press list or wire service is not available, work with partners and local government to set up access for communicating advisories to the media.

and put into electronic or paper formats. Insert the prepared materials into Emergency response plans (ERPs) and protocols.

- **Approval:** Note the procedures on how media materials will be reviewed and who will approve them. Work with partners in the communication network and understand their approval process.
- **Other Information:** Include external sources of additional information in media materials. Contact names and numbers for primacy agencies and local public health departments are good sources for reporters. Links to primacy agencies and health departments can be added to media websites to help answer customer questions. Work with partners to identify additional information sources. See **Appendix B: Online Resources, Risk Communication**.

Designate and Train Spokespersons

The spokesperson's role is to communicate directly with media through briefings and interviews and to interact with the public. Designate a primary and backup spokesperson during planning activities. The spokesperson may be the water system's Public Information Officer (PIO), a manager assigned to communication, or someone within the communication network, such as a local public health department representative. The spokesperson is someone in authority who is honest, credible, competent, accessible, and sensitive to public concerns. Use the **Spokesperson Assessment Tool**.

The spokesperson must be ready to interpret scientific and technical information into clear language and must understand the water system's operations. Professional training in media management, effective listening, and handling sensitive situations is helpful in preparing a spokesperson to be ready to meet the media and the public at any time.

Integrate Communication into Emergency Response and SOPs

SOPs must be clear and allow users to take actions based on the information they will have at the time. SOPs should establish clear chains of command and communication so that authorized personnel can make situation-specific decisions. SOPs may include:

- **Purpose:** Objective of the SOP (e.g., delineation of authority, roles, and procedures).
- **Scope:** People and authorities involved, and responsibilities they have.

Notes

- **Communication Structure:** Organizational chart that demonstrates levels of command and communication linkages.
- **Protocols:** Procedures for action within the SOP's purpose.
- **Training:** Requirement(s) and schedule.
- **Exercising:** Procedures and schedule.
- **Oversight/Update:** Person(s) responsible for assuring compliance with and maintenance of SOP.

Customer Call Center

Call centers and customer service (CS) staff are on the front lines during an advisory. Call centers must have the resources to respond to customers above and beyond normal operations and hours. Information provided through the call center must be accurate, timely, and consistent.

The actions described below apply to local government call lines such as 411, community lines such as 211, or other agencies that may respond to an advisory.

- **Briefings:** Meet with call center and CS staff before issuing the advisory and provide essential information on the scope, scale, and severity of the advisory.
- **Scripts:** Provide scripts to call center and CS staff developed with essential information and frequently asked questions (FAQs).
- **Updates:** Meet with call center and CS staff to check for adequate staffing and customer concerns. Add and revise information in scripts as needed.
- **Resources:** The call center will need enough phone lines and staff for the scope and scale of the advisory. Staff will need current information and referral contacts.
- **Debriefing:** Include call center and CS staff in the advisory debriefing to identify communication activities and resources.

Tip

Fill out Toolbox templates before an advisory and incorporate and regularly review and update them in your communication, ERP, and operations SOPs.

Considerations for Call Centers and Customer Service

Address potential call center issues in advisory protocols. Considerations include:

- *Are there enough phone lines?*
- *Are other phone lines available if they are needed?*
- *Are off-site phone lines or call centers available?*
- *Is there a backup plan if, during an emergency response phone lines are not available or power is out?*
- *Are there enough people to staff the call center 24/7, if needed?*

Collaborating with Partners

Identify Partners

Partners are simply any organization or agency that can help you plan, develop, and distribute messages. Having a network of agencies and organizations can help advisories to be more effective and timely.
To identify partners, start with public agencies, especially those focused on local public health. Agencies and organizations to consider include the following:

- Drinking water primacy agency.
- Local and state public health departments.
- Consecutive, wholesale, and neighboring water systems.
- Critical and priority customers, including hospitals and businesses.
- Emergency management, public works, public safety, social services, and other government agencies.
- Community organizations.

See the **Critical Customer Checklist** for more information.

Table 1 provides examples of partner organizations and agencies.

Key Questions for Collaboration with Partners

- *Who needs to know?*
- *Who is responsible for coordinating communication?*
- *Who makes decisions related to advisories?*
- *Who needs specific types of information, including technical information?*
- *What are the procedures to inform public officials?*
- *What are partners' capacities for outreach?*

Table 1: Examples of Target Agencies and Organizations for Drinking Water Advisory Communications and Potential Agencies for Assisting with This Communication

Communication Target	Examples	Potential Agency for Communicating with Target Group
Businesses	Business community, including hotels	**Local:** Economic development coordinator, chamber of commerce
Childcare	Licensed childcare providers	**Local:** Local public health department and childcare facilities
		State: Health and welfare (e.g., human services, social services, etc.)
Correction facilities	Local or regional jail	**Local:** Sheriff's office, chief of police
		State: Department of corrections
Food facilities	Restaurants, grocery stores, catering services, event venues (e.g., fairs, sports facilities), bakeries, canneries, dairies, food production facilities, ice manufacturers, meat processing facilities, etc.	**Local:** Local public health department
		State: Health department, agriculture and consumer services
Health care facilities	Hospitals, clinics, emergency care facilities, nursing homes, physician offices, pharmacies, dialysis centers	**Local:** Local public health department
Schools	Public schools, private schools	**Local:** School superintendent, local public health department

Public Health: A Key Partner

Public health departments at the local, regional, and/or state levels work with susceptible populations and critical customers such as:

- Hospitals and medical facilities.
- Health care providers (HCPs), physicians, pharmacists, home health nurses.
- People who are elderly, low income, and homebound.
- Schools and childcare providers.
- Pregnant women and parents of young children.
- Food establishments.

Include public health departments in planning and discussions about advisories. Since in many cases they license these establishments, they can help with notifying these groups and developing specific messages. This allows water systems to focus on their core responsibilities. Local public health can assist with outreach through contact lists, websites, and newsletters.

See **Communicating with Susceptible Populations Worksheet**.

Planning before an advisory is crucial to understanding the capacity of local public health departments to participate in a communication network. Formalized agreements, such as a memorandum of understanding (MOU), will clearly define capacity and responsibilities for both the health department and the water system.

Public health codes may have different requirements for the various types of establishments that prepare or process food, such as restaurants, community kitchens, grocery stores, and cafeterias. Knowing these codes will help water systems work with critical customers in this area.

For more information about public health and outreach, refer to the guidance for the Lead and Copper Rule (LCR). See **Appendix B: Online Resources, Safe Drinking Water Act**.

Public Health Capacity

Capacity is the ability to respond to a situation with resources such as staff, materials, and expertise. Local, regional, and state public health departments vary greatly in their ability to support activities around drinking water advisories.

Public Health and Critical Customers

Local public health departments often license food establishments and childcare facilities. They are good resources for contact information.

Record Contact Information

Collect and record the contact information of each partner in a list or database. Include name, phone numbers, postal and e-mail addresses, after-hours contact information, and social media information. (The **Information for Communication Planning** and **Point of Contact Template** will help with this activity.) Be sure to verify and update all contact information on a regularly scheduled basis.

Develop a Communication Network

Water systems are responsible for issuing advisories. Timely, effective, and extensive outreach simply cannot be done by one entity. Water systems must work collaboratively with public health and other partners to get the job done effectively.

Some communities have an established communication network, usually coordinated around emergency management. If there is a communication network in your community, learn how to become a part of it. If there is no such network, develop one.

Collaborations for Reaching Susceptible Populations

A key element of effective communication planning is to consider populations that can be defined as a group with common characteristics that make them a susceptible population. For a drinking water advisory, water systems and public health agencies need to communicate with three specific susceptible populations:

1. Persons with communication needs, including low literacy levels, limited English proficiency, cognitive disabilities, and hearing or vision impairments.

2. Persons with medical needs that make them sensitive to water quality issues, such as babies, young children, pregnant women, and people who are immunocompromised, elderly, or on dialysis.

3. Persons with low income or who may lack the resources to act on information in a drinking water advisory or the awareness of a possible threat to their health and their family's well-being.

For more information, see the **Communicating with Susceptible Populations Worksheet**.

Did you know?

Public health departments often use faxes as the standard way to quickly notify hospitals, doctor's offices, and other health facilities. Consult with your local health department about using this method during an advisory.

Tip

Copy and laminate the contact list or database. Keep one copy for work and one for the field and update them regularly

Tip

Include smartphone PINs with contact information to permit direct communication if e-mail systems are down.

Communication Network

Advance collaboration, communication, and cooperation with other public agencies and private organizations before an actual event provides the opportunity to:

- Determine existing resources.
- Distribute advisories quickly and effectively.
- Develop protocols to assure coordinated, consistent messaging during an advisory.
- Share the communication tasks amongst partners.

Figure 3 shows how creating a local network can extend an agency's outreach capacity.

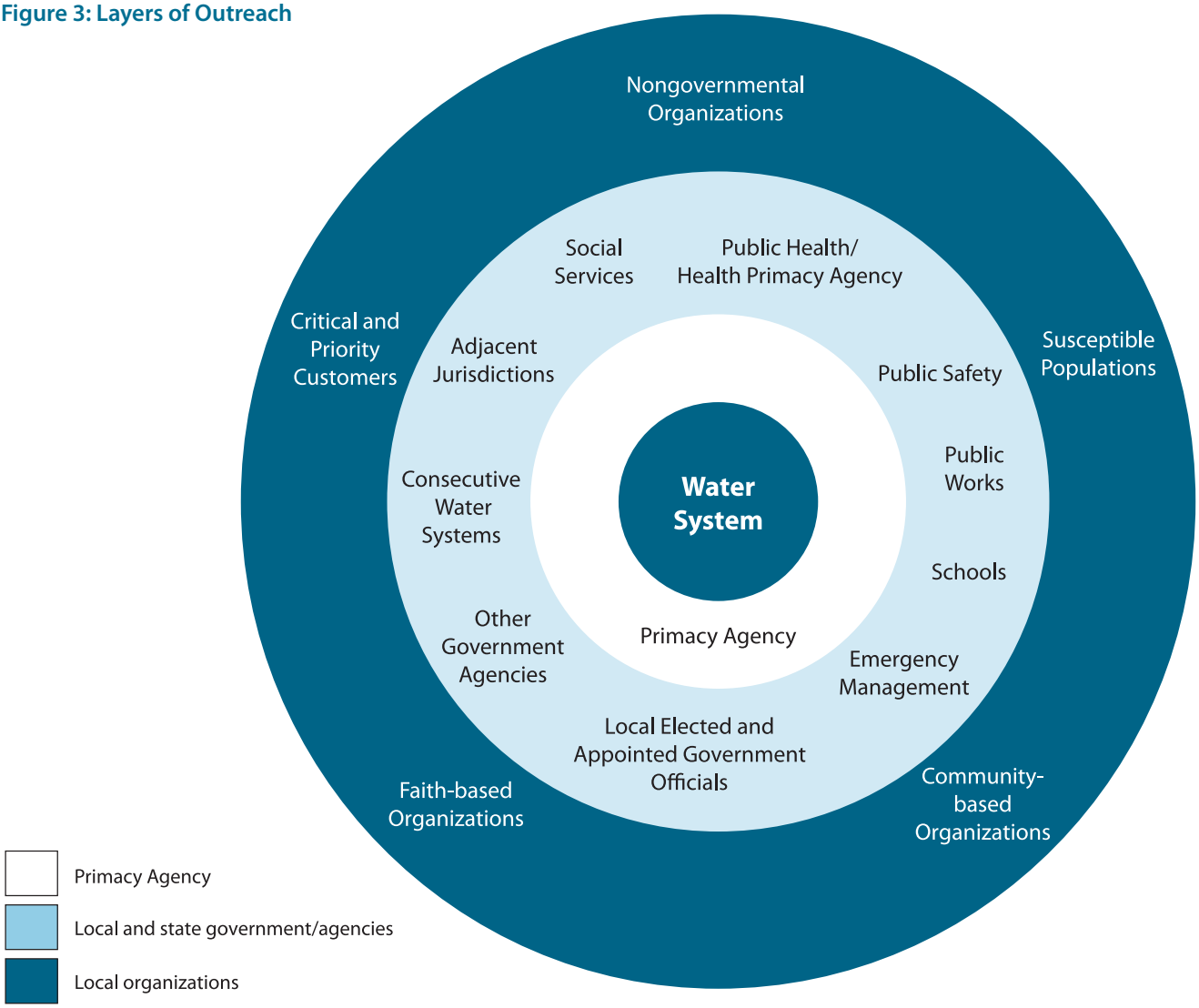
What is a Network?

Network refers to the ways organizations work together to address problems they cannot solve on their own.

Tip

Local and state agencies can help facilitate outreach to community organizations and susceptible populations.

Figure 3: Layers of Outreach



Meet and Discuss Protocols and Resources

Schedule a meeting with partners to discuss how collaboration can improve drinking water advisory communication. Determine where and when you will meet and for how long. Set a brief agenda that includes communication protocols within the network and resources (translation services, other contact information, websites) that are available for message distribution.

Plan and Conduct Regular Communication

Keep partners engaged through regular communication within the network. Send copies of meeting notes. At least four times a year, send e-mails or make phone calls to ask partners about:

- Additional information they may want to know;
- Their suggestions for activities, such as participating in an exercise; or
- Other organizations that can be invited into the network.

Plan meetings to address other issues that network members may have in common.

Notes

Developing a Message

Collaborate with Your Communication Network

Drinking water advisories are issued in response to a specific event or situation. Communication materials can be prepared in advance by collaborating with your partners.

Message Development

Tools and templates that can help guide pre-event message development include:

- Worksheets:
  - » Single Overriding Communication Objective (SOCO) Worksheet,
  - » Communicating with Susceptible Populations Worksheet, and
  - » Message Mapping Template and Sample Message Map.
- FAQs and fact sheets:
  - » Advisory Advice
  - » Quick Reference Facts
  - » Comprehensive List: Q&As About Boil Water Advisories
  - » Fact Sheet About What to Do During a Boil Water Advisory (English)
  - » Fact Sheet About What to Do During a Boil Water Advisory (Spanish)
  - » Frequently Asked Questions About Coliforms and Drinking Water
  - » Frequently Asked Questions About Groundwater Rule Advisories
  - » Frequently Asked Questions About What to Do After an Advisory (English)
  - » Frequently Asked Questions About What to Do After an Advisory (Spanish)
  - » Point of Contact for Coordination During an Advisory

The information for the advisory can be captured in the Water System Information Worksheet. The Essential Information list outlines the questions and information that a drinking water advisory must address.

What's a Message?

Information a specific audience MOST needs or wants to know.

Essential Information

- ☐ *Who you are*
- ☐ *What action customers should take*
- ☐ *What event occurred and description of problem*
- ☐ *Where it occurred*
- ☐ *When it occurred*
- ☐ *The expected duration*
- ☐ *Why it happened*
- ☐ *Who is affected*
- ☐ *Basic information on the water system*
- ☐ *Current actions*
- ☐ *Requested agency responses*
- ☐ *Required public notice when appropriate*
- ☐ *Where to get more information*

Health Literacy

Health literacy is the ability to receive, understand, and act on basic health information needed to make good decisions. Nine out of 10 people in the United States have limited health literacy—regardless of education levels. Since advisories require customers to understand a message and take action, health literacy is an important factor for messages and materials.

A first step to ensuring that your advisory can be easily understood by most audiences is to check the readability and grade level of the advisory content. For a general audience, the grade level should be between 5th and 8th grades. Word-processing programs can provide information about a document's readability. If you are not sure how to check for readability, go to the "Help" section on your word-processing program and search for the term "readability."

For more information on health literacy guidelines, see **Appendix B: Online Resources, Health Literacy**.

Translate and Format Messages

Advisories need to be translated to reach many customers. Consult with local government to identify the main languages in the service area. Public health departments are a very good resource. Many states and local governments have programs and resources specifically for translation, including sign language and Braille.

Other strategies include partnering with community-based organizations or contracting with a translation service. The **EPA Public Notification Handbook** and **Consumer Confidence Report** guidance have key phrases translated. The **Washington Department of Health** has advisory content translated into several languages.

Community organizations provide a direct, trusted link to diverse populations. Incorporate their skills and outreach strategies into advance planning for preparing and distributing advisories. Many community organizations have language and sign language translation services. Use these or professional translation services. Avoid using online dictionaries or other computer software to translate messages.

Community organizations can also format messages in forms that are accessible to people who are blind or have low vision, who need pictures or images to understand the message, or who need text or Video Relay Services (video phone) messages.

Writing Messages

Provide the public with a clear concise advisory by:

- *Limiting messages*
- *Using simple, clear language*
- *Providing supporting information*
- *Maintaining consistent messages*

What is Readability?

Readability is a general scale that measures comprehension, or how understandable the text is in a document.

Conducting Exercises

National Incident Management System (NIMS)

Current federal policy requires state and local governments, including water systems, to follow the National Incident Management System (NIMS). NIMS training includes information about Incident Command System (ICS) operations and communication protocols and procedures. ICS provides an organizational structure for sharing information among involved agencies and distributing information to the public.

For more information about NIMS in the Water Sector and ICS in the Water Section, see **Appendix B: Online Resources, National Incident Management System (NIMS)**.

Plan Exercises

Preparation for a drinking water advisory entails the consideration of a range of situations relevant to the water system and its community so that:

- Pertinent information is compiled and evaluated to support sound decisions.
- Credibility with customers is maintained through coordination with state and local agencies.
- Public outreach is effective.

The Homeland Security Exercise and Evaluation Program (HSEEP) provides a standardized methodology and terminology for exercise design implementation and evaluation. For more information, see **Appendix B: Online Resources, Exercise Planning and Preparedness**.

It is not possible to plan for every contingency. Water systems, public health, emergency management, and other public agencies can select a set of situations in which they can define roles and responsibilities, appropriate outreach strategies, and SOPs. For a list of possible scenarios, see **Appendix B: Online Resources, Exercise Planning and Preparedness**.

Notes

Conduct Exercises

A communication network for issuing drinking water advisories must be tested in advance to determine if it works and where gaps in outreach remain. Testing the network can prevent illness and even save lives during a real drinking water advisory event. Exercises are one way to test the network.

- Seminars, workshops, tabletop exercises, games, drills, functional exercises, and full-scale exercises are terms for various types of practice sessions based on a scenario. A scenario could include developing messages and testing the dissemination of an advisory.
- Larger events can include other agencies and can evaluate collaboration.
- Exercises can be scaled to the size of an advisory and to community needs.

Exercise Plan

Numerous resources and opportunities exist for exercises. While most of these resources are associated with preparedness and security, they can be used for the full range of advisories. All-hazards planning can incorporate advisory scenarios. After action reports, comments, and observations are used to revise communication and operations protocols.

Exercise Basics

Exercises come in many sizes and creating them can seem complex. Water systems have multiple opportunities for exercises. Both small exercises limited to the water system or water sector and drills and exercises at the community and state level are important in community planning. These exercises help water systems connect with public health, emergency management, and other sectors to build relationships and networks in preparation for advisories.

