Drinking Water Advisory Communication Toolbox (DWACT): Challenges for Foodservice and Healthcare

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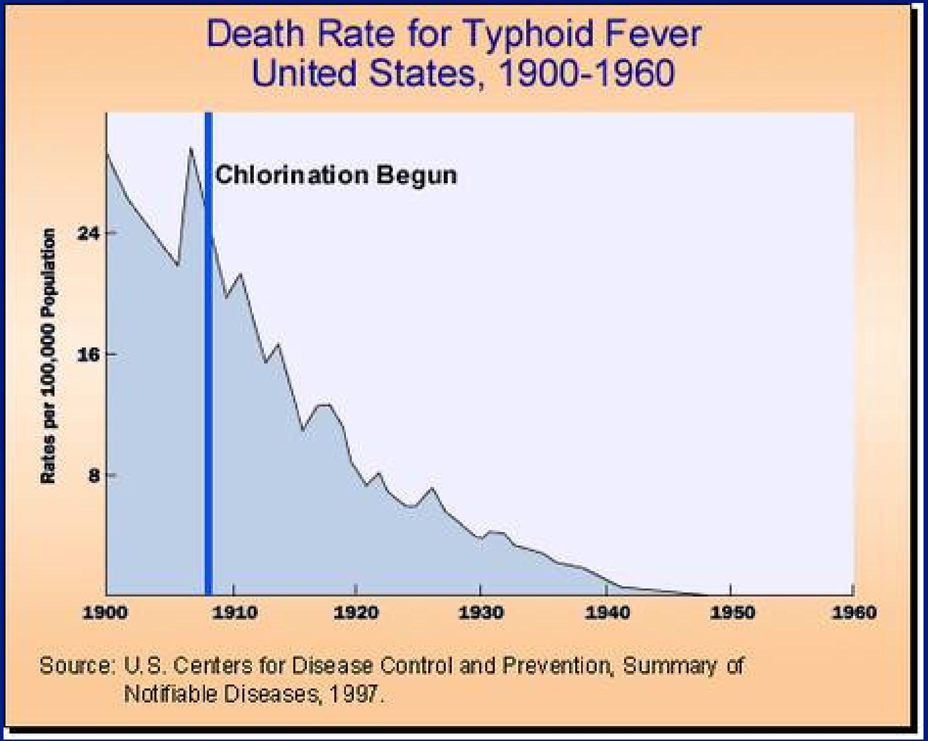
InFORM Meeting
November 20, 2013

National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne, Waterborne and Environmental Diseases

U.S. Drinking Water History & Future

- Safe Drinking Water: A cornerstone of public health

- Treated water: one of greatest public health achievements of 20th Century



- Preventing water-related disease and outbreaks
  - Strengthen collaboration between utilities and state & local public health

EPA. The History of Drinking Water Treatment: 2000.; CDC. Achievements in Public Health, 1900-1999: Safer and Healthier Foods. MMWR 1999; 48(40): 905.; CDC. Summary of Notifiable Diseases—United States, 2006. MMWR 2008; 55(53): 17

San Antonio Water History

- Water abundance
- Early canals – 1720
- Served as both water source and waste disposal
- Worked adequately until the cholera epidemics of 1849 and 1866

Waterborne disease in US: a developed world paradigm

WHY DO WE NEED A TOOLBOX?

Aging Water Infrastructure

- ASCE water infrastructure grades: D-
- 240,000 water main breaks per year
- Drinking Water Advisories happen frequently, and we need to be prepared

http://www.valleynewslive.com/story/14866405/water-main-breaks-in-fargo

What is a Drinking Water Advisory

- Public notice issued by water systems and state or local agencies when they believe water quality is or may be compromised
- Mandated by EPA
- Advisories tell individuals, schools, hospitals, businesses, and others about the situation and how to take immediate action
  - boil tap water before drinking
  - avoid drinking tap water
  - avoid using tap water

Communication Challenges

- After action meeting in large water system
- Many agencies involved
- Lines of communication unclear
- Area where CDC could play a role