Exercise resources in this Toolbox give the basic tools for water systems to create and conduct their own drinking water advisory exercises. These exercises can be scaled for water system staff and other partners, such as public health. See **Appendix B: Online Resources, Exercise Planning and Preparedness**.

- **Design a scenario:** Scenarios can be based on an actual advisory or can test a new protocol. The scenario should unfold in stages; participants act on one decision point or action before moving to the next.

Did You Know?

Exercises can be for one water system or multiple systems and partners.

Tip

*Use the exercise tools in Section 1 Tools and Templates, the Debriefing Ground Rules and Modifying SOPs in Section 3, or the **Debrief Discussion Guide** for small-scale exercises.*

- **Organizing the exercise:** In-house exercises should be part of staff training or water quality meetings. Planning committees for water system or multiple agency exercises can assist in organizing exercises. See **Exercise Planning Template**.
- **Conducting the exercise:** The exercise should be facilitated. Collect the observations and comments of both the evaluators and the participants.

Debrief and Incorporate Changes in Protocol

Immediately after an exercise, debrief with participants to go over what went well and what needs to improve. Comments and results from the exercise and debrief are analyzed. Some debriefs plan next steps and how to move forward. Exercise evaluation results are used to identify opportunities to improve advisory communication. Use the information to update both contacts and protocols.

When Planning an Exercise:

- ☐ *Consider a range of events and scenarios.*
- ☐ *Evaluate the network under both normal and challenging operating conditions.*
- ☐ *Plan for issuing drinking water advisories during*
  - » *a power outage,*
  - » *different seasons, times of the day, and days of the week.*
- ☐ *Evaluate the exercise.*
- ☐ *Incorporate improvements.*

Tip

The following "After an Advisory" Tools can be used for debriefs and exercises: ***Corrective Action Tracking Form***, ***Standard Operating Procedure (SOP) Updates***, ***Follow-Up Memo***, *and* ***Debrief Evaluation***.

Section 1 Tools & Templates: Before an Advisory

- Information for Communication Planning
- Point of Contact for Notification of an Advisory
- Communicating with Susceptible Populations Worksheet
- Message Mapping Template
- Sample Message Map
- Single Overriding Communication Objective (SOCO) Worksheet
- Spokesperson Assessment Tool
- Critical Customer Checklist
- Point of Contact Template
- FAQs and Fact Sheets- Advisory Advice
- Quick Reference Facts
- Comprehensive List: Q&As About Boil Water Advisories
- Fact Sheet About What to Do During a Boil Water Advisory
- Fact Sheet About What to Do During a Boil Water Advisory (Spanish)
- Frequently Asked Questions About Coliforms and Drinking Water
- Frequently Asked Questions About Groundwater Rule Advisories
- Frequently Asked Questions About What to Do After a Drinking Water Advisory
- Frequently Asked Questions About What to Do After a Drinking Water Advisory (Spanish)
- Point of Contact for Coordination During an Advisory
- Water System Information Worksheet
- Exercise Planning Template

Information for Communication Planning

PURPOSE

This template helps guide the development of communication standard operating procedures (SOPs) for an advisory. Adapt this form for specific situations.

DIRECTIONS

Complete the information and include it in emergency response plans (ERPs) and standard operating procedures (SOPs). Give this form to partners and organizations in the advisory communication network and have a copy of the water system version. When each partner completes the form, compile them into one SOP and schedule regular updates.

PARTNER NAME _____

Point of Contact for Communication Planning

Name: _____

Title: _____

Office Phone: _____ **E-mail:** _____

Communication Plan Update Procedures

Exercise Procedures and Schedule

Point of Contact for Notification of an Advisory

Primary Contact: _____

Title: _____

Office Phone: _____ **Cell Phone:** _____

24/7 Contact: _____ **E-mail:** _____

Smartphone PIN number: _____

1st Alternate Contact: _____

Title: _____

Office Phone: _____ **Cell Phone:** _____

24/7 Contact: _____ **E-mail:** _____

Smartphone PIN number: _____

2nd Alternate Contact: _____

Title: _____

Office Phone: _____ **Cell Phone:** _____

24/7 Contact: _____ **E-mail:** _____

Smartphone PIN number: _____

Standard Notification Procedures

Special Notification Procedures (e.g., Outbreak, Do Not Use)

Actions After Notification

Partner and Network Information Distribution

Communicating with Susceptible Populations Worksheet

PURPOSE

Advisories and risk communication plans must consider the needs of specific populations who may be sensitive to water quality issues or who have communication barriers, such as limited English proficiency or limited vision.

The advisory network is critical for reaching these populations. Regulations and public expectations for outreach require collaboration with public health departments, other local agencies, including schools, and community organizations.

DIRECTIONS

Use the contact list or database to identify, list, and note contacts for public health, local government agencies, and community organizations to help with outreach to susceptible populations.

- *Complete this form with public health, local agencies, and community partners.*
- *Include responsibilities and a time frame for developing materials and taking actions. Review the Lead and Copper Rule (LCR) Guidance (see* **Appendix B: Online Resources, Susceptible Populations**).
- *Include completed lists in emergency response plans (ERPs) and standard operating procedures (SOPs).*
- *Adapt them to reflect specific needs in a community. Some strategies may work for several populations. Include a schedule for updates. Add identified facilities to the water system's critical customer list.*

Low Literacy

- ☐ Encourage television news stations to announce advisory and contact phone numbers in addition to posting them on screen. Follow up with press releases.
- ☐ Use radio to distribute information. Radio is a key information source.
- ☐ Identify and coordinate with local organizations that serve low literacy populations and can help disseminate drinking water advisories in appropriate formats.
- ☐ List resources, specific messages, and materials needed to communicate with this population group

_____

_____

_____

_____

Communicating with Susceptible Populations Worksheet, continued

Limited English Proficiency

- ☐ Identify languages widely spoken in the area. See **www.mla.org/map** or **www.census.gov**.
- ☐ Determine local government and agency translation services and providers.
- ☐ Consider contracting for professional translation services.
- ☐ Work with public health, local government, and schools to identify, coordinate, and contract with skilled translators in the community.
- ☐ Use ethnic media outlets.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

Blind or Visually Impaired

- ☐ Work with social services and local government to identify organizations and communication options that serve people who are blind or visually impaired. Consider how a boil water advisory could be tailored for this audience.
- ☐ Use radio to distribute information. Radio is a key information source.
- ☐ Encourage television stations to announce advisories and contact numbers.
- ☐ Identify formats and tools to make written materials and web pages accessible for this audience.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

Communicating with Susceptible Populations Worksheet, continued

Deaf or Hard of Hearing

- ☐ Coordinate with local government, schools, and other agencies on policies for interpretation and resources.
- ☐ Encourage television news stations to broadcast all drinking water advisory information in open caption format and in their on screen scrolls.
- ☐ Identify, coordinate, and contract with a sign language interpreter for news conferences in public forums and other events.
- ☐ Use automated messages in text and e-mail formats. They are a good method of distribution for this audience.
- ☐ Check with water system and local government on capacity to handle calls through Video Relay Service.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

Older Adults and Frail Elderly

- ☐ Work with public health, local government agencies, and community organizations to identify nursing homes, agencies, and organizations that assist older adults to help disseminate drinking water advisory information.
- ☐ Design messages with a clear alternative to boiling water. Boiling water may not be an option for this population.
- ☐ Identify resources, such as home health care, to help older adults and the elderly with support services during an emergency.
- ☐ Add meal delivery services, such as Meals on Wheels, to critical customer lists.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

Communicating with Susceptible Populations Worksheet, continued

Children

- ☐ Identify and coordinate with local health departments, school districts, pediatrician offices and clinics, and other agencies to disseminate drinking water advisory information.
- ☐ Target materials and messages to parents and teachers. Visual cues, such as posters or covering water fountains, will assist this group.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

Pregnant Women

- ☐ Identify and coordinate with local health departments, health clinics, hospitals, other health care facilities, obstetrician offices, and schools to disseminate drinking water advisory information relevant to pregnant women.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

Physically and Mentally Impaired

- ☐ Work with public health and local government agencies to identify community organizations, such as independent living facilities and home health care, that assist people with physical and mental impairments to help disseminate drinking water advisories.
- ☐ Consider targeting both care providers and individuals.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

Communicating with Susceptible Populations Worksheet, continued

Homeless

- ☐ Identify locations where drinking water advisories can be posted (e.g., libraries, shelters, soup kitchens).
- ☐ Add homeless shelters and meal centers/food banks to critical customer lists.
- ☐ Design messages with a clear alternative to boiling water. Boiling water may not be an option for this population.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

People with Compromised Immune Systems

- ☐ Work with the local public health department to identify and coordinate with medical facilities, health care providers and organizations that serve people with compromised immune systems to disseminate drinking water advisories.
- ☐ Design messages with a clear alternative to boiling water. Boiling water may not be an option for this population.
- ☐ List resources, specific messages, and materials needed to communicate with this population group.

_____

_____

_____

_____

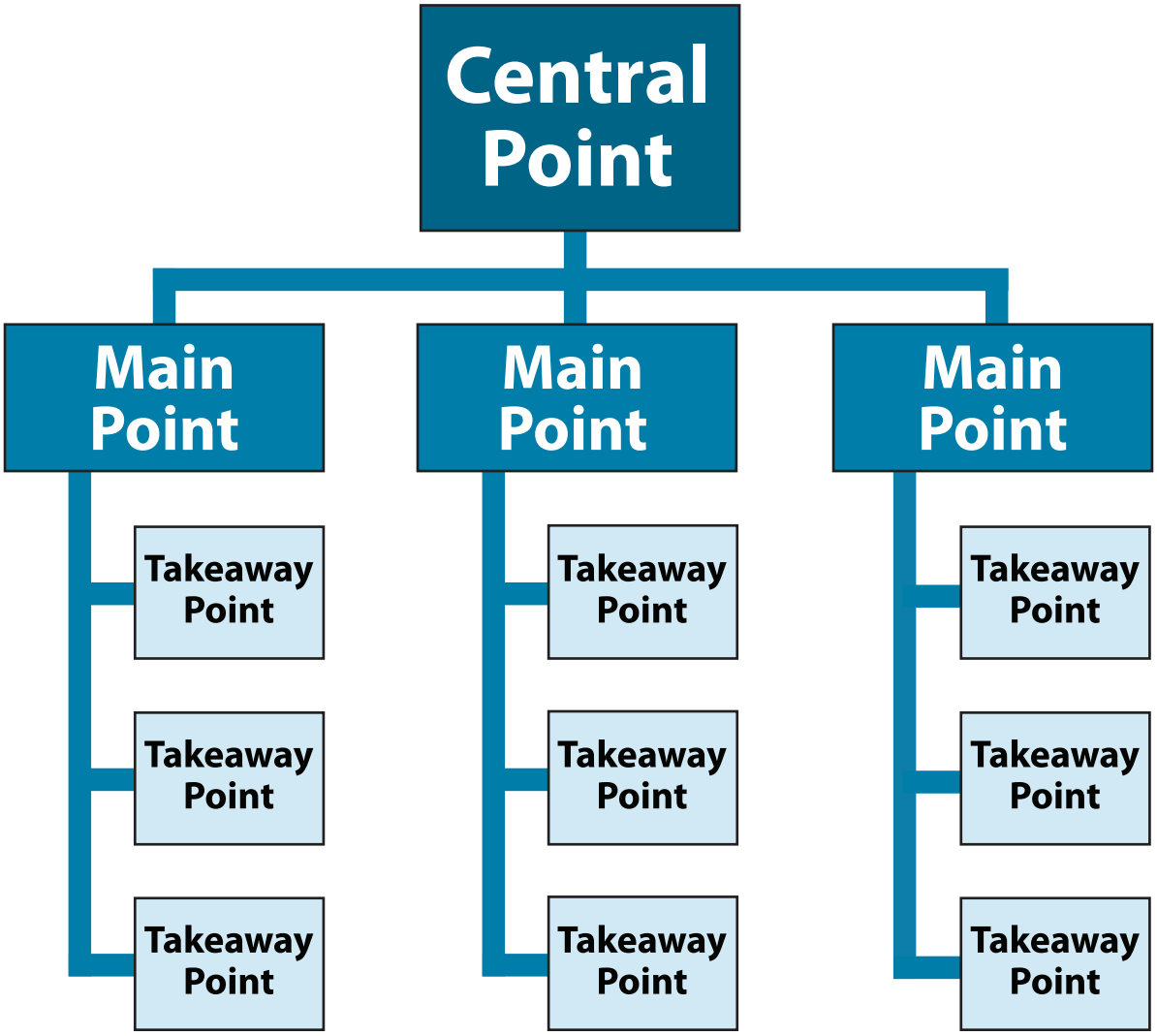
Message Mapping Template

PURPOSE

A message map is one tool to help identify messages and key information. Use this map for planning and complete with communication network partners. Adapt as necessary.

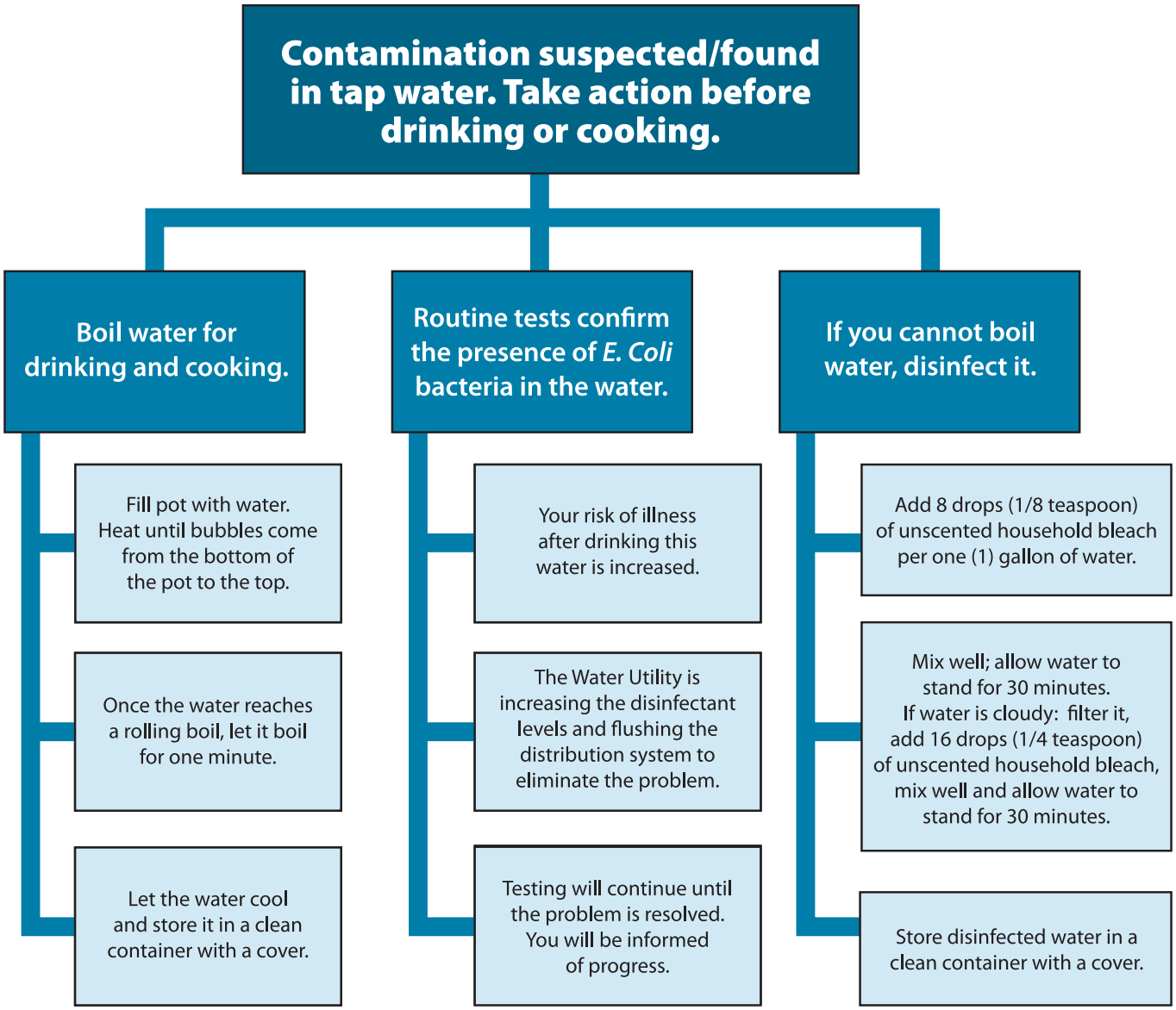
DIRECTIONS

Think about the specific actions people will need to take and information they will need to know during an advisory. Fill in each section of the map. Create maps for specific situations and audiences. Use the results to develop advisory materials and communication.



Sample Message Map

This is an example of a completed Boil Water Advisory message map.



Single Overriding Communication Objective (SOCO) Worksheet

PURPOSE

Advisories need a clear, consistent message. The SOCO (Single Overriding Communication Objective) Worksheet is a tool to create a specific message. Use the message developed in the SOCO Worksheet for all communication with the public and partners, including briefings and press releases. The point of contact information identifies the communication contact for the advisory. The SOCO approach applies to any water system communication.

DIRECTIONS

Work with water system staff and partners to complete the SOCO Worksheet. Use the best available information. First, think about the reason for the advisory and the actions needed. Next, answer each question. Use the results to develop all communication. As the situation changes, use this worksheet to update the message.

Key Message: Provides Meaning and Context

In one brief paragraph, state the key point or objective you want to communicate.

_____

_____

_____

_____

Key Facts

What are the three most important facts you need an individual to understand about the Drinking Water Advisory?

_____

_____

_____

_____

Target Audience

Who is the main audience or population segment you would like this message to reach?
Who is the secondary audience?

Primary Audience: _____

Secondary Audience: _____

Tertiary Audience: _____

Single Overriding Communication Objective (SOCO) Worksheet, cont'd

Communication Objective:

What is the one message or action someone needs to understand?

_____

_____

_____

_____

Primary Contact

Who in your office/organization is the primary point of contact?

Name: _____

Phone: _____

Date and time available: _____

For more information on SOCO, See **Appendix B: Online Resources, Risk Communication**.

Spokesperson Assessment Tool

PURPOSE

This checklist is a guide to identifying a spokesperson for planning protocols or during advisories.

DIRECTIONS

Complete this form for each candidate.

Spokesperson Assessment	
Candidate:	
QUALIFICATIONS	**MEETS**
Level 1	
Authority to speak for the water system or other agency	
Credible with the media and public	
Adaptable and a quick study	
Knowledgeable about event, effects, and actions	
Level 2	
Communicates technical information in terms the media can understand	
Flexible while staying on message during media questions	
Handles pressure well	
Level 3	
Media or communication training/experience	
Responsive to difficult or sensitive questions	
Accepts constructive advice	
Knows when to speak and when to defer to another	
Reflects the tone appropriate for audience and event	
Other Factors to be Considered	
Expertise related to event	
Understands severity of the crisis	
Work with media would not conflict with management responsibilities	

Critical Customer Checklist

PURPOSE

This sample checklist reflects customers that should receive priority notification by phone, fax, e-mail, or Short Message Service (SMS) during a drinking water advisory, in addition to any other customer notification systems. This list can also serve as a basis for identifying partners to participate in the communication network.