CDC Mission

Collaborate to create the expertise, information, and tools that people and communities need to protect their health – through health promotion, prevention of disease, injury and disability, and preparedness for new health threats

http://www.cdc.gov/about/organization/mission.htm

DEVELOPMENT OF THE TOOLBOX

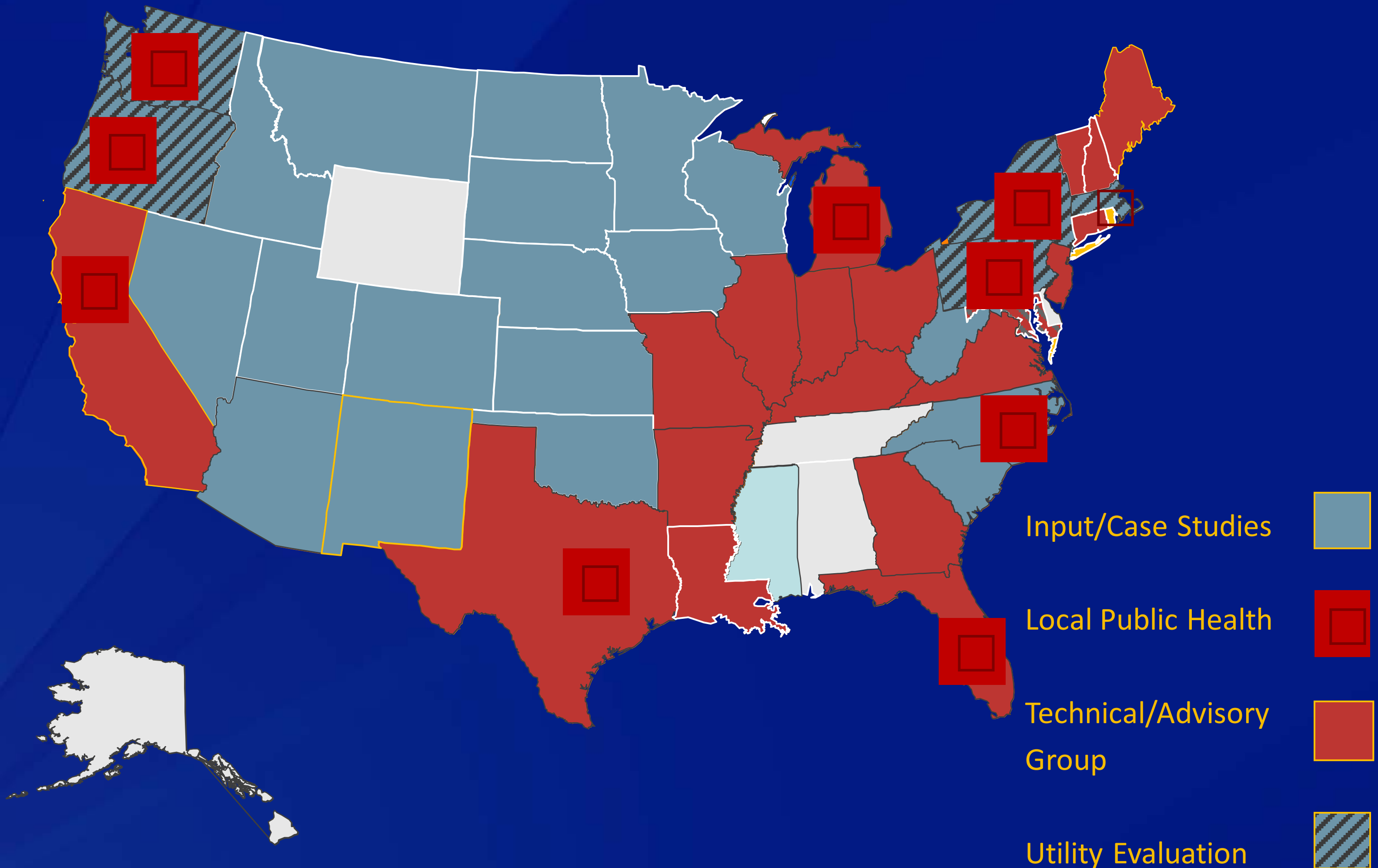
Drinking Water Advisory Toolbox Project

- Goal: To provide a <u>practical</u> toolkit based on identified best practices used by others
- What it is
  - Collaborative effort
  - Covers a wide range of potential events
  - Logical process
  - Tools & templates
  - Resources
- What it isn't
  - "Cookbook" approach
  - Replacement for regulatory requirements

Project Team

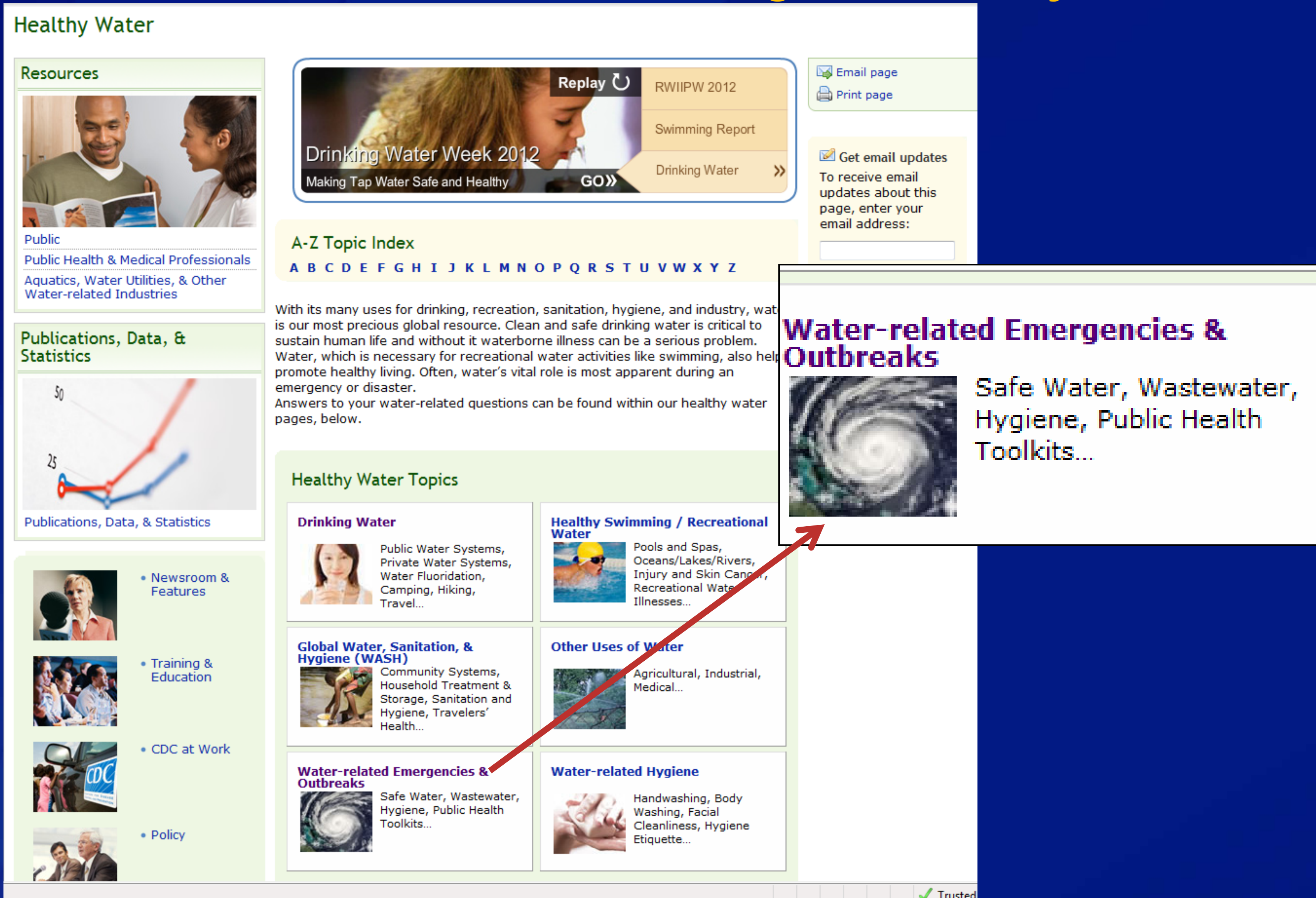
- AWWA & CDC
- Partners, Collaborators, Contributors, Reviewers
  - AMWA
  - ASDWA
  - ASTHO
  - EPA
  - NEHA
  - State & Local Public Health agencies and water authorities
  - Public & Private Drinking Water Systems
  - Aqua Vitae
  - King's College - London