DIRECTIONS

- ☐ *Use this checklist to review current standard operating procedures (SOPs) and critical customer information in the customer service database.*
- ☐ *Identify these facilities in the community and incorporate the information into SOPs.*
- ☐ *Work with partners to prioritize lists in individual service areas. The health department may already have lists and contacts.*
- ☐ *Work with partners and assign contact responsibilities.*

Tier 1 Critical Customers

- ☐ Food processing facilities
- ☐ Health care facilities such as hospitals, clinics, dialysis centers, and other medical facilities
- ☐ Jails
- ☐ Nursing homes
- ☐ Schools
- ☐ Special needs customers [some water systems have options for special needs customers to self-identify to receive priority alerts]

Tier 2 Critical Customers

- ☐ Airports
- ☐ Arenas, stadiums, and other large venues
- ☐ Colleges and universities
- ☐ High-volume customers
- ☐ Hotels
- ☐ Ice production

This list balances customers in the community with critical needs and a water system's ability to maintain correct records and make timely notification when an advisory occurs. Key information fields for critical customers include the following:

1. Facility/business name
2. Primary point of contact (e.g. CEO, Environmental Health Officer, etc.)
3. Contact e-mail
4. Contact phone
5. Contact cell phone
6. Secondary point of contact
7. Secondary contact e-mail
8. Secondary contact phone
9. Secondary contact cell phone
10. Physical location of structures of concern

Point of Contact Template

PURPOSE

This is a template to organize partner and network contacts for an advisory.

DIRECTIONS

Complete the information for water system and network partners. Distribute completed information to all. Embed a schedule to update information regularly. Adapt this template to reflect each water system's partners and communication network. Add smartphone personal identification number (PIN) if available.

Organization	Order	Name	Title	Office Phone (Including Ext.)	Cell Phone	24/7 Phone	E-mail	Address	Smart-phone PIN
	Primary								
	1st Alternate								
	2nd Alternate								
	Primary								
	1st Alternate								
	2nd Alternate								
	Primary								
	1st Alternate								
	2nd Alternate								
	Primary								
	1st Alternate								
	2nd Alternate								
	Primary								
	1st Alternate								
	2nd Alternate								
	Primary								
	1st Alternate								
	2nd Alternate								

FAQs and Fact Sheets – Advisory Advice

PURPOSE

These fact sheets answer common customer questions for boil water advisories. The information on pages 52–57 was developed from Centers for Disease Control and Prevention (CDC), water system, and primacy agency material, such as fact sheets and guidance. The content was updated and adapted to help water systems provide customers with clear and concise information and actions.

Water systems are encouraged to use this information to create their own communication materials. Use the fact sheets in conjunction with the **Comprehensive List: Q&As About Boil Water Advisories** *on pages 52–57. Select specific questions for each advisory situation.*

This information is for Tier 1 Public Notices. For a waterborne disease outbreak, consult with local and state public health to adapt the information.

DIRECTIONS

- *Brackets [ ] indicate places to insert specific information, such as the water system name, health department information or contaminant.*
- *Limit fact sheets for customers to one page front and back.*
- *Spanish versions are available for selected FAQs on pages 61–63 and 70–71.*
- *Refer to the fact sheets on pages 51–76 for additional topics.*

Uses include:

- *Briefing materials for public health department, other partners*
- *Media kits and updates*
- *Customer fact sheets*
- *websites and widgets*

Quick Reference Facts

PURPOSE:

This is an easy-to-use, quick reference tool for customers.

DIRECTIONS:

Use this information in fact sheets and on websites; adapt as necessary to suit the type of advisory and primacy agency guidance. Be sure to provide links to additional information or guidance.

Quick Tips for Boil Water Advisories

Use Tap Water for:	Use Boiled Water for:	Use Caution:
• *Washing clothes (unless cloudy)* • *Taking showers (for adults and older children)* • *Flushing toilets*	• *Drinking* • *Washing fruits and vegetables* • *Preparing food* • *Making ice* • *Mixing infant formula* • *Brushing teeth* • *Giving water to pets*	• *Most filters do not remove bacteria or viruses* • *Coffee makers, vending machines, and soda dispensers with a line to the water supply* • *Bathing infants/toddlers (give sponge bath; use cooled, boiled water)*

Comprehensive List: Q&As About Boil Water Advisories

PURPOSE

This list includes questions most often asked during boil water advisories. This information was developed from Centers for Disease Control and Prevention (CDC), water system, and primacy agency material. The content was adapted to help water systems provide customers with clear and concise information and actions.

Water systems are encouraged to use this information as a guide to help create their own fact sheets and other communication materials. Recommendations may vary depending on the circumstances and severity of water contamination. Select specific questions for each advisory situation.

This information is for Tier 1 Public Notices. For a waterborne disease outbreak, consult with local and state public health to adapt the information.

DIRECTIONS

- *Brackets [ ] indicate places to insert specific information, such as the water system name, health department information, or contaminant.*
- *Limit fact sheets for customers to one page front and back.*
- *Refer to the fact sheets contained in the "Tools and Templates" section of this toolbox for additional topics.*

Use the Q&A to develop scripts or fact sheets for water system staff, especially customer service and field crews. Uses include

- Briefing materials for local public health department, other partners.
- Media kits and updates.
- Customer fact sheets.
- websites and widgets.

Boiling Water

How do I boil my water during an advisory?

- Fill a pot with water.
- Heat the water until bubbles come from the bottom of the pot to the top.
- Once the water reaches a rolling boil, let it boil for 1 minute.
- Turn off the heat source and let the water cool.
- Pour water into a clean container with a cover for storage

Comprehensive List: Q&As About Boil Water Advisories, continued

Why do I have to boil my water?

Your water [may be, is] contaminated by [bacteria]. Contamination may be due to equipment failure, leaking pipes in the system, or insufficient disinfectant in the water supply. The Boil Water Advisory gives you information so you can take action to protect your health.

I cannot boil my water. How do I disinfect my water to make it safe to drink?

If tap water is clear:

- Use bleach that does not have an added scent (like lemon).
- Add 1/8 teaspoon (8 drops or about 0.75 milliliters) of household liquid bleach to 1 gallon (16 cups) of water.
- Mix well and wait 30 minutes or more before drinking.
- Store disinfected water in a clean contain with a cover.

If tap water is cloudy:

- Filter through a clean cloth
- Use bleach that does not have an added scent (like lemon).
- Add 1/4 teaspoon (16 drops or 1.5 milliliters) of household liquid bleach to 1 gallon (16 cups) of water.
- Mix well and wait 30 minutes or more before drinking.
- Store disinfected water in a clean container with a cover.

Remember that containers may need to be sanitized before using them to store safe water:

- Use bleach that does not have an added scent (like lemon).
- Add 1 teaspoon (64 drops or 5 milliliters) of household liquid bleach to 1 quart (32 ounces, 4 cups, or about 1 liter) of water.
- Pour this into a clean storage container and shake well, making sure that the solution coats the entire inside of the container.
- Let sit at least 30 seconds, and then pour out solution.
- Let air dry OR rinse with clean water that has already been made safe, if available.

Never mix bleach with ammonia or other cleaners. Open windows and doors to get fresh air when you use bleach.

Comprehensive List: Q&As About Boil Water Advisories, continued

Should I use bottled water?

You may choose to use bottled water if it is available.

I don't like the taste of boiled water. What can I do?

To improve the taste you can:

- Pour cooled water back and forth from one clean glass into another to add air to the water.
- Let the water stand for a few hours.
- Add a pinch of salt to each quart of boiled water.

Food and Beverages

Can I use my coffee maker, ice machine, or water or soda dispenser?

Do not use water from any appliance connected to your water lines. This includes water and ice dispensers in your refrigerator/freezer.

- Use boiled or bottled water to make coffee and ice.
- Filters do not remove or kill bacteria or viruses.
- When the boil water advisory is lifted, consult the owner's manual and sanitize appliances.

What about ice?

- Do not use ice from ice trays, ice dispensers, or ice makers.
- Throw out all ice made with tap water.
- Make new ice with boiled or bottled water.

What should I do about preparing food and beverages? How should I wash fruit, vegetables, and food preparation surfaces?

- Wash fruits and vegetables with cooled, boiled water or bottled water.
- Bring water to a rolling boil for one minute before adding food to cook.
- Use boiled water when preparing drinks, such as coffee, tea, and lemonade.
- Wash food preparation surfaces with boiled water.

Comprehensive List: Q&As About Boil Water Advisories, continued

What should I do about feeding my baby?

Breastfeeding is best. Continue to breastfeed. If breastfeeding is not an option:

- Use ready-to-use formula, if possible.
- Prepare powdered or concentrated formula with bottled water. Use boiled water if you do not have bottled water. Disinfect water for formula if you cannot boil your water (see above for directions on how to use bleach to disinfect water).
- Wash and sterilize bottles and nipples before use.
- If you cannot sterilize bottles, try to use single-serve, ready-to-feed bottles.

How do I wash dishes during a Boil Water Advisory?

Dishwashers are safe to use if the water reaches a temperature of at least 160°F or if the dishwasher has a sanitizing cycle.

To wash dishes by hand:

- Wash and rinse the dishes as normal using hot water.
- In a separate basin, add 1 teaspoon of unscented household bleach for each gallon of warm water.
- Soak the rinsed dishes in the water for at least 1 minute.
- Let the dishes air dry completely.

Health

I already drank the water. Will I get sick?

Most people who drink this water will not get sick. If you do get sick, the symptoms are similar to food poisoning: nausea, diarrhea, cramps, and possibly a mild fever.

What should I do if I have symptoms?

The most important thing to do is avoid dehydration. Drink plenty of fluids and avoid drinks with caffeine, such as soda, coffee, and tea. If you are concerned about your health or the health of a family member, contact your health care provider or [local health department].

Comprehensive List: Q&As About Boil Water Advisories, continued

Household Information

Should I give my pets boiled water?

Pets can get some of the same diseases as people. It is a good idea to give them boiled water that has been cooled.

Do I need to worry about my fish or aquatic pets (e.g., reptiles, frogs)?

Most germs that infect people do not infect reptiles or fish. If your water system is using more chlorine or changing disinfection, be cautious about changing the water in your fish tank or aquarium. Contact your local pet store or veterinarian for more advice.

Is it safe to water my garden and house plants?

You can use tap water for household plants and gardens.

What [microbe, organisms, germs, bacteria] might be in the water?

Many types of microbes could be in the water. Water systems are concerned about bacteria (*E. coli*), viruses (norovirus), and parasites (*Cryptosporidium*).

Human illness from these microbes is usually caused by eating raw or undercooked food, recreational or other untreated water, or poor hand-washing. Diarrheal illness from these microbes is not usually life threatening, except in the elderly, the very young, or those with weak immune systems. If you are concerned, consult your health care provider or contact [local health department].

Hygiene

Can I use tap water to brush my teeth?

No. Do not use tap water to brush your teeth. Use boiled or bottled water.

Is it safe to take a shower or bath?

Yes, it is safe to take a bath or shower, but be careful not to swallow any water. Use caution when bathing infants and young children. Consider giving them a sponge bath to reduce the chance of them swallowing water.

What about shaving?

Yes, you can shave as usual.

Comprehensive List: Q&As About Boil Water Advisories, continued

What about doing laundry?

Yes, it is safe to do laundry as usual.

Where can I get more information?

- **Personal Water Use**: CDC provides guidance on the amount of water needed for good health, as well as its preparation and storage in preparation for and during an emergency.
- **Hygiene and Sanitation**: CDC provides guidance on alternative hygienic practices when water is not available or is contaminated.
- **A Guide to Water Filters**: CDC maintains a guide for filters that remove *Cryptosporidium* or *Giardia*.
- Safe Drinking Water Hotline: 1-800-426-4791
  - » **EPA Consumer Information Page**
- Water system: [name, title, phone, e-mail, website]
- State or local public health department: [name, title, phone, e-mail, website]
- Primacy Agency: [name, title, phone, e-mail, website]

Fact Sheet About What to Do During a Boil Water Advisory

Boiling water

To boil water

- Fill a pot with water.
- Heat the water until bubbles come from the bottom of the pot.
- Once the water reaches a rolling boil, let it boil for 1 minute.
- Turn off the heat source and let the water cool.
- Pour the water into a clean container with a cover for storage.

Disinfecting water

If you are unable to boil your water, disinfect it instead.

If tap water is clear:

- Use bleach that does not have an added scent (like lemon).
- Add 1/8 teaspoon (8 drops or about 0.75 milliliters) of household liquid bleach to 1 gallon (16 cups) of water.
- Mix well and wait 30 minutes or more before drinking.
- Store disinfected water in clean container with a cover.

If tap water is cloudy:

- Filter water using clean cloth.
- Use bleach that does not have an added scent (like lemon).
- Add 1/4 teaspoon (16 drops or 1.5 milliliters) of household liquid bleach to 1 gallon (16 cups) of water.
- Mix well and wait 30 minutes or more before drinking.
- Store disinfected water in clean container with a cover.

Remember that containers may need to be sanitized before using them to store safe water:

- Use bleach that does not have an added scent (like lemon).
- Add 1 teaspoon (64 drops or 5 milliliters) of household liquid bleach to 1 quart (32 ounces, 4 cups, or about 1 liter) of water.
- Pour this into a clean storage container and shake well, making sure that the solution coats the entire inside of the container.

Fact Sheet About What to Do During a Boil Water Advisory, continued

- Let sit at least 30 seconds, and then pour out solution.
- Let air dry OR rinse with clean water that has already been made safe, if available.

Never mix bleach with ammonia or other cleaners. Open windows and doors to get fresh air when you use bleach.

Water filters

Boil tap water even if it is filtered. Water filters ***do not*** remove bacteria or viruses.

Preparing and cooking food

- Use boiled water to wash all fruits and vegetables.
- Bring water to a rolling boil for 1 minute before adding food.
- Use boiled water when preparing drinks, such as coffee, tea, and lemonade

Feeding infants and using formula

- Breastfeeding is best. Continue to breastfeed. If breastfeeding is not an option:
- Use ready-to-use formula, if possible.
- Prepare powdered or concentrated formula with bottled water. Use boiled water if you do not have bottled water. Disinfect water for formula if you cannot boil your water (see above for directions on how to use bleach to disinfect water).
- Wash and sterilize bottles and nipples before use.
- If you cannot sterilize bottles, try to use single-serve, ready-to-feed bottles.

Ice

- Do not use ice from ice trays, ice dispensers, or ice makers.
- Throw out all ice made with tap water.
- Make new ice with boiled or bottled water.

Bathing and showering

Be careful not to swallow any water when bathing or showering.

Use caution when bathing infants and young children. Consider giving them a sponge bath to reduce the chance of them swallowing water.

Fact Sheet About What to Do During a Boil Water Advisory, continued

Brushing teeth

Brush teeth with boiled or bottled water.

Washing dishes

Dishwashers are safe to use if the water reaches a temperature of at least 160 degrees or if the dishwasher has a sanitizing cycle.

To wash dishes by hand:

- Wash and rinse the dishes as you normally would using hot water.
- In a separate basin, add 1 teaspoon of unscented household bleach for each gallon of warm water.
- Soak the rinsed dishes in the water for at least one minute.
- Let the dishes air dry completely.

Laundry

It is safe to do laundry using regular methods.

Pets

Pets can get some of the same diseases as people. It is a good idea to give them boiled water.

For more information, contact:

- **Personal Water Use**: CDC provides guidance on the amount of water needed for good health, as well as its preparation and storage in preparation for and during an emergency.
- **Hygiene and Sanitation**: CDC provides guidance on alternative hygienic practices when water is not available or is contaminated.
- **A Guide to Water Filters**: CDC maintains a guide for filters that remove *Cryptosporidium* or *Giardia*.
- Safe Drinking Water Hotline: 1-800-426-4791
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- State or local public health department: [name, title, phone, e-mail, website]
- Primacy Agency: [name, title, phone, e-mail, website]

Hoja informativa sobre qué hacer durante una advertencia para hervir el agua

Hervir el agua

Para hervir el agua

- Llene una olla con agua fría.
- Caliente el agua hasta que se formen burbujas desde el fondo de la olla.
- Una vez que el agua llegue a hervir con fuerza, deje que hierva así durante un minuto.
- Apague la fuente de calor y deje que el agua se enfríe.
- Para guardar el agua, vacíela en un recipiente limpio que tenga tapa.

Para desinfectar el agua

Si no hay forma de hervir el agua, desinféctela en vez de hervirla.

Si el agua de la llave está transparente:

- Use blanqueador de cloro al que no se le haya añadido aromatizante (como olor a limón).
- Agregue 1/8 de cucharadita (8 gotas o aproximadamente 0.75 mililitros) de blanqueador de cloro para uso doméstico a 1 galón (16 tazas) de agua.
- Mezcle bien y espere 30 minutos o más antes de beber el agua.
- Guarde el agua desinfectada en un recipiente limpio que tenga tapa.

Si el agua de la llave está turbia:

- Filtre el agua con un trapo limpio.
- Use blanqueador de cloro al que no se le haya añadido aromatizante (como olor a limón).
- Agregue 1/4 de cucharadita (16 gotas o aproximadamente 1.5 mililitros) de blanqueador de cloro para uso doméstico a 1 galón (16 tazas) de agua.
- Mezcle bien y espere 30 minutos o más antes de beber el agua.
- Guarde el agua desinfectada en un recipiente limpio que tenga tapa.

Recuerde que es posible que deba desinfectar los envases antes de usarlos para almacenar agua adecuada para beber:

- Use blanqueador de cloro al que no se le haya añadido aromatizante (como olor a limón).
- Agregue 1 cucharadita (64 gotas o 5 mililitros) de blanqueador de cloro para uso doméstico a 1 cuarto de galón (32 oz, 4 tazas, o aproximadamente 1 litro) de agua.

Qué hacer durante una advertencia para hervir el agua, continuación

- Ponga esta solución en un envase limpio y agite bien, asegurándose de que la solución haga contacto con todo el interior del envase.
- Deje esta solución en el envase por lo menos durante 30 segundos, y luego vacíe el envase.
- Deje que el envase se seque al aire o enjuáguelo con agua que ya haya desinfectado, si es que la tiene.

Nunca mezcle blanqueador de cloro con amoniaco o con algún otro tipo de producto de limpieza.

Abra las ventanas y las puertas cuando use blanqueador de cloro para que entre el aire fresco.

Filtros para el agua

Hierva el agua de la llave, incluso si está filtrada. Los filtros de agua no eliminan las bacterias ni los virus.

Preparación de alimentos

- Lave todas las frutas y las verduras con agua hervida.
- Deje hervir bien el agua durante un minuto antes de agregarle los alimentos.
- Prepare bebidas como café, té o limonada con agua hervida.