Project Participation



USING THE TOOLBOX

Where to find it: www.cdc.gov/healthywater



http://www.cdc.gov/healthywater/emergency/dwa-comm-toolbox/index.html

CDC Centers for Disease Control and Prevention
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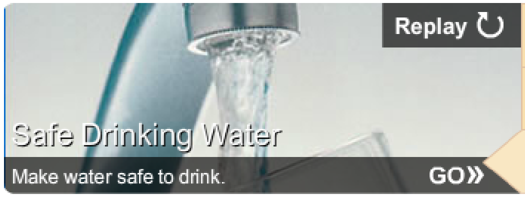
A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Water-Related Emergencies & Outbreaks



Cholera in Haiti

Toolkit

Drinking Water »

Water-related emergency preparedness and outbreak response has become one of the most significant and crucial issues in recent history. Individuals, families, and businesses have been advised to be prepared for emergencies by creating disaster supply kits that include appropriate amounts of safe drinking water. Emergencies can include natural disasters (for example, hurricanes, floods, and droughts) man-made disasters (for example, intentional contamination), and outbreaks (for example, infections linked to water exposure). Preparedness resources include preparedness toolkits, preparedness training, and directions for emergency disinfection.

Water-related Emergencies and Outbreaks Topics

Safe Drinking Water
Personal Water Storage, Wells, Community Water Systems...

Outbreak Response Resources
Toolkits, Guides, Laboratory Testing...

Septic & Wastewater
Septic Systems, Community Wastewater Treatment...

Drinking Water Advisory Resources
Planning, Communications, Implementation, Evaluation...

Hygiene & Handwashing
Handwashing, Bathing, Dental, Wound Care...

Publications, Data, & Statistics
MMWR & EID Reports, References, Surveillance, Outbreaks...

Cleaning & Sanitizing
Cleaning and sanitizing with bleach...

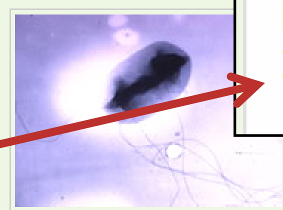
Training & Education
Educational resources and training...

Flood Water Exposure
Health Risks, Mold, Building Clean-up...

Policy
Water-related Emergencies Policy...

Preparedness Resources
Preparedness, Training, Shelters/Mass Care...

Water-related Emerge... and Outbreaks



During water-related emergencies, the quality and safety of water can be compromised. Water-related emergencies can be created by natural disasters such as earthquakes, floods, hurricanes, tornadoes, and landslides. For a complete list of natural disasters and how to prepare and respond to them, please visit CDC's **Natural Disasters and Severe Weather** page.

A waterborne outbreak is a cluster of two or more infections caused by the same agent(s) and linked to the same water exposure. Outbreaks can be caused by water contaminated with pathogens, chemicals, or toxins which can be spread through ingestion of,

Email page
Print page

Resources

Healthy Water

- Water-Related Work at CDC
- Water Observances

Drinking Water Advisory Resources
Planning, Communications, Implementation, Evaluation...

Contact Us:

Centers for Disease Control and Prevention
1600 Clifton Rd
Atlanta, GA 30333

800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6348

New Hours of Operation
8am-8pm ET/Monday-Friday
Closed Holidays

cdcinfo@cdc.gov

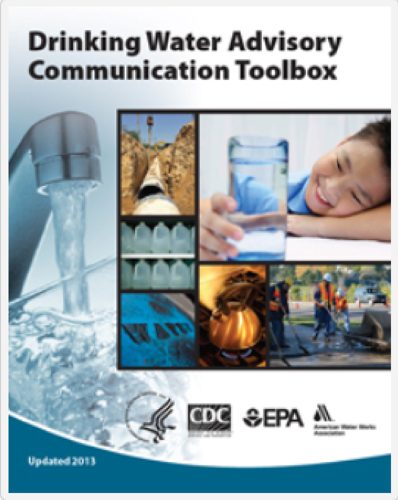
Trusted

Drinking Water Advisory Communications Toolbox

Healthy Water Home

Recommend Tweet 2 Share

Drinking Water Advisory Communication Toolbox



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—to boil tap water before drinking, for example, or to avoid drinking or even using tap water.