Alimentación de bebés y uso de leche preparada para lactantes

Lo mejor es amamantar. Continúe amamantando al bebé. Si amamantar no es posible:

- De ser posible use leche preparada para lactantes ya lista para usarse.
- Use agua embotellada para preparar leche para lactantes en polvo o concentrada. Si no tiene agua embotellada, use agua hervida. Si no puede hervir el agua, desinfecte el agua que usará para la leche preparada para lactantes siguiendo las instrucciones mencionadas anteriormente sobre la forma de usar blanqueador).
- Recuerde que debe esterilizar las botellas y los chupones antes de usarlos.
- Si no puede esterilizar las botellas, trate de usar botellas listas para usar y no reciclables (que se puedan usar solo una vez).

Hielo

- No use hielo del fabricador de cubitos de hielo ni del recipiente de hielo del congelador.
- Deseche todo el hielo que haya hecho con agua de la llave.
- Haga hielo nuevo con agua hervida o embotellada.

Qué hacer durante una advertencia para hervir el agua, continuación

Limpieza del cuerpo

Debe tener cuidado de no tragar agua al bañarse en la tina o la regadera.

Tenga cuidado al bañar a bebés y a niños pequeños. Considere darles baños de esponja para evitar que traguen agua.

Lavado de dientes

Para lavarse los dientes use agua hervida o embotellada.

Para lavar los trastes

Se puede usar el lavador de platos sin problemas si el agua llega a una temperatura de por lo menos 160 grados, o si el lavador de platos tiene un ciclo de sanitación.

Para lavar los trastes a mano:

- Lave y enjuague los trastes como lo hace normalmente, pero con agua caliente.
- En otra pileta, agregue 1 cucharadita de cloro para uso doméstico, sin aromatizante, por cada galón de agua tibia.
- Remoje los trastes ya enjuagados en el agua con cloro por lo menos durante un minuto.
- Deje que los trastes se sequen por completo al aire.

Lavandería

Puede lavar la ropa sin problemas de la forma en que acostumbra a hacerlo.

Mascotas caseras

Las mascotas caseras sufren de las mismas enfermedades que los humanos. Es una buena idea darles agua hervida para tomar.

Para obtener más información, comuníquese con:

[Nombre de contacto de la compañía de servicios públicos]

[Nombre de teléfono de la compañía de servicios públicos]

[Sitio en Internet de la compañía de servicios públicos]

[Número de teléfono del departamento local de salud pública]

[Sitio en Internet del departamento de salud pública local]

Frequently Asked Questions About Coliforms and Drinking Water

What are coliforms?

Coliforms are a group of bacteria found in plant material, water, and soil. Coliforms are also present in the digestive tracts and feces of humans and animals. Most of the time, these bacteria are not harmful.

Why does my water system test for coliform?

Water systems test for indicator organisms such as total coliforms, fecal coliforms or *E. coli* to monitor water quality. If the water system has a positive test for one of these organisms, it can mean recent contamination with soil or human feces.

What does a positive coliform test result mean?

A positive coliform test means possible contamination and a risk of waterborne disease. A positive test for total coliform always requires more tests for fecal coliform or *E. coli*. A confirmed positive test for fecal coliform or *E. coli* means you need to take action as advised by your water system.

Will coliform bacteria make me sick?

Most coliform bacteria are a normal part of the environment. They do not cause disease but do indicate the water might be contaminated by soil or feces. Some rare types of coliforms like *E. coli* O157:H7, can cause serious illness but most *E. coli* O157:H7 outbreaks are from eating raw or undercooked food. Cases from contaminated drinking water can occur, but are rare.

Why test for indicator organisms?

A pathogen is any organism, such as bacteria, viruses, or, that causes a disease. They are commonly called "germs." There are many different possible pathogens. It is not possible to test for every type pathogen in every water sample, so water systems use indicators instead.

Water systems test for indicator organisms, like coliforms, to check for possible contamination by pathogens. Most coliforms are not harmful, but they come from the same sources as other bacteria that could make you sick.

Frequently Asked Questions About Coliforms and Drinking Water, cont'd

So what are "indicator" organisms?

- Indicator organisms come from the same sources as organisms that might make you sick. They are easier to identify, are present in larger numbers, and respond to water treatment the same way as harmful bacteria and pathogens.
- **Total coliform** is another term for the full group of coliforms. They are indicators of possible water contamination.
- **Fecal coliforms** are one type of coliform bacteria. They are found mainly in animal digestive tracts and feces. Fecal coliforms are a more specific indicator of fecal contamination of water.
- ***E. coli (Escherichia coli)*** is a specific type of fecal coliform bacteria. *E. coli* almost always comes from animal feces. *E. coli* is considered the best indicator of fecal contamination. If *E. coli* is present, more harmful bacteria or other pathogens may also be present.

For more information contact:

- Personal Water Use: CDC provides guidance on the amount of water needed for good health, as well as its preparation and storage in preparation for and during an emergency.
- Hygiene and Sanitation: CDC provides guidance on alternative hygienic practices when water is not available or is contaminated.
- A Guide to Water Filters: CDC maintains a guide for filters that remove *Cryptosporidium* or *Giardia*.
- Safe Drinking Water Hotline: 1-800-426-4791
  - » EPA Consumer Information Page
- Water system: [name, title, phone, e-mail, website]
- State or local public health department: [name, title, phone, e-mail, website]
- Primacy Agency: [name, title, phone, e-mail, website]

Frequently Asked Questions About Groundwater Rule Advisories

We've never had a drinking water advisory before. Why are we having one now?

Your water system uses groundwater [wells, aquifer]. Groundwater has different standards than water from other sources like rivers or streams. Your water system now has to comply with new requirements, known as the Environmental Protection Agency (EPA) Groundwater Rule.

What's different about the Groundwater Rule?

We used to think that groundwater was protected from fecal contamination. New information shows that groundwater can have fecal contamination and people could get sick. This is why EPA developed the Groundwater Rule.

What does my water system test for?

Water systems test for one of three indicator organisms: *E. coli*, enterococci, or coliphages to monitor for water quality. If the water system has a positive test for any one of these three organisms, it can mean recent contamination with human feces.

Water systems test for indicator organisms to check for possible contamination. There are many different possible pathogens. It is not possible to test for every pathogen in every water sample, so they test for indicators instead.

So what are "indicator" organisms?

Indicator organisms come from the same sources as organisms that might make you sick. They are easier to identify, are present in larger numbers, and respond to water treatment the same way as harmful bacteria and pathogens. A pathogen is any organism, such as bacteria, viruses, and parasites that cause disease. They are commonly called "germs."

What does a positive test result for an indicator organism mean?

A positive test means possible contamination and a risk of waterborne disease. A positive test in groundwater for E. Coli, enterococci, or coliphage means you and your water system need to take action.

Will "indicator" organisms make me sick?

Most coliform bacteria are a normal part of the environment. They do not cause disease. Coliphages do not infect humans or cause illness. Some rare strains of *E. coli,* like O157:H7, can cause serious illness. Most human diarrheal illness is from eating raw or undercooked food. Cases from contaminated drinking water can occur, but are rare.

Frequently Asked Questions About Groundwater Rule Advisories, cont'd

What are coliphages?

A virus that infects bacteria is called a phage. Phages infect specific species of bacteria. Coliphages infect coliform bacteria. Coliphages do not infect humans or cause illness. A positive test for coliphages indicates the water may be contaminated with feces or *E. coli*.

What are coliforms?

Coliforms are a group of bacteria found in plant material, water, and soil. Coliforms are also present in the digestive tracts and feces of humans and animals. Most of the time, these bacteria are not harmful.

Total coliform is another term for the full group of coliforms. They are indicators of possible water contamination. Fecal coliform is one type of coliform bacteria found mainly in animal digestive tracts and feces. Fecal coliform tests are a more specific indicator of water contamination.

What is *E. coli*?

E. coli (Escherichia coli) is a species of fecal coliform bacteria. *E. coli* almost always comes from animal feces. This is the most accurate indicator of possible water contamination. If *E. coli* is present, harmful pathogens may also be present. Not all *E. coli* make people sick. Some rare strains of *E. coli*, like O157:H7, can cause serious diarrheal illness.

What are Enterococci?

Enterococci are a different type of bacteria mainly found in the guts and feces of animals. They are used as an indicator because they closely link water quality with contamination by human feces.

For more information contact:

- **Personal Water Use**: CDC provides guidance on the amount of water needed for good health, as well as its preparation and storage in preparation for and during an emergency.
- **Hygiene and Sanitation**: CDC provides guidance on alternative hygienic practices when water is not available or is contaminated.
- **A Guide to Water Filters**: CDC maintains a guide for filters that remove Cryptosporidium or Giardia.
- Safe Drinking Water Hotline: 1-800-426-4791
  - » **EPA Consumer Information Page**
- Water system: [name, title, phone, e-mail, website]
- State or local public health department: [name, title, phone, e-mail, website]
- Primacy Agency: [name, title, phone, e-mail, website]

Frequently Asked Questions About What to Do After a Drinking Water Advisory

When I turn on the faucet, the water sputters. Why?

You have air in your lines. Turn on your tap slowly and run the water until the sputtering stops.

The water is discolored. What should I do?

Flush water pipes by running the water until it is clear.

Do not wash clothes if the water is discolored. Wait until the water runs clear at the tap. Wash a load of dark clothes first.

Why does my water have a strong smell?

The smell is probably chlorine. Often, water systems will increase chlorine levels to disinfect the pipes.

What should I do if my water pressure is low?

Check the faucet screens for trapped particles. Remove the screens and clean out any particles. Put the screens back on the faucet.

Do I need to clean out my faucets?

Yes. Flush faucets you did not use during the drinking water advisory.

- Turn the water on.
- Turn on the cold water tap at all faucets used for drinking water in the home and run the water until you feel a change in temperature (i.e. the water gets noticeably colder). This may take a few minutes.

Read the owner's manual for directions to clean appliances such as water softeners and filter units.

Frequently Asked Questions About What to Do After a Drinking Water Advisory, continued

My refrigerator has a water dispenser/ice maker. Do I need to clean them?

Yes. Water dispensers and ice makers are connected to your water line. You need to sanitize them.

Follow the directions in the owner's manual or:

- Change the filter cartridges.
- Throw out ice.
- Flush the water dispenser for 3 to 5 minutes.
- Run the ice maker for 1 hour.
- Throw out ice.
- Wash and sanitize bin areas.

Do I need to do something for the water softener?

Yes. You may need to run through a regeneration cycle. Read the owner's manual.

I have a water treatment unit for the house. Does it need special care?

Yes. Change the filter cartridges. Some units need disinfecting. Check the unit's owner's manual.

What about my water softener?

Yes. Refer to the owner's manual.

Preguntas frecuentes acerca de qué hacer después de una advertencia para hervir el agua

Cuando abro una llave de agua, ésta salpica, ¿por qué?

Hay aire en las tuberías de agua. Abra la llave de agua lentamente y deje correr el agua hasta que deje de salpicar.

El agua está turbia, ¿qué debo hacer?

Deje abiertas las llaves de agua hasta que el agua salga transparente.

No lave ropa si el agua está turbia. Espere a que salga el agua transparente del grifo de agua. Primero lave una carga de ropa obscura.

¿Por qué huele muy fuerte el agua que sale del grifo?

El olor es probablemente cloro. Con frecuencia los sistemas de agua aumentan los niveles de cloro para desinfectar las tuberías.

¿Qué debo hacer si la presión de agua es baja?

Revise si hay desperdicios atrapados en las mallas que están en la salida de las llaves de agua. Saque estas mallas y límpielas bien. Vuelva a colocar las mallas en las llaves de agua.

¿Debo limpiar mis llaves de agua?

Sí; abra las llaves de agua que no haya usado durante la advertencia para hervir el agua potable.

- Abra las llaves de agua.
- Abra la llave de agua fría en todos los grifos usados para obtener agua de beber en el hogar y deje correr el agua hasta que cambie de temperatura (por ejemplo que se sienta más fría). Esto puede tardar varios minutos.

En los manuales del propietario que correspondan, lea las instrucciones para limpiar aparatos tales como suavizadores y unidades de filtración de agua.

Preguntas frecuentes acerca de qué hacer después de una advertencia para hervir el agua

Mi refrigerador tiene surtidor de agua fría y fabricador automático de cubitos de hielo, ¿debo limpiarlos?

Sí; los surtidores de agua fría y los fabricadores de cubitos de hielo están conectados a su tubería de agua. Debe desinfectarlos. Siga las instrucciones del manual del propietario o:

- Cambie los cartuchos de filtro.
- Tire el hielo.
- Deje correr el agua en el surtidor, de tres a cinco minutos.
- Deje funcionar el fabricador automático de cubitos de hielo por una hora.
- Deseche los cubitos de hielo.
- Lave y desinfecte los recipientes de agua y hielo.

¿Debo hacer algo con el suavizador de agua?

Sí; es posible que deba hacerlo funcionar durante todo un ciclo de regeneración. Lea el manual del propietario.

¿Y con respecto a mi suavizador de agua?

Debe consultar el manual del propietario.

Point of Contact for Coordination During an Advisory

Primary Contact: _____

Title: _____

Office Phone: _____ **Cell Phone:** _____

24/7 Contact: _____ **E-mail:** _____

Smartphone PIN number: _____

1st Alternate Contact: _____

Title: _____

Office Phone: _____ **Cell Phone:** _____

24/7 Contact: _____ **E-mail:** _____

Smartphone PIN number: _____

2nd Alternate Contact: _____

Title: _____

Office Phone: _____ **Cell Phone:** _____

24/7 Contact: _____ **E-mail:** _____

Smartphone PIN number: _____

Standard Procedures for Coordination After Initial Notification

Criteria Used to Characterize Severity of Event and Guide Level of Response

Actions Upon Notification

Water System Information Worksheet

PURPOSE

Partners, government agencies, or other audiences may not know much about their water systems. This sheet can be used as a quick reference for those involved in an advisory by providing background information, basic water system information, and facts about the advisory. Sharing this document with everyone involved will help keep information consistent.

DIRECTIONS

Complete this sheet with specific information about the water system. Provide it to consecutive, wholesale, and neighboring water systems involved in an advisory. Place the completed form in your water system's emergency response plans and standard operating procedures. Also be sure to provide it to local public health departments, local government agencies, and community partners.

[Water System] Background Information

Number of service connections:

Number of people affected by this event:

Source water [surface water, groundwater, name of reservoir or river, etc.]:

Population served:

Type of disinfection [free chlorine, chloramine]:

Boundaries of service area [describe and use map if available]:

Consecutive, wholesale, and neighboring water systems (if applicable):

Water System Information Worksheet, continued

Agency Contacts	Address, City, State, ZIP	Phone #	24/7 #	Cell Phone #	E-mail
Water System Contact					
Water System Public Information Officer/ Communication					
Primacy Agency Contact					

Exercise Planning Template

PURPOSE

This form is designed to facilitate planning for exercises. The first section will help state objectives and desired outcomes from the session. The second section identifies participants and helps prepare them for discussion. The more preparation, the better the end product.

DIRECTIONS

- *Identify exercise leads and type of exercise (workshop, tabletop, drill, etc.).*
- *Complete the purpose, scope, goal, and objectives. Invite staff and other organizations as appropriate.*
- *Include name and contact information for each participant.*
- *Identify and assign specific materials for participants to develop or provide.*

Section 1: Outcomes

Date	Time	Duration
Exercise Lead Name Phone E-mail		
Title		
Exercise Type		
Purpose and Scope		
Goal		
Objectives		

Exercise Planning Template, continued

Section 2: Exercise Participant Planning

Date	Time	Duration
Exercise Lead Name Phone E-mail	**Exercise Lead** Name Phone E-mail	

Water System Department	Participant	Data and Materials

Partner Organization	Participant	Data and Materials

Section 2: During an Advisory

- Overview
- Event Checklist
- Initiating an Advisory
- Preparing an Advisory
- Distributing an Advisory
- Ending an Advisory
- Tools and Templates: During an Advisory

Overview

A drinking water advisory can occur at any time. Water systems must act quickly when an event is suspected or identified. The first action must be to assess the situation and follow standard operating procedures (SOPs) for issuing a drinking water advisory.

Icon Key

Tools and Templates

Resources

Text Message

Tip

Water Systems as well as state, local, tribal, and territorial agencies can pull out the Event Section and Tools to use as a "Go Kit" in situations where pre-planning activities have been minimal.

This section contains the essential strategies and activities necessary to create public awareness of a drinking water advisory event or to issue advisories to boil water, do-not-drink, do-not-use, or precautionary advisories for the general public and susceptible populations who may have communication barriers or medical needs.

Event Checklist

Initiating an Advisory

- ☐ Identify the situation and collect facts.
- ☐ Notify your state drinking water primacy agency.
- ☐ Decide to issue an advisory.
- ☐ Identify the geographical boundaries.
- ☐ Notify your internal staff and external partners.

Preparing an Advisory

- ☐ Develop, format, and translate the message.
- ☐ Approve the advisory.
- ☐ Identify the spokespersons.
- ☐ Assign communication responsibilities.

Distributing an Advisory

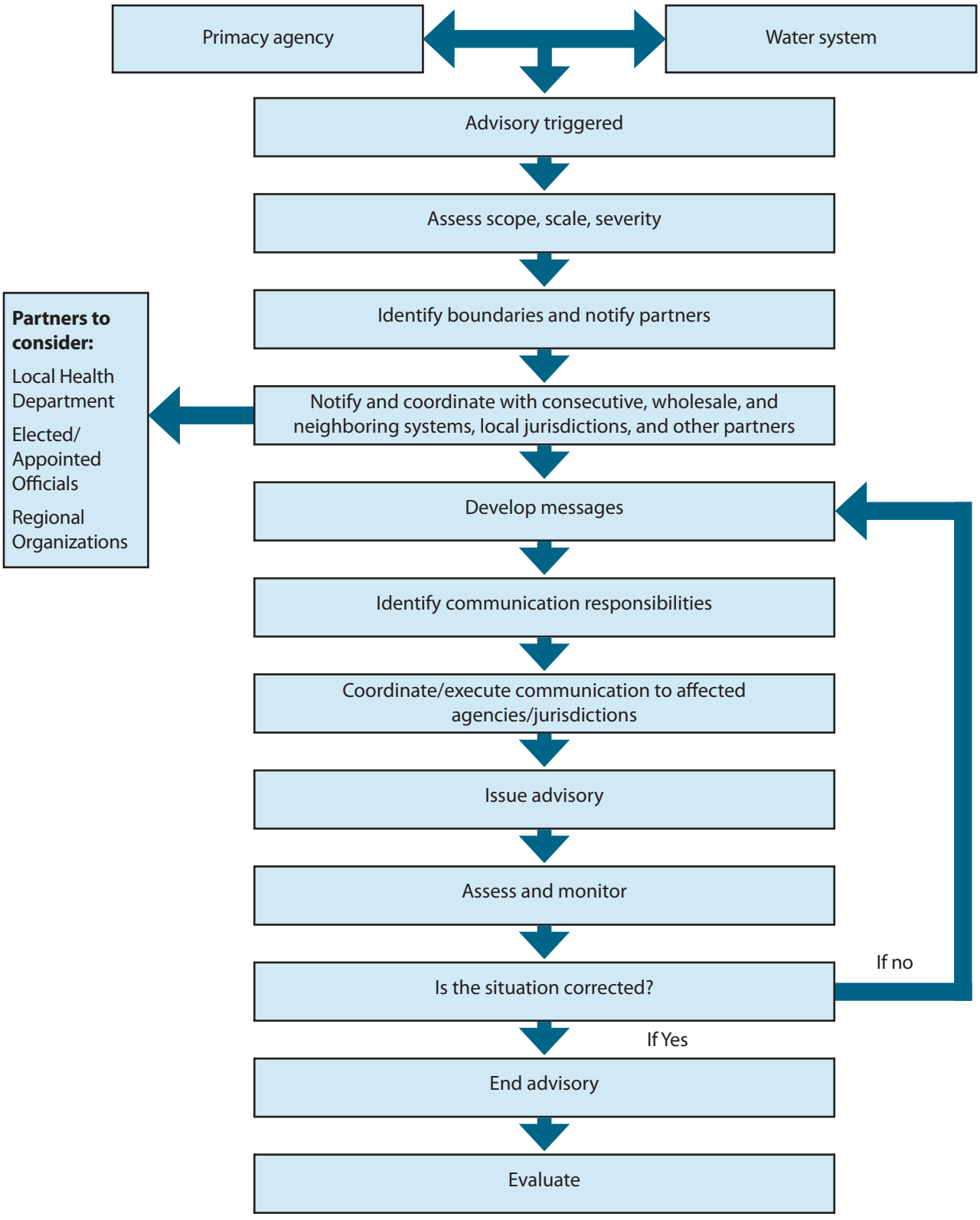
- ☐ Notify public and elected officials.
- ☐ Implement distribution methods.
- ☐ Use your network to distribute messages.
- ☐ Work with the media.