What's in the Toolbox?

The Drinking Water Advisory Communication Toolbox provides a practical guide and protocol for communicating with stakeholders and the public about water advisories that is based upon research and identified practices. It focuses on water systems and addresses the spectrum of situations that generate drinking water advisories—from a water main break to a hurricane, a drop in pressure, or intentional contamination.

The toolbox provides information on how to plan for, develop, implement, and evaluate drinking water advisories. It includes instructions on how to prepare before an event, what to do during an event, templates and tools to use, and recommendations for follow-up actions and assessments after an event to enable water systems to communicate effectively with partners and the public in order to protect public health.

How to Use the Toolbox

The toolbox is available in two formats:

Email page link
Print page

Get email updates
To receive email updates about this page, enter your email address:

What's this? Submit

Contact Us:

Centers for Disease Control and Prevention
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800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6348
Contact CDC–INFO

For more information, please contact us at healthywater@cdc.gov

Drinking Water
Healthy Swimming / Recreational Water
Global Water, Sanitation, & Hygiene
Other Uses of Water
Water-related Emergencies & Outbreaks
Water-related Hygiene

intentional contamination.

The toolbox provides information on how to plan for, develop, implement, and evaluate drinking water advisories. It includes instructions on how to prepare before an event, what to do during an event, templates and tools to use, and recommendations for follow-up actions and assessments after an event to enable water systems to communicate effectively with partners and the public in order to protect public health.

How to Use the Toolbox

The toolbox is available in two formats:

- This comprehensive website, with features to make finding, using, and customizing information quick and easy:
  - Book format with table of contents
  - Web pages optimized for easy printing with appropriate page breaks
  - More than 40 downloadable and customizable tools and templates in Microsoft Word format, including checklists, fact sheets, and press releases
  - Spanish-language frequently asked questions lists
  - Links to online resources and a full bibliography
- A complete PDF document [PDF - 166 pages] that includes all content, tools, and templates

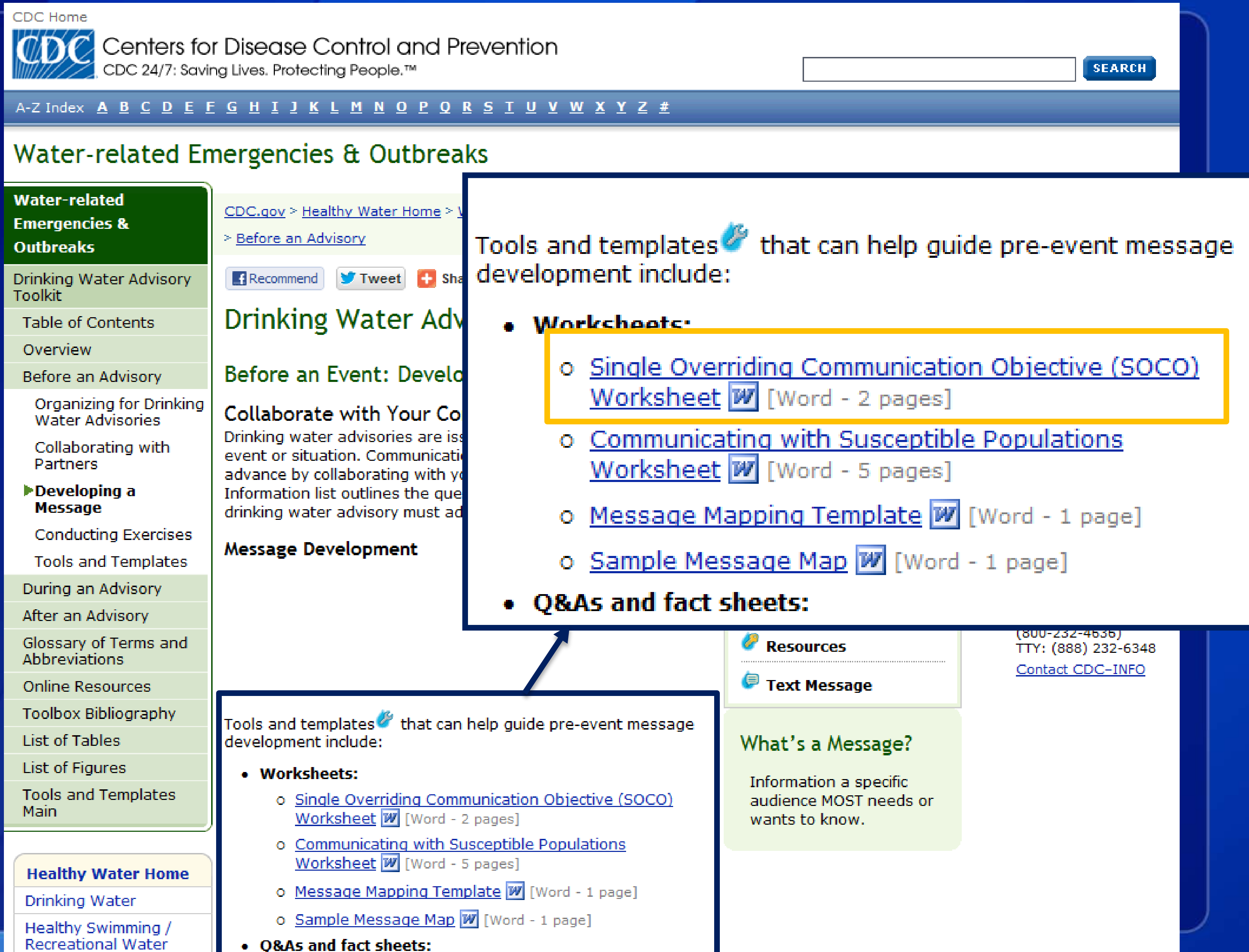
Two types of icons appear throughout the text to highlight links to supplemental items:

- **Tools and Templates** in Word format (e.g., worksheets, press templates, FAQs, etc.)
  - **Example:** See Exercise Planning Template. [DOC - 2 pages]
- **Resources** (e.g., websites, regulations and guidance documents, journal articles, etc.)
  - **Example:** See Appendix B: Online Resources, Exercise Planning and Preparedness.

Before an Event
During an Event
After an Event
Glossary
Online Resources
Bibliography
List of Tables
List of Figures
Tools and Templates

Healthy Water Home
Drinking Water
Healthy Swimming / Recreational Water
Global Water, Sanitation, & Hygiene
Other Uses of Water
Water-related Emergencies & Outbreaks
Water-related Hygiene

- Drinking Water Advisory Toolbox [PDF - 166 pages] - includes all content, tools, and templates from this website


CDC Home

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Water-related Emergencies & Outbreaks

Water-related Emergencies & Outbreaks

- Drinking Water Advisory Toolkit
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    - Collaborating with Partners
    - **Developing a Message**
    - Conducting Exercises
    - Tools and Templates
  - During an Advisory
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Healthy Water Home
- Drinking Water
- Healthy Swimming / Recreational Water

CDC.gov > Healthy Water Home > W
> Before an Advisory

Recommend Tweet Sha

Drinking Water Adv

Before an Event: Develo

Collaborate with Your Co

Drinking water advisories are iss
event or situation. Communicati
advance by collaborating with yo
Information list outlines the que
drinking water advisory must ad

Message Development

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

- **Worksheets:**
  - Single Overriding Communication Objective (SOCO) Worksheet [Word - 2 pages]
  - Communicating with Susceptible Populations Worksheet [Word - 5 pages]
  - Message Mapping Template [Word - 1 page]
  - Sample Message Map [Word - 1 page]
- **Q&As and fact sheets:**

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- **Q&As and fact sheets:**

Resources
Text Message

(800-232-4636)
TTY: (888) 232-6348
Contact CDC-INFO

What's a Message?

Information a specific audience MOST needs or wants to know.