Ending an Advisory

- ☐ Issue End of Advisory notice.

Notes

Figure 4: Issuing a Drinking Water Advisory Flow Chart



Initiating an Advisory

Identify the Situation and Collect Facts

Drinking water advisories are issued for reasons identified in federal or state regulations or by decisions made by the water system. The situation and characteristics of the contaminant(s) of concern determine what type of advisory to distribute:

- Informational
- Boil Water
- Do Not Drink
- Do Not Use

Use the *Essential Information* list to collect data and develop communication materials.

Notify Your State Drinking Water Primacy Agency

Individual states specify particular mechanisms for state notification. Be familiar with your water system's protocols for notifying your state primacy agency. See **Appendix B: Online Resources, Primacy Agency**.

Decide to Issue an Advisory

Work with senior management and follow your communication SOP in making the decision to issue an advisory. Use your best professional judgment.

Essential Information

- ☐ *Who you are*
- ☐ *What action customers should take*
- ☐ *What event occurred and a description of the problem*
- ☐ *Where it occurred*
- ☐ *When it occurred*
- ☐ *Expected duration*
- ☐ *Why it happened*
- ☐ *Who is affected*
- ☐ *Basic information on the water system*
- ☐ *Current actions being taken*
- ☐ *Requested agency responses*
- ☐ *What public notice is required when appropriate*
- ☐ *Where to get more information*

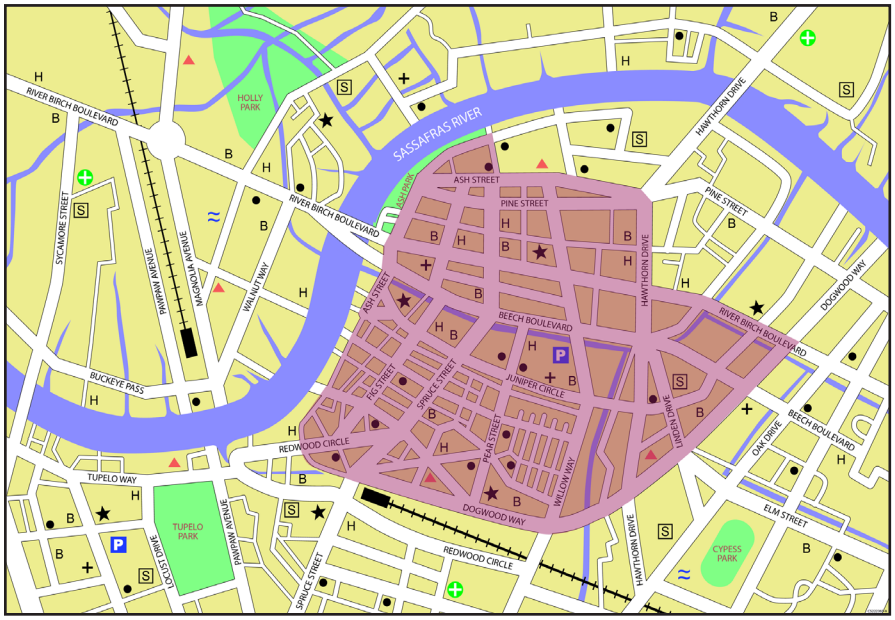
Identify the Geographic Boundaries

Boundaries

A key component of a drinking water advisory is to communicate clearly the area affected. Many customers do not know which water system provides their service and broadcast media reach a large audience, usually beyond the affected area.

Clearly describe the boundaries of the area affected using street names, place names, and well known reference points.

Figure 5: Example of a Simple Map to Designate an Area Affected by a Drinking Water Advisory



Maps Help Define The Area Affected

When possible, use maps and brief descriptions of the boundaries of the area affected. Maintain and update maps of the water service area. Maps can be sent out as printed or electronic versions. Make sure the maps

- *Are presented at a legible scale with legible fonts.*
- *Are uncluttered.*
- *Reflect commonplace names and reference points.*
- *Have crisp lines.*
- *Are easy to read.*

Maps

Maps help illustrate the affected area. Water systems can generate maps using internal or online mapping tools (e.g., geographic information system [GIS]). These maps can be distributed electronically, as printed material, or posted on agency websites. Update the map as the situation changes.

Notify Your Internal Staff and External Partners

Activate your internal communication SOP. Use information collected to brief staff. Depending on the situation, also brief your partners:

- Wholesale, consecutive, and neighboring water systems.
- Public health department.
- Critical customers (see **Critical Customer Checklist** to assist in identifying at-risk populations served by a water system).
- Public officials.
- Emergency management.
- Community organizations.
- Businesses, childcare facilities, correctional facilities, food service, health care providers and facilities, and schools.

Provide **Call Center Data Checklist** to call center or customer service staff and partners.

Descriptions

Clearly communicating the boundaries of affected areas also requires careful consideration of verbal descriptions so that spokespersons, radio, and other media can briefly but accurately depict the service area affected.

Preparing an Advisory

Develop, Format, and Translate the Message

Use the information gathered in identifying the situation to develop the message. Use tools, such as the Message Mapping Template and the Sample Message Map or the Single Overriding Communication Objective (SOCO) Worksheet.

Unless a state requires specific templates, revise the order and content of these templates based on the local circumstances. Remember to include the 10 required elements from the Public Notification Rule.

Understand the translation needs of your community. Use community partners or professional translation services to translate the message. Avoid using online dictionaries or other computer software.

Required Elements of a Public Notice

All public notices must include a clear and readily understandable explanation of each violation containing the following 10 elements from EPA's Public Notification Rule (PNR) Quick Reference Guide.

1. Description of the violation or situation including contaminant(s) of concern and the contaminant level(s).
2. When the violation or situation occurred.
3. Potential health effects, including any standard language provided in the PNR.
4. Population(s) at risk.
5. Whether alternate water supplies should be used.
6. Actions consumers should take.
7. What the water system is doing to correct the violation or situation.
8. When the water system expects to return to compliance or resolve the situation.
9. Name, business address, and phone number of the water system owner, operator, or designee who can provide additional information.
10. A statement encouraging the recipient to share the notice with other persons served using standard language.

Community partners are responsible for producing the message in formats that people they serve can read and understand, such as Braille, large font, or text messages.

Did You Know?

*The Environmental Protection Agency (EPA) **Public Notification Rule (PNR) Quick Reference Guide** is a good reference for the required elements of the Public Notification Rule*

Tip

Abbreviated messages should include:

- *Basic message of action to take*
- *Location*
- *Contact information*
- *Where to get more information*

Abbreviated Messages

Some communication channels only allow for brief messages due to time or space constraints. Brief messages are appropriate for:

- On-screen scroll (local televised news, cable television, public service television channels, Emergency Broadcast System announcements).
- Automated text message systems (SMS).
- Social media (Facebook, Twitter).
- Reverse 911 phone message systems.
- Highway variable message signs and portable message boards.
- See the Automated Messages tool.

Abbreviated Message Template— Boil Water

The Water Utility is asking customers to boil tap water or use bottled water. For more information, go to **www.watersystem.org** or call 555-555-1212.

Message Development

The information on which to base the advisory can be captured in the Information for Communication Planning tool. The Required Elements of a Public Notice (see page 84) outlines the questions and information the drinking water advisory must address in its materials. Key Questions for the Public Information Officer may help in preparation for working with the media.

Approve the Advisory

Once the message has been developed and produced in appropriate formats, follow your communication SOP to have management approve the advisory.

Identify the Spokespersons

The person to serve as a spokesperson during a drinking water advisory can come from water system management or from an outside partner agency, such as a public health department. The spokesperson should be someone in authority who is honest, credible, competent, accessible, and sensitive to public concerns.

Notes

Follow the communication protocols discussed in Section 1 and use the essential information to prepare spokespersons for interacting with the public and media. See **Basic Elements of a Spokesperson Statement**. If there is not a designated spokesperson, assess staff options and identify an individual to fill this role. See **Spokesperson Assessment Tool**.

Assign Communication Responsibilities

Exchanging information and developing materials, such as news releases, among partners and water systems is a coordinated effort. Liaisons (designated staff) are the communication link to issuing an advisory and also for updating and lifting the advisory. Each organization or water system involved in an advisory should identify a liaison. Work with your partners to assign specific communication roles and or responsibilities. Develop a list that identifies who (which partner) will be contacting whom (a specific audience) and when that contact will occur.

Tip

When possible, the spokesperson should not be someone who is directly involved in operations.

Tip

*Before meeting the press, a spokesperson should rehearse key messages and responses to anticipated questions. See **SOCO Worksheet, Message Mapping Template** and **Sample Message Map**.*

Distributing an Advisory

Notify Public and Elected Officials

Brief your public officials on the essential information before you notify the media. Often media will contact public officials rather than a water system for information and comments.

Implement Distribution Methods

Determining the most appropriate strategies and tools for a particular situation is a reflection of the severity of the public health concern and the system's ability to define the affected area. Effective communication will require distribution through multiple methods:

- News media outlets(over a primary means of distributing the advisory)
- Automated message system (helps reach specific service areas quickly) see **Automated Messages** for more information.
- Door-to-door contact or door hangers (often used for small areas)
- Hand-delivered fliers
- Websites
- Social media (e.g., Facebook, Twitter)

Automated Messages

Broadcast notification systems, such as Reverse 911, use a variety of commercially available systems that include:

- *Prerecorded or synthesized voices for brief messages,*
- *Text (SMS) for messages to cell phones, and*
- *E-mail for detailed messages to large groups.*

For more information, see ***Automated Messages***.

Use Your Network to Distribute Messages

As noted in the **Collaborating with Partners** (see pages 24–29) portion of Section 1: Before an Advisory, network partners can assist with translating, formatting, and distributing messages to specific audiences.

- Local public health departments may be able to help alert hospitals, health care providers, childcare providers, and food service and preparation facilities (See **Appendix B: Online Resources, Additional Water and Health Resources** and **Appendix B: Online Resources, Disinfecting Water**).
- Coordinate with school districts and private schools, including colleges and universities.
- Use your communication network to reach diverse populations that may be outside mass media communication channels.

Communication Network

*Local public health, government agencies, and community organizations are networks that can help communicate advisories. An advisory is the time to access their expertise and communication. See **Communicating with Susceptible Populations Worksheet**.*

Work with the Media

The Public Notification Rule requires wide distribution and encourages the use of mass media. General circulation newspapers, radio, television, websites, and ethnic media are good channels for issuing advisories. See the **Basic Elements of a Spokesperson Statement**, **Working with the Media Template**, **Key Questions for the Public Information Officer**, and **Media Alert Template**, and press release templates and for more information.

- **Media log:** Use a log to track media contacts and reports. Logging media contacts gives a structure for follow up with updates or end-of-advisory notices. If the advisory includes multiple agencies or water systems, each organization should keep a log.

After issuing a press release, call media outlets to verify they received the release. Ask for the duty editor or news director. Take time to explain the importance of this information to the public. This is especially important for lifting an advisory.

Monitoring the media, customer calls, and the status of the advisory will guide decisions about the need for media activities. Press conferences, additional calls to reporters, or expanding media work to partners are necessary in large-scale advisories.

Tip

To meet the intent of the Public Notification Rule , health effects and other details must be included in the press release. Include phone numbers and websites in the full advisory.

Did You Know?

*Ethnic media reach 25 percent of the U.S. adult population. These adults are far more responsive to messages delivered by media from a similar culture or ethnic group. Forty-five percent of all African-American, American Indian, Hispanic, Asian-American, and Arab-American adults prefer ethnic television, radio, or newspapers to mainstream channels. See **Appendix B: Online Resources, Susceptible Populations**.*

Working with the Media

- Get the facts straight. Who? What? When? Where? Why? How?
- Write the message to fit the circumstances.
- Keep all messages consistent.
- Edit, review, and get clearance for all media releases.
- Use standard press release format.
- Link to other information from relevant entities.
- Use e-mail, fax, and other methods to deliver the press release.
- Make follow-up calls to the media.
- Track contact with the media.
- Post the release and the advisory on the water system's website.
- Be honest with the media. If you do not know the answer to a question, say so, then offer to find the information.
- Discuss use of maps and visual aids with media outlets.
- Consider issuing a joint press release with the state and/or local health department.
- Send a release announcing the end of the advisory to media outlets and partners and post the announcement on your website.
- Make follow-up contact with media to encourage publicizing the end of the advisory.
- If the advisory is large or long-term, consider scheduling regular press conferences to keep the media up to date. These should be at a time that allows the media to meet press deadlines.

Media Evaluation

Look at media coverage during and after an advisory:

- *Does media coverage reflect the scope and scale of the event?*
- *What is the tone of the coverage?*
- *What are the reactions in the community?*
- *Were updates covered?*
- *How do the timing and placement of media stories link with the volume of customer service calls? (Look for the media's effect on customer questions.)*

Digital Media

Blogs and comments on websites DO NOT represent general public opinion. They DO give an idea of reactions and concerns.

Tier 1 PNR Compliant Press Releases

News editors will edit and reformat releases to fit their style and available space. Some of the required elements or language may be omitted. It is the water system's responsibility to post the official advisory in public places, apartments, schools, businesses, on websites, and other places as required by your state.

See the following tools and templates for guidance:

- How to Use Press Release Templates
- Tier 1 Public Notification Rule Compliant Press Release Template
- Significant Pressure Loss Advisory Press Release Template
- Advisory Update Press Release Template
- Ending an Advisory Press Release Template

Press Conferences and Briefings

News conferences or briefings become necessary during some advisories. Press conferences and briefings create additional work and demand extra resources, but they can eliminate the need to answer large numbers of media inquiries individually. Preparation helps ensure a successful press event.

Planning a Press Conference

The first step is to refer to the messages and essential information developed for the advisory. These messages and information are the basis for media kits, advisories, and statements. Messages should be consistent in all communication.

Media kits are simply a collection of information to provide to the media. Media kits should have:

- A copy of the official advisory distributed to customers
- Copies of all the statements made by all participants
- Background information (See Water System Information Worksheet).

Notes

When planning a press conference,

- Work with partners to plan the press conference, develop materials for media kits, and ensure appropriate clearance is obtained from each agency.
- Designate one person or group to organize the press conference and one person to act as the emcee. Emcee responsibilities include introducing speakers, managing the question and answer period, and closing the press conference.
- Identify a spokesperson for each organization participating in the press conference See **Spokesperson Assessment Tool**.
- Use the essential information and messages to develop statements for each speaker. Brief the spokespersons prior to the event and review messages and materials. Speakers need to know the order of their appearance and roles. See **Basic Elements of a Spokesperson Statement** and **Spokesperson Assessment Tool**.
- Rehearse before the session and practice statements and possible questions and answers. Most important is to prepare for difficult questions. Plan a strategy if the situation becomes contentious. Include all spokespersons if other agencies are involved. Phone calls will work if spokespersons cannot meet in-person ahead of time.
- Plan logistics. They are central to a successful press conference. Study the location. The space should be accessible, have enough room, no echo, a central focus point, and a designated sign-in area. Media kits should be provided at the sign-in area. If possible, set aside a separate space for one-on-one interviews. On-site press conferences are more of a challenge. Designate a specific, safe area with tape or cones. Limit work noise and activity, if possible. Make it clear how long the press conference will last.
- Announce the press conference through media contacts. Develop a media alert and send alert by e-mail, fax, or other methods. Follow up with calls to the media to make sure the right person received the advisory. Select a time that will allow sound and video crews to set up equipment and all media to meet press deadlines. Use the **Media Alert Template**.

Notes

Conducting a Press Conference

With the right planning in place, the press conference should go more smoothly. Make sure each media outlet signs in and has a media kit. Press conferences have a standard format:

- **Entrance:** Spokespeople enter the room or area in the order they are speaking.
- **Introductions:** The emcee gives a short summary of the reason for the press conference and introduces each spokesperson. One spokesperson may play this role if necessary.
- **Statement:** Spokespeople stand up, give their names and titles, and proceed with their statements.
- **Questions:** It is standard practice to have a question and answer session. The person doing the introductions should handle media questions and refer them to the best spokesperson for the topic.
- **Close:** Stick to the time allotted. The emcee thanks the media for their interest, states that the session is closed, and announces where to get more information and/or the time of the next update. Spokespersons leave the room.

After the Press Conference

If appropriate, the media can conduct one-on-one interviews directly after the press conference. Make sure to get back to any member of the media that asked for more information.

A debrief, either in person or by phone, will identify concerns that are not addressed, determine changes needed in messages, and prepare participants for the next update. Information from a press debrief should be incorporated into the advisory protocol during the evaluation process.

Notes

Ending an Advisory

Issue End of Advisory Notice

Federal regulations do not specify when to end an advisory. Water systems and drinking water primacy agencies consult with one another on the specific events around the advisory and use water quality criteria and protocols to make the decision to end or lift an advisory. State primacy agency criteria are typically based on laboratory testing (sampling) results.

When the water system and primacy agency end the advisory, communication moves to lifting the advisory. Develop and coordinate the end of the advisory messages with partners. The same communication methods, media partners, and outlets used to distribute the advisory should also be used to lift the advisory.

Be clear about the information used to end the advisory and the timing. Specifically, include the information on which you are basing your decision to end the advisory (e.g., the lab tested the water and it was negative for indicators).

Be sure to send the end of advisory notice to all partners in the communication network and the media. Post this information on websites clearly showing date and time. See the **Ending an Advisory Press Release Template** as an example.

Steps to Issue an End to the Advisory

- *Update the media and partners.*
- *Update notification in the affected area, including websites.*
- *Update affected customers electronically; for example, by automated messages or e-mail.*
- *Follow up earlier press releases with an end of advisory press release and phone calls.*

Section 2 Tools & Templates: During an Advisory

(Also see: Section 1 Tools & Templates: Before an Advisory)

- Call Center Data Checklist
- Key Questions for the Public Information Officer
- Basic Elements of a Spokesperson Statement
- Automated Messages
- Working with the Media Template
- Media Alert Template
- How to Use Press Release Templates
- Tier 1 Public Notification Rule Compliant Press Release Template
- Significant Pressure Loss Advisory Press Release Template
- Advisory Update Press Release Template
- Ending an Advisory Press Release Template

Call Center Data Checklist

PURPOSE

Call center data are useful to evaluate the advisory response and the information provided to customers.

DIRECTIONS

Identify types of data available in the water system customer service database. Replace information in brackets with specific water system and advisory information. Adapt the list below to meet your needs. If an advisory involves multiple organizations, request similar data from partners or other call centers.

Important call center data include:

- ☐ Call volumes (calls per hour, day, and week).
- ☐ Number of callers who listened to recorded information only.
- ☐ Number of calls handled by a live agent.
- ☐ Calls abandoned (caller hung up without listening to recorded information).
- ☐ Caller demographics (city, ZIP, county).
- ☐ Caller contact information (phone number or e-mail) if needed to provide follow-up information.
- ☐ Call topic (boil water advisory, outage, discoloration, taste, illness).
- ☐ Call reason (information, report case, provider information).

Key Questions for the Public Information Officer

PURPOSE

This list provides a quick review of important points to consider for public communication during an advisory.

DIRECTIONS

Compare public communication materials available to this list. Provide this list to other water systems or organizations responding to an advisory. Use this list when working with the media.

As a public information officer, consider the following before releasing information to the media:

1. **Ability** — Do you have the information on the subject?
2. **Competency** — Are you qualified to discuss the topic with the news media? If you are not the expert, find out who the expert is and arrange to have him or her brief the media.
3. **Authority** — Do you have jurisdiction over the issue? It's always advisable to stay in close contact with upper management to coordinate your response.
4. **Security** — Is the information classified? The security limitation is most important because of the need to safeguard classified and operationally sensitive information.
5. **Accuracy** — Is the information accurate? Public information officers have an obligation to provide accurate, factual information and to avoid speculation.
6. **Propriety** — Is the information appropriate to the situation? Ensure that information released displays sensitivity and dignity. For example, do not release photographs that could distress individuals or their family members.
7. **Policy** - Do the policies of your organization permit release of this information?

Adapted from: Mobley, J., Ph.D., et. al. Strategic Communication Planning: A Guide for Water Utilities. Water Research Foundation Project #2955. 2006.

Basic Elements of a Spokesperson Statement

PURPOSE

Spokesperson statements are based on the messages developed using the **Message Mapping Template** *(Found in Section 1 Tools and Templates: Before an Advisory) or* **Single Overriding Communication Objective (SOCO) Worksheet** *(Found in Section 1 Tools and Templates: Before an Advisory). Developing statements with this message outline helps to keep communication consistent.*

DIRECTIONS

Review your messages and essential information for the advisory. Follow the outline provided and adapt to the specific advisory. Work with other organizations that will provide spokespeople to develop their statements. Use this outline to develop a statement for press conferences, briefings, or other public communication. Fill in information in brackets.

My name is [name], and I am the [title] of [organization]. [Describe role].

This is an evolving situation, and I want to provide as much information as possible. As of now, I can confirm:

- At approximately [time], a [brief description of reason for drinking water advisory, area affected].
- At this point,
  - » We know that [a main broke, positive coliform tests, there are no associated illnesses, etc.].
  - » We do not know [number of illnesses, specific contaminant, etc.].
- We have a [system, plan, procedure] in place for this type of situation. [Describe actions].
- [Primacy agency, health department, etc.] are assisting by [actions].
- The situation is [under, not yet under] control, and we are working with [local, state, federal] authorities to [actions].
- We are asking the public to [actions and advice: boil water, throw out ice, location of alternative water].
- We will continue to gather information and release it to you as soon as possible. I will be back to you [specific date, time] with an update.
- We appreciate everyone's patience as we work to correct [situation].

Automated Messages

PURPOSE

Automated messages take many forms. Developing the content for advisories requires planning. This information addresses automated messages specifically for drinking water advisories.

DIRECTIONS

Review the information about automated messages. Be sure your communication plan addresses automated messages specific to the water system and community capabilities and tools. Consult your primacy agency for specific requirements.

Automated broadcast notification is used to send messages quickly to large numbers of people. Broadcast notification systems, like Reverse 911, use a wide variety of commercially available systems that include the following:

- **Voice:** Delivering messages by prerecorded or synthesized voice is suited for brief messages. Automated systems can be programmed to leave messages on answering machines if there is no answer.
- **Text (SMS):** Short Messaging Service (SMS) delivers messages up to 160 characters to cell phones.
- **E-mail:** E-mail is suitable for more detailed messages and can be sent to large groups relatively quickly. E-mail is delivered over the Internet, which is typically a reliable network unless there is a power outage.

***Note:** SMS and e-mail systems cannot guarantee delivery to a contact.*

Effective broadcast systems require:

- Accurate contact information.
- Delivery to a relevant contact point (e.g., reaching a cell phone versus a home landline).
- Simple, concise language.
- Coordination with other communication tools to provide access to more detailed information (e.g., website, customer call center).

Coordinate With Other Tools
Automated messages are useful tools in combination with press releases, door hangers, call center information, website information, and other outreach tools. These brief messages are useful in building awareness but are inadequate to provide all the information customers need to receive.

Automated Messages, continued

Accurate Contact Information

A notification system is only as good as the contact data. Uploading contact data is not ideal; data can be wrong (entry errors), false (purposefully wrong data), or invalid (phone number has changed or been disconnected). This is more likely when data are uploaded from customer records or purchased phone lists, or gathered from available databases. Even converting data from enhanced 911 systems to Reverse 911 programs will not assure accurate contact information. Automatically entering contact data into a system also has problems. Notification system vendors are wary of violating antispam laws and blacklisting.

Opt-in data collection can provide and validate content for notification. Individuals can be invited to join a list on a website, or indicate their interest when opening an account. This option can make it easier for subscribers to update their own contact information. This improves the results and reach of a broadcast. Opt-in processes for collecting data help protect the provider from unlawful use, because each recipient is giving the notification provider permission for future contact.

Timing

Automated notification systems are quick, but not instantaneous. Time is required:

- To prepare the message
- To direct the message to appropriate audiences
  (e.g., customers in specific subsections of the distribution system)
- To distribute the advisory
  - » Voice systems may only make 1,000 calls per hour
  - » E-mail or text message distribution to similar numbers occurs in minutes, and
- For the recipient to listen to or read the message and take action.

Automated Messages, continued

Content

The purpose of an automated broadcast is to prompt people to seek information and take action. Messages for automated notification systems must be simple and concise. It is not practical to use language from standard public notification templates. Because these messages are short, they cannot convey the detail required in EPA's Public Notification Rule.

- Key elements of abbreviated messages related to water quality concerns are:
  - » Whom the message is from,
  - » What actions consumers should take,
  - » Whether alternative water supplies are available, and
  - » Where consumers can obtain additional information (e.g., telephone number, website).

Abbreviated Message Template — Boil Water Advisory

Hometown Water System is asking customers to boil tap water or use bottled water.
For more information, go to **www.watersystem.org** or call 555-555-1212.

Abbreviated Message Template — End of Boil Water Advisory

Hometown Water System customers no longer need to boil tap water.
For more information, go to **www.watersystem.org** or call 555-555-1212.

Working with the Media Template

PURPOSE

These are sample statements to use if members of the media call before a press release is issued. Getting the facts correct is a priority. Do not give information to the media before confirming facts with field staff, emergency operations center, and management. Changing information after it is released can lead to media confusion and so that key messages are no longer the focus.

DIRECTIONS

Review these statements and adapt them with specific information about the water system. Incorporate the template into your standard operating procedures (SOPs) and emergency response plans (ERPs). Add specific information during an advisory. Rehearse the responses prior to speaking with media.

Insert information about a specific event in the brackets. Adapt it as needed.

Pre-scripted, Immediate Response to Media Inquiries

Use this template if the media is "at your door" and you need time to assemble the facts for the initial press release statement.

Getting the facts is a priority. It is important that your organization not give in to pressure to confirm or release information before you have confirmation from your scientists, emergency operations center, etc.

The following responses give you the necessary time to collect the facts. Use the **Basic Elements of a Spokesperson Statement** (Found in Section 2 Tools and Templates: During an Advisory) to provide an initial press release statement after the facts are gathered.

NOTE: Get authorization BEFORE releasing information.

Date: _____ Time: _____

Approved by: _____

Working with the Media Template, continued

Prescripted Responses

If on the phone to the media:

- "We've just learned about the [situation] and are trying to get more complete information now. How can I reach you when I have more information?"
- "All our efforts are directed at [bringing the situation under control]. I'm not going to speculate about [the situation]. How can I reach you when I have more information?"
- "I'm not the authority on this subject. Let me have [name] call you right back."
- "We're preparing a statement now. Can I get back to you in about [2] hours?"
- "You may check our website for background information, and I will fax/e-mail you with the time of our next update."

If in person at incident site or in front of press meeting:

"This is an evolving [event], and I know you want as much information as possible right now. While we work to get your questions answered, I want to tell you what we can confirm right now:

- At approximately [time], a [brief description of what happened].
- At this point, we do not know the number of [how long the advisory will last, how many customers are affected, etc.].
- We have a [system, plan, procedure, operation] in place. We are being assisted by [local public health, emergency response] as part of that plan.
- The situation is [under, not yet under] control. We are working with [local, state, federal] authorities to [correct this situation, determine how this happened].
- We will continue to gather information and release it to you as soon as possible. I will be back to you within [amount of time, 2 hours] to give you an update. As soon as we have confirmed information, it will be provided.
- We ask for your patience as we respond to this [event]."

Media Alert Template

PURPOSE

Water systems can invite the media to press conferences or briefings or to tour facilities related to advisories. This type of activity provides the media with a better understanding of drinking water infrastructure and why advisories occur.

DIRECTIONS

Use this template for media releases about press conferences and briefings. Replace information in brackets with specific water system and advisory information. Adapt as needed.

FOR IMMEDIATE RELEASE

Press contact: [name, organization, office phone, cell phone, e-mail]

Press Conference for [Water System]

What: Tour facilities related to advisory [facilities, labs, distribution area].

When: [Date, time]

Where: [Address, building, city, state, ZIP, provide directions to site]

Who: [Water System spokesperson, title; partner spokespeople, titles]

Why: Water quality is a concern for us in the community. We invite you to our [facility] so you can see how we [treat water, test water, etc]. The recent [type] advisory put our community's drinking water quality into the spotlight. [Water System] will explain how the facility relates to the advisory and water quality. [Details — the reasons, actions, communication].

RSVP to [contact, phone, e-mail] by [date]

[Water System] provides water to the community of [name] or [description of the organization].

How to Use Press Release Templates

PURPOSE

Press releases are a standard tool for an advisory. They can be the primary public notice, or they can communicate the advisory and direct customers to the official public notice. Website links or phone numbers can direct customers to the location of the official notice.

DIRECTIONS

The Tier 1 Public Notification Rule (PNR) Compliant Press Release Template includes the ten required elements. A press release must include the 10 required elements, EPA health effects language, and PNR required language to qualify as an official public notice.

The PNR Compliant Press Release Template format moves the most important customer information to the top. The PNR does not specify the order of the required elements.

For more information, see the **EPA's Public Notification Handbook** *for Required Elements of a Public Notice (***See Appendix B: Online Resources, Public Notification Safety and Preparedness***).*

Tier I Public Notification Rule Compliant Press Release Template

PURPOSE

Clarify when it is tier 1

DIRECTIONS:

Replace information in brackets with specific water system and advisory information. Adapt as needed.

[Date]

FOR IMMEDIATE RELEASE

Contact: [Name, Title, Phone, E-mail]

[Water System] issues a boil water advisory for all customers in [location]

[Water System] advises all customers to boil their drinking water. The boil water advisory is in effect until further notice.

▲ Customers should:

- Bring water to a rolling boil for one minute.
- Allow the water to cool before using.
- Store cooled water in a clean container with a cover.

Customers should use cooled, boiled water or bottled water for:

- Drinking
- Brushing teeth
- Preparing food and baby formula
- Making ice
- Pets

The advisory is in effect until [Water System] and [other agencies] are confident there is no longer a public health concern. We will provide the next update at [date or timeframe]. Customers will be notified immediately when the advisory is lifted.

Tests results from [date] showed [▲contaminant] at [▲levels/amount]. The [Primacy Agency/Health Department] is working closely with [Water System] to find the contamination source and fix the problem.

[*Optional — quote from system spokesperson*]

Tier 1 Public Notification Rule Compliant Press Release Template, cont'd.

To correct the problem, we are [▲ what is being done (e.g., chlorine was applied to the entire system)]. [▲ Give dates or time estimate if possible]. [Number or No] illnesses related to the community's drinking water are reported.

▲ If you are concerned about your health or your family, call your health care provider or the [local health department].

[▲ Required EPA Health Effects Language for specific contaminant or violation. (■ Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk to infants, young children, some of the elderly, and people with severely compromised immune systems.)]

These symptoms are caused by many illnesses other than drinking water. [People at increased risk should seek advice about drinking water from their health care provider.]

[If applicable: (▲ Water System or City) customers may pick up (alternative water supply) at (location and time).]

■▲ Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses).

For more information, go to [website] or call [▲ phone]. Mail inquiries should be sent to [▲ name], [Water System], [▲ address]. [If applicable, include health department contact.]

[*Optional — General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.*]

▲ *Denotes required element of a public notice per EPA's Public Notification Rule*

■ *Denotes mandatory health effects language per EPA's Public Notification Rule*

Significant Pressure Loss Advisory Press Release Template

PURPOSE

Use for loss of pressure or a water outage that does not require a Tier 1 Public Notice.

DIRECTIONS

Use this template for media releases about pressure losses. Replace information in brackets with specific water system and advisory information. Adapt as needed.

[Date]

FOR IMMEDIATE RELEASE

Contact: [Name, Title, Phone, E-mail]

[Main Break/Pressure Loss] in [location] causes [Water System] to issue a boil water advisory

Due to a [water main break/pressure loss], [Water System] advises customers to boil their drinking water. This advisory is for [specific areas (addresses, streets, boundaries]. Customers in other areas of [Water System] are not affected and do not need to boil their water.

Customers should:

- Bring water to a rolling boil for 1 minute.
- Allow water to cool before using.
- Store cooled water in a clean container with a cover.

Customers should use cooled, boiled water or bottled water for:

- Drinking.
- Brushing teeth.
- Preparing and cooking food.
- Making ice.
- Giving water to pets.

[Water System] is [corrective action being taken] to fix the problem. We estimate the Boil Water Advisory will end by [date or time frame]. We will provide the next update at [date or time frame].

The boil water advisory is a precaution. To limit risk, customers should follow instructions contained in this release.

The advisory is in effect until [Water System] and [If appropriate — other agencies] determine the situation is corrected. Customers will be notified immediately when the advisory is lifted

(If applicable, [Water System or City] customers may pick up [alternative water supply] at [location and time]).

For more information, contact [Name, Title] at [Water System], [phone number] or [e-mail], or by mail at [address, city, state, ZIP]. [If applicable: include health department contact.]

Advisory Update Press Release Template

[Date]

FOR IMMEDIATE RELEASE

Contact: [Name, Title, Phone, E-mail]

Drinking water advisory continues:
[Water System] customers in [location] should [boil] drinking water

[Water System] customers should continue to [boil, do not drink, do not use] their drinking water. [Contaminant or event] is still a concern.

Customers should:

- Bring water to a rolling boil for 1 minute.
- Allow the water to cool before using.
- Store cooled water in a clean container with a cover.

Customers should use cooled, boiled water or bottled water for

- Drinking
- Brushing teeth
- Preparing food and infant formula
- Making ice
- Giving water to pets

[Water System] continues to work with [Primacy Agency/Health Department] to [actions under way].

[*Optional — quote from system spokesperson*]
We estimate that the [advisory] will end by [date or timeframe]. We will provide the next update at [date or timeframe].

The advisory is in effect until [Water System] and [other agencies] determine tap water can be used for all purposes. Customers will be notified immediately when the advisory is lifted.

If appropriate: [Water System or City] customers may pick up [alternative water supply] at [location and time].

For more information, contact [Name, Title] at [Water System], [phone number] or [e-mail address], or by mail at [street address, city, state, ZIP]. *[Include health department contact if appropriate.]*

[*Optional — General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.*]

Ending an Advisory Press Release Template

[Date]

FOR IMMEDIATE RELEASE

Contact: [Name, Title, Phone, E-mail]

Water advisory ends for [Water System] customers in [area]

Customers in [Water System — affected area] can use tap water for all purposes. The [drinking water advisory] is lifted. [Water System's] water quality has returned to [standard].

[Water System] [details on tests results/corrective actions]. [Water system] consulted with [Primacy Agency/ Health Department] to correct the problem.

On [date] a [boil water] advisory was issued to customers in [area] because of [test, main break, etc.] and to protect public health. [System name] appreciates its customers' patience.

[*Optional — Water System spokesperson quote*]

[*Optional — Health Department or other agency spokesperson quote*]

[Water System] will work with customers to answer questions [community meeting, phone number etc.]. Customers can look for information on this event in [bill stuffer, newsletter]. The [Consumer Confidence Report], due in [date] is another source for information.

Customers with questions or suggestions may call [telephone number] or e-mail [e-mail address]. Additional information is available from:

- [Health Department – phone, website]
- [Primacy Agency – phone, website]
- EPA Safe Drinking Water Hotline 1-800-426-4791

Section 3: After an Advisory

- Overview
- Post-Event Checklist
- Reporting Requirements
- Debriefing an Event
- Conducting an Evaluation
- Modifying Standard Operating Procedures (SOPs)
- Updating Public Outreach
- Tools and Templates: After an Advisory

Overview

Post-event activities are essential to improve, learn, and prepare for future events. They should reflect the scope and scale of the event. The key is to understand what worked and what did not work during a drinking water advisory in order to improve the process in the future.

Icon Key

- Tools and Templates
- Resources
- Text Message

Assessing Expectations

Each advisory incident is an opportunity to compare planning to performance and expectations to outcomes.

Post-Event Checklist

Reporting Requirements

- ☐ Submit report to state drinking water primacy agency.