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 O

PURPOSE

Advisories nee
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system commu

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Work with wate
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In one brief pa

Key Facts

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Target Audience

Who is the ma
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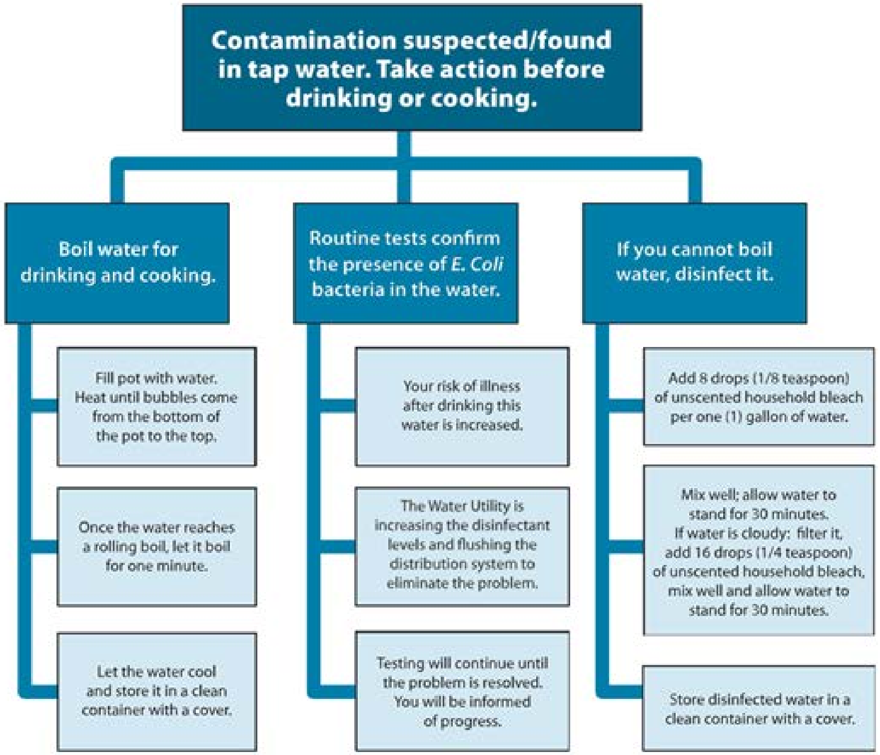
Secondary Au
Tertiary Audie

Sample Message Map

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



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 tract and feces of humans and animals. Most of the time, these bacteria are not harmful.

Why does a water system test for coliforms?

Water systems test for indicators 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 indicators, 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 coliforms always requires more tests for fecal coliforms or *E. coli*. A confirmed positive test for fecal coliforms or *E. coli* means you need to take action as advised by your water system.