Debriefing an Event

- ☐ Debrief and conduct an after action review with staff and partners.

Conducting an Evaluation

- ☐ Perform an evaluation.
- ☐ Collect data and information related to the advisory.
- ☐ Analyze and synthesize the data.

Modifying SOPs

- ☐ Incorporate changes to SOPs.

Updating Public Outreach

- ☐ Identify additional communication steps.
- ☐ Follow up with the public.

Notes

Reporting Requirements

Submit Report to State Drinking Water Primacy Agency

The Environmental Protection Agency (EPA) requires that a copy of any required public notice be submitted by the water system to their state primacy agency. Consult with the state primacy agency for additional reporting requirements.

See **Appendix B: Online Resources, Primacy Agency** for examples of state primacy report forms.

Notes

Debriefing an Event

Debrief and Conduct an After Action Review with Staff and Partners

Debriefing after an advisory helps organizations and communities understand what happened and why it happened during a drinking water advisory. A debriefing offers an opportunity to voice concerns and offer potential improvements and may be led by a neutral facilitator

The format and size of the debriefing is based on the scope and scale of the drinking water advisory. In general, each division or organization that participated should be involved. Debriefings may benefit from having the perspective of an organization that was not involved but was affected by the drinking water advisory.

An After Action Review (AAR) is a structured form of debriefing that can compare planning with real activity. AARs provide a clear understanding of what contributed to success and how to replicate it in the future. Another result is common understanding of where improvements can be made and who will be responsible for following through on agreed action steps. AARs describe outcomes and planned actions.

The process and tools can be adapted for exercises and debriefs. See the **Exercise Planning Template**.

See the **Debrief Discussion Guide** as an example.

The following are steps for conducting a debriefing.

1. **Prepare:** The **Advisory Feedback Form** can be used to plan a debrief.
2. **Conduct:** Ground rules should be established. Consider using an outside neutral facilitator.
3. **Report:** Results of a debriefing can be incorporated into future planning efforts.

Debriefing Ground Rules

To facilitate a debriefing:

- *Respect colleagues. Refrain from personal remarks or assigning blame.*
- *Be honest and willing to share your knowledge and experience.*
- *Keep discussions about individual performance within the group.*
- *Read through the background information and consider the discussion questions.*
- *Accept the drinking water advisory as it happened.*
- *Avoid getting bogged down in small details.*
- *Think about the big picture.*
- *Provide paths forward and solutions where possible.*
- *Observe the time allotted for the debriefing.*

Conducting an Evaluation

Perform an Evaluation

Evaluation is an ongoing assessment of a drinking water advisory protocol. It is the comparison of SOP criteria to performance. The collection and analysis of subjective experiences along with the analysis of objective forms of data or information provide the foundation for evaluation. Even the most basic evaluation provides insight and can improve future advisories and overall communication.

System capacity, the scope of the advisory, and resources guide the evaluation process. The time, resources, and expertise for evaluation vary with the scope. Evaluations can be conducted over time and in different stages. Evaluations draw on many sources of information, including, operational reports, debriefings, surveys, and public comment. See the **Debrief Evaluation**.

Collect Data and Information Related to the Advisory

Different types of data are described below:

- Quantitative data, such as water quality data, Web analytics, and epidemiology statistics.
- Qualitative data, such as customer comments, media reports, staff memos, etc. See **Appendix B: Online Resources, Data Management** for links to information on qualitative data collection.

See **Advisory Feedback Form** and **Call Center Data Collection Framework** for collecting information from partners.

Evaluation Tips

- *Make a list of evaluation questions.*
- *Identify the data sources.*
- *Link the sources.*
- *Proceed with the evaluation.*

Surveys

Surveys are used after an advisory to collect quantitative and qualitative information.

- Customer service surveys may include a section related to an advisory.
- Surveys can be designed to measure perceptions, actions, and communication effects and outcomes.
- The perceptions or recall of respondents will change with the amount of time that passes between a survey and an advisory.
- Surveys can be short and focused or longer to gather a full range of data.

Consult the **Post-advisory Community Survey** for ideas about what to ask in a survey.

Data Management

Manage data as it is collected. Data management activities may include:

- Storing data as hard and electronic copies in a central location for easy access.
- Requesting information from partners involved with the advisory.
- Asking partners about limitations or privacy policies that might limit the ability to report the data.
- Working with database experts to ensure that the database structure used is optimal for doing the planned analysis.

Good Practice

Recognize that data sources and types vary by agency, capacity, and the scope and scale of the drinking water advisory.

Tip

Designate a central location to archive evaluation data.

Analyze and Synthesize the Data

Data are valuable when they are applied. The information must be analyzed, synthesized, and reported in a useful format— to be useful, the data need analysis and synthesis. Use the data to develop questions for public outreach and for the basis of evaluation. The type of analysis depends on the scope and scale of the event. Develop a plan for data analysis that will give the answers needed for improvement and decision making.

Appendix B: Online Resources, Data Management contains links to websites on data frameworks.

Table 2 presents examples of different types of resources and data that can be used to evaluate communication activities during a drinking water advisory.

Table 2: Examples of Drinking Water Advisory Data Type and Sources

Water Systems	Public Health	Media
• Water Quality • Operations Reports • Customer Service • Reports/Interviews	• Surveillance • Laboratory	• Logs • Archive Review • Web Analytics

Notes

Modifying SOPs

Incorporate Changes into SOPs

Develop recommendations to improve communication and SOPs using information derived from the debriefing and evaluation processes. Incorporate changes in water system protocols and communication activities. Use a **Corrective Action Tracking Form** and the **Standard Operating Procedure (SOP) Updates**.

Participants need to know the results of the process. Reports should reflect the size and scope of the drinking water advisory and can range from a simple memo to a full-scale report. A report summarizes essential information for other post-event steps. See the **Follow-Up Memo**.

Updating contact lists is an essential task. Use the debrief process as an opportunity to improve this resource. Build updates into the protocol to create a regular protocol. Build reminders, such as online calendar prompts, into plans to update contact lists.

Tip

Use the same approach for modifying SOPs after an exercise. *(See page 34).*

Updating Public Outreach

Identify Additional Communication Steps

For the public, lifting an advisory may not be the end of the event. An advisory may disrupt the community and undermine the public's confidence in the quality of the drinking water. Continued public outreach can help a water system maintain credibility and trust with customers and stakeholders following an advisory.

Follow up with the Public

Work with partners to identify, develop, and distribute additional outreach materials and activities to engage the public. These may include:

- Revised messages,
- Letter to customers,
- Updates to websites, newsletters, and bill inserts, and
- Meetings with reporters and editors.

Water systems can use the annual Consumer Confidence Report (CCR) to explain advisories, give advice, and provide other sources information. Advisories due to contamination or a violation must be noted in the CCR tables and use specific EPA language. See the **Media Alert Template**.

Media Tours

A media tour of water system facilities, labs, or distribution systems can give reporters a better understanding of advisories. Follow-up stories can explain the big picture, why mains break happen, or infrastructure needs. Water systems cannot control a media story, but can offer a different story.

Section 3 Tools & Templates: After an Advisory

- Debrief Discussion Guide
- Advisory Feedback Form
- Call Center Data Collection Framework
- Post-Advisory Community Survey
- Corrective Action Tracking Form
- Standard Operating Procedure (SOP) Updates
- Debrief Evaluation
- Follow-up Memo

Debrief Discussion Guide

PURPOSE

Debriefs are productive when structured. This discussion guide provides an outline of key points to cover during the debrief session.

DIRECTIONS

Use these questions as a starting point for a debrief discussion about the drinking water advisory event.

What were the goals of the drinking water advisory?

- Whom were we trying to reach?
- What did we want the target audiences to do with the information?

What actually happened?

- List at least three things that worked really well and analyze why.
  - » How do you know they worked well?
  - » What goals or targets did they meet?
  - » Can you identify the actions that can be replicated in future events?
- List at least three things that did not work as planned and analyze how to do them differently.
  - » What criteria did you apply to determine that an action did not work as planned?
  - » Can you identify actions or decisions to avoid in the future?
  - » What might you do differently the next time?
  - » Did you collect or track the information needed to assess or evaluate the advisory properly?
- List any plans, procedures, communication materials, tools, or templates that need revision or development.

What needs to happen next?

- Who needs to be involved in improvements?
- What is the time frame?
- How will others be informed about improvements and changes?
- What should be done differently next time?

Advisory Feedback Form

PURPOSE

This form is intended to be used to gather information from water system staff and other agencies about the advisory protocol and process.

DIRECTIONS

Each participating agency or organization should complete the information below. Remove the identifying data and compile the results. Use the data to update and modify advisory protocols.

Advisory Incident: _____ Date: _____

Name: _____ Title: _____

Agency/Division: _____ Role in Advisory: _____

Telephone: _____ E-mail: _____

From your perspective, what three things were done best? (What went right?)

Based on your experience, list three improvements needed.

Identify action steps that could address these improvements.

List plans, procedures, or communication that need revision or development.

Was all the information needed to assess or evaluate the advisory properly collected?
If not, what is missing and should be collected next time?

Please provide additional comments.

Call Center Data Collection Framework

PURPOSE

This data framework is an example of how to apply call center or customer service (CS) data to an evaluation. The framework provides a more complete data set and includes measurements and goals. The framework approach can be used to evaluate other data from an advisory. This framework example uses specific goals and measurements for evaluation.

DIRECTIONS

Adapt the framework to reflect water system data. Collect and analyze the data using the measurements provided. Use data in customer service databases or from staff debriefings. Incorporate the findings into the advisory protocol as well as other call center or customer service actions.

Evaluation Question	Indicator or Measure	Unit of Measure	Advisory Objective
Did customers call for information about the advisory?	Calls made in response to advisory	• Number of calls during advisory	Customers know where to get information during an advisory
	Number of calls after the advisory	• Number of calls after lifting advisory • Number that needed more information	Customers know the advisory is lifted and how to get information
	Time calls continued after advisory	• Time of last call about advisory	Customers had continued concerns that were addressed
Did communication target the advisory area?	Calls sorted by area	• Number in specific area • Number outside of area • Percent area/for all calls	Communicate an advisory to a targeted area
Were customer questions anticipated and answered?	Call themes	• Number of calls by CS code	Identify frequent questions to understand advisory concerns and reactions
	Script updated	• Y/N • Number of updates	CS staff are updated with new information
	Referred calls Where calls were referred	• Y/N • Number of calls referred by agency	CS staff are prepared to refer calls to other agencies as necessary

Call Center Data Collection Framework, continued

Evaluation Question	Indicators or Measure	Unit of Measure	Advisory Objective
Were Customer Service (CS) staff prepared for an advisory?	Script preparation time	• Time to delivery to CS staff	Advisory communication material is provided to CS in a timely manner
	Briefed CS staff Updated CS Staff	• Y/N • Number of updates	Advisory information is conveyed to CS staff
	Scripts address customer questions	• Y/N	CS scripts provide appropriate support
Did CS staff have the correct resources for an advisory?	Plan for staffing Hours for staffing, length of shift	• Y/N • Time per day for advisory	CS staffing can adapt to increased demands during an advisory
	Phone lines were accessible Enough phone lines	• Y/N • Y/N • Number of phone lines	Communication lines have the capacity to meet increased demands during an advisory
	Call response time Length of advisory calls Web/e-mail response	• Time to return customer calls • Time per phone conversation • Number of e-mails received	CS staff have the resources to respond to customers in a timely manner during an advisory
Did CS data codes work for an advisory?	Rank customer service codes used during the advisory	• Number per code listed	CS codes will provide information and data about advisories
Were CS evaluation results incorporated into protocols?	Customer survey	• Y/N	Customers understand communication
	Apply survey data to advisory protocol and materials	• Y/N	Use CS data to improve advisory response

Post-Advisory Community Survey

PURPOSE

Surveys are an important element of an evaluation. Conducting a survey after an advisory will provide crucial information on messages and the communication preferences of a water system's audiences.

DIRECTIONS

This survey can be used for phone, mail, or online formats. Questions provided are suggestions and should be adapted to suit the advisory and community. Questions in this example can be placed in regular water system surveys or in public health surveys.

[Letterhead or Logo]

[Water System] needs your help to better serve you and protect community's health. We want to improve public information and advice. Specifically, [Water System] wants to understand how people receive information and advice about the drinking water advisory on [date]. Your participation will help [Water System] improve communication in the future.

The survey below will take about [xx] minutes to complete. All information collected is confidential. We cannot identify who does or does not participate, or link answers to any one person.

We will use the results of this survey to [report data, how will you use/publish the data].

[Directions on how to submit survey: Consider using e-mail and an online survey tool to conduct the survey to make it easier to tabulate results. Otherwise, include a self-addressed stamped envelope or postage paid form to improve response rates.]

For more information, please contact:

[Utility contact name]

[Utility contact phone]

[Utility website]

[Local public health department phone]

[Local public health department website]

Post-Advisory Community Survey, continued

1. **Which type of water do you prefer to drink? Please rank your preferences using a scale of 1–4, with 1 as the most preferred type and 4 as the least preferred.**

   ____ Water straight from the tap

   ____ Bottled water

   ____ Filtered tap water

   ____ Other (please specify) _____

2. **How many 8-ounce glasses (the size of a soft drink can) of water do you drink on a normal day?**

   ☐ 0 ☐ 4-6

   ☐ 1-3 ☐ 7+

On [date], [Water System] issued a [type] advisory because [reason].

3. **Did you know about the [advisory] on [date]?**

   ☐ Yes

   ☐ No (Go to Question 14)

3a. What advice did you get during the advisory? Check all that apply.

☐ Do not use tap water ☐ Do not drink tap water

☐ Boil all tap water ☐ Was told the water was safe

☐ Not sure what the advice was ☐ I did not get any advice (Go to Question 4)

3b. Where did you get the information? Check all that apply.

☐ Family member or friend ☐ Television

☐ [Water System] ☐ Coworker

☐ [Local newspaper] ☐ Automated Message

☐ Local radio ☐ Blog or other web format

☐ [Local Health Department] ☐ Door hanger— Door-to-door

☐ Website. Please specify: ☐ Other. Please specify:

_____ _____

Post-Advisory Community Survey, continued

4. During this time, I used water straight from the tap to… Check all that apply.

- ☐ Flush the toilet
- ☐ Brush teeth
- ☐ Make baby formula
- ☐ Wash hands
- ☐ Water plants
- ☐ Prepare and cook food
- ☐ Shower or bath
- ☐ Give pets a drink
- ☐ Drink
- ☐ Make coffee or tea

5. During the [advisory], did you boil the tap water before you used it?

- ☐ Yes
- ☐ No (Go to Question 6)

5a. If yes, I used boiled tap water to… Check all that apply.

- ☐ Flush the toilet
- ☐ Brush teeth
- ☐ Make baby formula
- ☐ Wash hands
- ☐ Water plants
- ☐ Prepare and cook food
- ☐ Give pets a drink
- ☐ Drink
- ☐ Make coffee or tea

6. Did you hear the [advisory] ended on [date]?

- ☐ Yes
- ☐ No

6a. If yes, where did you hear or see the end of the [advisory]? Check all that apply.

- ☐ Family member or friend
- ☐ [Water System]
- ☐ [Local newspaper]
- ☐ Local radio
- ☐ [Local Health Department]
- ☐ Website. Please specify: _____
- ☐ Television
- ☐ Coworker
- ☐ Automated Message
- ☐ Blog or other web format
- ☐ Door hanger— Door-to-door
- ☐ Other. Please specify: _____

6b. When you heard the advisory ended, did you resume regular water use?

- ☐ Yes
- ☐ No

Post-Advisory Community Survey, continued

7. What sources of information about the [advisory] were most useful? Please rank using 1 as the most useful and 10 as the least useful.

____ Family member or friend
____ [Water System]
____ [Local newspaper]
____ Local radio
____ Website. Please specify: _____
____ [Local Health Department]
____ Automated Message
____ Blog or other web format
____ Door hanger— Door-to-door
____ Other. Please specify: _____

8. Did you want more information about the advisory?

☐ I really needed more information
☐ I would have liked more information
☐ I had enough information (Go to Question 9)

8a. If yes, which source would you want to give you more information? Select one.

☐ Family member or friend
☐ [Water System]
☐ [Local newspaper]
☐ Local radio
☐ [Local Health Department]
☐ Website. Please specify: _____
☐ Television
☐ Coworker
☐ Automated Message
☐ Blog or other web format
☐ Door hanger— Door-to-door
☐ Other. Please specify: _____

9. How clear was the advice about your tap water? Select one.

☐ Very unclear
☐ Unclear
☐ Understandable
☐ Clear
☐ Very clear

10. Please add below any comments you would like to make about the information you received.

_____

_____

_____

Post-Advisory Community Survey, continued

11. During [date range], can you remember what caused the problem with your tap water? If so, please give details and where you heard it.

_____

_____

_____

_____

12. After the incident, did you find out more about what caused the problem with your tap water? If so, please give details of the new information and, where applicable, where you got it from.

_____

_____

_____

_____

13. How long did you boil your water?

- ☐ Until it started to bubble/reached boiling point
- ☐ A few seconds
- ☐ 1 minute
- ☐ 2–4 minutes
- ☐ 5 minutes or more

Demographics

14. Did you live in [area] on [date of event]?

- ☐ Yes (Skip to Question 15)
- ☐ No

14a. If no, what was your ZIP code on [date]? _____

15. Gender

- ☐ Male
- ☐ Female

16. What is your age?

- ☐ 17 or under
- ☐ 18-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61-70
- ☐ 70+

Post-Advisory Community Survey, continued

17. Do you have children under the age of 18 in your home?

- ☐ Yes, how many ____
- ☐ No (Skip to Question 18)

17a. Age range of children. Check all that apply.

- ☐ 0-1 year
- ☐ 2-4 years
- ☐ 5-12 years
- ☐ 13-17 years

18. Is English the primary language in your home?

- ☐ Yes
- ☐ No, my primary language is _____

Thank you for taking the time to complete this questionnaire.

Corrective Action Tracking Form

PURPOSE

Tracking corrective actions to be taken after a drinking water advisory helps to ensure that follow-up items are completed. This form can be used for debriefings, exercises, and other collaborations.

DIRECTIONS

Complete this immediately after a session. Distribute to the responsible individual or organization.

TRACKING NO.	DATE ENTERED:
Responsible Staff:	
Organization:	
Phone:	
Drinking Water Advisory Date:	
Short Description of Findings:	
Determination:	
Detailed Description of Action Needed:	
Estimated Completion Date:	
For Internal Use Only	
Entered By/Date:	Date Action Completed:

Standard Operating Procedure (SOP) Updates

PURPOSE

Updating SOPs based on evaluation findings is the final step after an event. This table is a simple means of tracking action items and assigning responsibilities for those updates.

DIRECTIONS

In the table below,

- *identify the participating departments, agencies, or other partners [group or team columns],*
- *the area of improvement identified in the evaluation [items column], and*
- *the actions needed to make the improvement [actions column].*

Identify the role or responsibility for each group involved in the action:

- *P = Primary*
- *S = Support*
- *O = Oversight*
- *C = Coordination*
- *N/A = No responsibility related to this action*

This table can be adapted to reflect current practices or terms used in a specific organization. Include the date as a point of reference.

Date						
[Items]	[Water Quality]	[Operations]	[Communication]	[Administration]	[Management]	[Actions]
[For example: Individuals who are deaf or hard of hearing not effectively reached during event]	*[N/A]*	*[S]*	*[P]*	*[O]*	*[C]*	*[Update list of susceptible populations and contacts]*

Debrief Evaluation

PURPOSE

This evaluation form provides quantitative data to evaluate both the advisory and the debrief. This information can be applied to developing future protocols and exercises.

DIRECTIONS

Copy this form and give to the debrief or exercise participants after the session. Ask them to complete the form before they leave. Collate the results and use to evaluate the debrief or exercise. Use this as an actual form for participants or as an informal discussion guide for debriefs and exercises.

1. Did this exercise assist your organization in understanding the aspects of collaboration needed to respond to water and health issues?

   ☐ Yes ☐ No

2. Overall, will this experience assist you in better serving your community?

   ☐ Yes ☐ No

3. Were all of the organizations needed for this type of collaboration at the table?

   ☐ Yes ☐ No

   If no, which organizations or individuals should be involved in future collaborations? _____

   _____

4. Did you need more information to address the scenarios?

   ☐ Yes ☐ No

   If yes, what type of additional information did you need? _____

5. Were any methods of communication missing?

   ☐ Yes ☐ No

   If yes, what would you add? _____

   _____

6. What steps does your organization need to take to improve communication and relationships with stakeholders in your community? _____

   _____

   _____

Debrief Evaluation, continued

7. What steps does your organization need to take to improve relationships with water systems/health agencies/health care providers? _____

_____

_____

8. Please provide other comments or observations. _____

_____

_____

Thank you again for your time and assistance in this project!

Follow-Up Memo

PURPOSE

Water systems and organizations involved with an advisory or exercise should communicate about results and actions. Sending a simple memo will keep staff and the communication network partners engaged and informed.

DIRECTIONS

Use this outline for the follow-up memo. Include details as necessary. Adapt for each specific advisory or event.

MEMO:

DATE:

TO: [All communication network participants and any other organizational representatives who are expected to undertake activities as a result of the drinking water advisory.]

FROM: [Water System Manager/Emergency Operations Plan Leader]

CONTENTS:

- [Thank you for participation/event]
- [General success of the exercise]
- [Follow-up assignments]
  - » [Action/recommendation]
  - » [Assigned to]
  - » [Expected completion date]
  - » [Report progress to whom, when]

ATTACHMENTS:

- [Event report]
- [Corrective action tracking form]

Appendix A: Glossary of Terms and Abbreviations

***Note:** Terms in this glossary are defined by their use in this toolbox.*

A

Abbreviated message: Brief communication with essential information that directs the reader to a separate location for additional information. It is typically delivered through electronic means, such as a scroll on a television broadcast, phone message, text message, and social media formats.

Advisory [Drinking Water Advisory]: Communication to water users (customers) about specific actions to take regarding water use.

After Action Review (AAR): A structured and facilitated discussion among participants in an event to compare what actually happened with what was intended to occur.

ASDWA: Association of State Drinking Water Administrators.

Automated message: Communication delivered through a mechanical system, such as a reverse 911 system.

B

Boil Water Advisory: Communication to customers of water systems about boiling water before consuming.

C

Capacity: The ability of an organization to contribute resources, such as staff time, money, and expertise.

CCR: Consumer confidence report.

CDC: U.S. Centers for Disease Control and Prevention.

Coliform bacteria: Coliforms are a type of bacteria always present in the digestive tracts and feces of humans and animals. They can also be found in plant material, water, and soil. Most of the time, these bacteria are not harmful. Coliforms are sometimes called total coliform and are used as an indicator of possible water contamination.

Coliphage: A virus that infects bacteria is called a phage. Phages infect specific species of bacteria. Coliphages infect coliform bacteria. Coliphages do not infect humans or cause illness. Their presence indicates the water may be contaminated with *E. coli*.

Consecutive system: A water system that receives its supply from another water system.

Contaminant: An unwanted chemical or microbe found in drinking water.

Corrective Action: The activities taken by a water system to fix an identified deficiency.

Crisis communication: A communication approach that relays the risks and benefits of different actions to agencies, consumers, and other stakeholders during an emergency or disaster.

Critical customer: Customers that receive priority notification during a drinking water advisory.

CS: Customer service.

D

Drinking Water Advisory: Water systems and state or local agencies issue drinking water advisories when they believe water quality is or may be compromised. Advisories tell individuals, schools, hospitals, businesses, and others about the situation and how to take immediate action.

Debrief (or debriefing): An informal, semi-structured discussion with stakeholders, partners, and other participants following an event or exercise to obtain useful information and improve or enhance operations.

Do Not Drink advisory: Communication to customers to avoid tap water and use other sources of water for human consumption. Used if boiling the water would concentrate or release the contaminant of concern into the air.

Do Not Use advisory: Communication to customers not to use tap water for any purpose, including sanitation and fire protection.

E

Escherichia coli (E. coli): A species of fecal coliform bacteria. *E. coli* almost always comes from animal feces. *E. coli* is considered the best indicator of fecal contamination. If *E. coli* is present, more harmful bacteria or other pathogens may also be present. Some types of *E. coli* (e.g., O157:H7) cause illness, while others do not.

EPA: U.S. Environmental Protection Agency.

ERP: Emergency response plan.

Evaluation: A process that compares outcomes to expectations. It is the systematic collection of information about the characteristics and outcomes of activities and compares them to practices, protocols, and materials. Based on the comparison, recommended changes to practices, protocols, and materials can be made to reduce uncertainties and improve effectiveness in future actions and decisions.

Evaluator: An individual who observes and assesses the interactions and outcomes of an exercise. Evaluators do not participate in the exercise.

Exercise: A practice event based on a scenario to test the effectiveness of planning. Also called drill or tabletop exercise.

F

Facilitator: A designated individual to structure and run an exercise or debrief.

Fecal coliform indicators: Groups of microbes, such as *E. coli*, enterococci, and coliphage, used under the Groundwater Rule to indicate possible water contamination.

G

Groundwater: Water from wells, springs, or aquifers used by water systems for drinking water.

H

Health literacy: The ability to receive, process, understand, and act on basic health information.

HSEEP: Homeland Security Exercise and Evaluation Program.

Homeland Security Presidential Directive 5 (HSPD-5): Management of Domestic Incidents requires all federal departments and agencies to make adoption of the National Incident Management System (NIMS) by state, tribal, and local organizations as a condition for federal preparedness assistance.

I

Incident Command System (ICS): A standardized, on-scene management approach used by all levels of government, many nongovernmental organizations, and the private sector to provide organizational structure for emergency response and recovery.

J

Jurisdiction: The sphere of authority related to legal responsibilities that can be political/geographic (city, county, state) or functional (water service, public health).

M

Mandatory advisory: A notice or communication required by state law issued to protect public health.

Message: The primary instructions, actions, and information expressed in a communication with an audience.

Message map: A risk communication tool to develop the most pertinent information about an event or emergency. A message map is a set of organized statements that address likely questions about an incident.

MOU: Memorandum of understanding.

N

National Incident Management System (NIMS): A system to coordinate emergency preparedness and incident management among various federal, state, and local agencies. NIMS provides the template for the management of incidents.

Network: A group of partners that work together to achieve timely, effective, and extensive outreach. Some communities may have an existing collaboration, usually coordinated around emergency management.

Nitrate: Nitrate is a chemical found in most fertilizers, animal manure, and liquid waste discharged from septic tanks. Natural bacteria in soil can convert nitrogen into nitrate.

Notification: The process of communicating information to audiences per Environmental Protection Agency (EPA) requirements.

P

Partner: Any organization or agency that can help to plan, develop, and distribute messages.

pH: The measure of the acidity or alkalinity of a solution on a scale from 0-14.

PNiWriter: A Web tool for preparing drinking water advisories that comply with the Safe Drinking Water Act.

Precautionary advisory: Communication to customers issued when contamination is suspected but not confirmed.

PIO: Public Information Officer.

PNR: Public Notification Rule.

Preparedness: Anticipating and planning response and recovery to unpredictable events.

Primacy agency: The state agency that regulates and enforces community water systems under the Safe Drinking Water Act. Drinking water programs can be located in a state department of health, department of environment, or regional Environmental Protection Agency (EPA).

Public official: Any elected or appointed member of a jurisdictional or water system governing body.

R

Risk communication: An exchange of information and opinion among a water system, consumers, primacy agencies, and other stakeholders in both nonemergency situations and as part of crisis communication. This exchange assists customers as they evaluate information, put it into context, and make health-related decisions for themselves and those who depend on them.

S

Safe Drinking Water Act (SDWA): The main federal law that ensures the quality of Americans' drinking water. Under the SDWA, the Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards.

Scope, scale, and severity: Terms used in this project as criteria to help water systems define how much collaboration and outreach is needed for an advisory.

Scope:
The population, number of water systems, or jurisdictions involved with the advisory. The greater the number affected, the larger the scope.

Scale:
Size of the area affected, such as a neighborhood, entire city, or geographic region. The larger the area affected, the larger the response.

Severity:
Is this a routine situation or new? A disease outbreak or natural disaster or cross connection? The greater the threat to public health, the greater the severity.

Susceptible populations: Groups of people with medical needs or conditions that make them more vulnerable to adverse effects of poor water quality issues. Susceptible populations include babies and young children, pregnant women, and people who are immunocompromised, elderly, or on dialysis.

Single Overriding Communication Objective (SOCO): A communication tool to identify the key point or objective to be conveyed in an interview with the media.

SOP: Standard Operating Procedures.

Spokesperson: An individual responsible for interfacing with the public and media or other agencies requiring information about an incident.

Strategic communication plan: A business management tool that community water systems can use for decision making and resource allocation in communicating with the public, customers, and other stakeholders.

Surface water: Water that collects on the ground and in an open body of water, such as a lake or stream.

T

Tier 1 Public Notice: The top level of public notice, which requires water systems to inform customers within 24 hours of violations of SDWA standards because the situation poses acute public health risks.

V

Variable Message Signs (VMS): VMS, also known as changeable message signs (CMS) or dynamic message signs (DMS), are electronic road signs that display messages.

W

Web analytics: The collection, measurement, analysis, and reporting of Internet data for a specific website. Measures include number of visitors, page views, and time on site.

Wholesale system: A water system that has a financial agreement to buy water from another water system.

Widgets: A web application that places information in a webpage, allowing users to interact with the content contained in the widget. Widgets display information and invite the user to act in a number of ways. Typical widgets include buttons, dialog boxes, pop-up windows, pull-down menus, and icons.

Appendix B: Online Resources

Public Notification, Safety, and Preparedness

- Revised Public Notification Handbook. EPA. 2010. Chap. 3-6.
  http://www.epa.gov/safewater/publicnotification/pdfs/Revised-Public-Notification-Handbook-CWS.pdf
- Public Notification Basic Information. EPA website.
  http://epa.gov/lawsregs/basic/index.html
- EPA Consumer Information Page.
  http://water.epa.gov/drink/info/index.cfm
- PNiWriter – Web tool for preparing SDWA-compliant public notices.
  http://www.pniwriter.org/
- Water-Related Emergencies and Outbreaks Home – Healthy Water. CDC.
  http://www.cdc.gov/healthywater/emergency/safe_water/personal.html
- Recovering from a Disaster. Federal Emergency Management Agency.
  http://www.fema.gov/plan/prepare/water.shtm
- Lead and Copper Rule 2007 revisions. EPA.
  http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/lcrmr_index.cfm#2007

Data Management

- Analyzing Qualitative Data for Evaluation. Evaluation Research Team. CDC.
  http://www.cdc.gov/HealthyYouth/evaluation/pdf/brief20.pdf
- Analyzing Qualitative Data. University of Wisconsin-Extension.
  http://learningstore.uwex.edu/assets/pdfs/G3658-12.pdf
- Collecting Evaluation Data: An Overview of Sources and Methods. University of Wisconsin-Extension.
  http://learningstore.uwex.edu/assets/pdfs/G3658-4.pdf
- Data Collection Methods for Evaluation: Questionnaires. CDC.
  http://www.cdc.gov/HealthyYouth/evaluation/pdf/brief14.pdf
- Qualitative Research Guidelines Project. Robert Wood Johnson Foundation.
  http://www.qualres.org/index.html

Disinfecting Water

- Ground Water and Drinking Water. EPA Office of Ground Water and Drinking Water.
  http://water.epa.gov/drink/emerprep/emergencydisinfection.cfm
- Emergency Action Plans for Retail Food Establishments. Michigan Emergency Management, pp. 18-30.
  http://www.michigan.gov/documents/MDA_EmergencyActionPlan_109428_7.pdf

Exercise Planning and Preparedness

- Blue Cascades. Center for Regional Disaster Resilience. Pacific Northwest Economic Region. http://www.regionalresilience.org/home/BlueCascades/tabid/108/Default.aspx
- Emergency Response Tabletop Exercises for Drinking Water and Wastewater Systems. EPA. http://www.epa.gov/safewater/watersecurity/tools/trainingcd/index.html
- Homeland Security Exercise and Evaluation Program. FEMA. https://hseep.dhs.gov/pages/1001_HSEEP7.aspx
- Public Health Emergency Exercise Toolkit: Planning, Designing, Conducting and Evaluating Local Public Health Emergency Exercises. Columbia University. http://www.nycepce.org/Documents/PHEmergencyExerciseToolkit.pdf
- Emergency Response Planning Guide for Public Drinking Water Systems. State of Connecticut Department of Public Health. http://www.ct.gov/dph/LIB/dph/drinking_water/pdf/CT_ERP_GUIDE.pdf
- Tabletop Exercise Planning Guide for Public Drinking Water Systems. Washington State Department of Health. http://www.doh.wa.gov/ehp/dw/Publications/331-279.pdf
- State Homeland Security and Emergency Services. U.S. Department of Homeland Security. http://www.dhs.gov/files/resources/editorial_0306.shtm

Health Literacy

- Health Literacy Information and Guidelines. U.S. Department of Health and Human Resources. http://www.hrsa.gov/publichealth/healthliteracy
- Quick Guide to Health Literacy. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, Sec. 3:1. http://www.health.gov/communication/literacy/quickguide/Quickguide.pdf

National Incident Management System (NIMS)

- NIMS Resource Center. FEMA. http://www.fema.gov/pdf/emergency/nrf/nrf-support-cikr.pdf
- FEMA 501-8, NIMS Basic: The Incident Command System. FEMA. http://www.fema.gov/emergency/nims/IncidentCommandSystem.shtm
- Water Sector National Incident Management System (NIMS) Implementation Objectives. EPA. http://www.warws.com/documents/nimsobjectives.pdf

Primacy Agency

- State Primacy Agency Fact Finder. Association of State Drinking Water Agencies. http://www.asdwa.org/index.cfm?fuseaction=Page.viewPage&pageId=487

Risk Communication

- Effective Risk Communication: The Nuclear Regulatory Commission's Guidelines for External Risk Communication. U.S. Nuclear Regulatory Commission. http://pbadupws.nrc.gov/docs/ML0406/ML040690412.pdf
- Risk Communication in Action: The Tools of Message Mapping. EPA. http://www.epa.gov/nrmrl/pubs/625r06012/625r06012.pdf
- Crisis and Risk Communication. U.S. Centers for Disease Control and Prevention. http://www.bt.cdc.gov/cerc/pdf/CERC-SEPT02.pdf
- Crisis and Emergency Risk Communication by Leaders for Leaders. CDC. http://www.bt.cdc.gov/cerc/pdf/leaders.pdf
- Communicating in a Crisis: Risk Communication Guidelines for Public Officials. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. http://www.riskcommunication.samhsa.gov/RiskComm.pdf
- A Primer on Health Risk Communication. U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. http://www.atsdr.cdc.gov/risk/riskprimer/index.html#preface
- Water Quality: Guidelines, Standards and Health, Chapter 14. Risk Communication. World Health Organization. http://www.who.int/water_sanitation_health/dwq/iwachap14.pdf

Safe Drinking Water Act

- Safe Drinking Water Act. EPA. http://www.epa.gov/lawsregs/laws/sdwa.html

Sample Reporting Forms

- National Outbreak Reporting System – Waterborne Disease Transmission. CDC. http://www.cdc.gov/healthywater/pdf/statistics/wbdoss/nors/NORS_CDC_5212.pdf

Susceptible Populations

- Modern Language Association Language Map. http://www.mla.org/census_main
- SNAPS: Snap Shots of State Population Data. CDC. http://www.bt.cdc.gov/snaps/data/
- U.S. Census Bureau. http://factfinder.census.gov/home/saff/main.html?_lan=en
- New American Media. http://newamericamedia.org/network/ems
- Translations for Public Notification. Washington Department of Health, Office of Drinking Water. http://www.doh.wa.gov/ehp/dw/translations/translations.htm
- Preparing Your Drinking Water Consumer Confidence Report, Revised Guidance for Water Suppliers. EPA. http://www.epa.gov/safewater/ccr/pdfs/guide_ccr_forwatersuppliers.pdf

- Revised Public Notification Handbook – Translated Phrases. EPA. http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/upload/PNrevisedPNHandbookMarch2010.pdf
- Lead and Copper Rule 2007 Short-Term Revisions and Clarifications Implementation Guidance – Public Education Requirements. EPA. http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/upload/2007_12_11_lcrmr_pdfs_draft_guidance_lcmr_implementationshortterm.pdf

Additional Water and Health Resources

- Coordinating Call Centers for Responding to Pandemic Influenza and other Public Health Emergencies: A Workbook for State and Local Planners. CDC, p. 59-79, 81-94. http://www.bt.cdc.gov/healthcare/pdf/FinalCallCenterWorkbookForWeb.pdf
- National Notifiable Diseases Surveillance System. CDC. http://www.cdc.gov/ncphi/disss/nndss/phs/infdis.htm
- Protocols: Interim Recommended Notification Procedures for Local and State Public Health Department Leaders in the Event of a Bioterrorist Incident. CDC. http://www.bt.cdc.gov/EmContact/Protocols.asp
- Medical Management Guidelines for Chemical Agents. CDC. http://www.bt.cdc.gov/chemical/mmg.asp
- Guidance for Industry: Use of Water by Food Manufactures in Areas Subject to a Boil-Water Advisory. U.S. Food and Drug Administration http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/FoodDefenseandEmergencyResponse/ucm211373.htm
- Healthcare Water System Repair Following Disruption of Water Supply. CDC. http://www.bt.cdc.gov/disasters/watersystemrepair.asp
- Hospitals, Health Care Facilities and Nursing Homes. CDC. http://www.cdc.gov/parasites/crypto/health_professionals/bwa/hospital.html
- Ground Water & Drinking Water Frequent Questions. EPA. http://safewater.supportportal.com/ics/support/default.asp?deptID=23015

Appendix C: Toolbox Bibliography

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