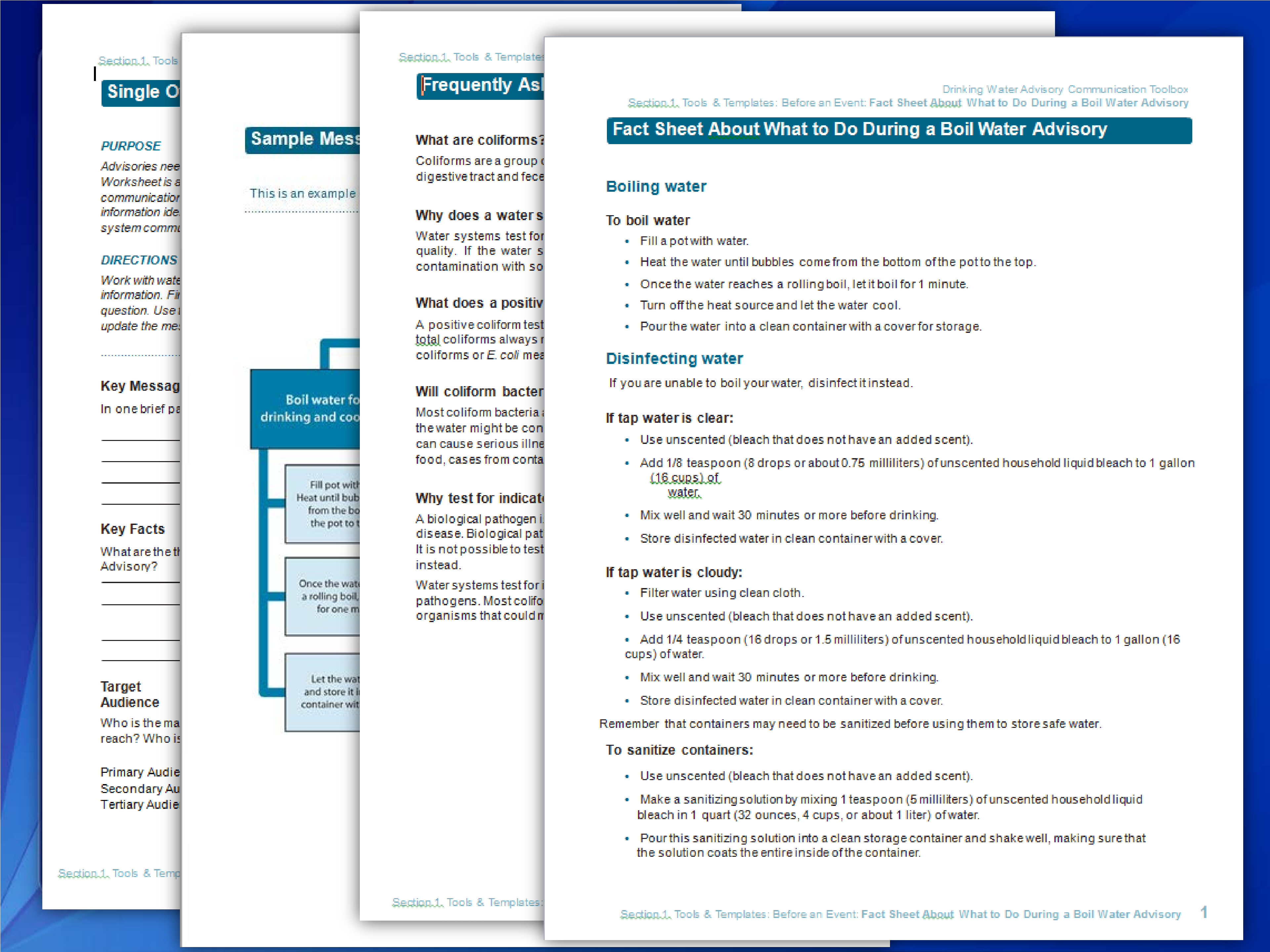
Will coliform bacteria make me sick?

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, such as *E. coli* O157:H7, can cause serious illness. Although 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 biological pathogen is any organism, such as a bacteria, virus, protozoa, or parasite, that causes a disease. Biological pathogens are commonly called "germs." There are many different possible pathogens. It is not possible to test for every type of 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 biological pathogens. Most coliforms are not harmful, but they come from the same sources as other bacteria and organisms that could make you sick.



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 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 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 unscented (bleach that does not have an added scent).
- Add 1/8 teaspoon (8 drops or about 0.75 milliliters) of unscented 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 unscented (bleach that does not have an added scent).
- Add 1/4 teaspoon (16 drops or 1.5 milliliters) of unscented 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.

To sanitize containers:

- Use unscented (bleach that does not have an added scent).
- Make a sanitizing solution by mixing 1 teaspoon (5 milliliters) of unscented household liquid bleach in 1 quart (32 ounces, 4 cups, or about 1 liter) of water.
- Pour this sanitizing solution into a clean storage container and shake well, making sure that the solution coats the entire inside of the container.

Water-related Emergencies & Outbreaks

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Individual Tools

- Information for Communication Planning [Word - 1 page]
- Point of Contact for Notification of an Advisory [Word - 1 page]
- Communicating with Susceptible Populations Worksheet [Word - 5 pages]
- Message Mapping Template [Word - 1 page]
- Sample Message Map [Word - 1 page]
- Single Overriding Communication Objective (SOCO) Worksheet [Word - 2 pages]
- Spokesperson Assessment Tool [Word - 1 page]
- Critical Customer Checklist [Word - 2 pages]
- Point of Contact Template [Word - 1 page]
- Q&As and Fact Sheets-Advisory Advice [Word - 1 page]
- Quick Reference Facts [Word - 1 page]
- Comprehensive List of Q&As for Boil Water Advisories [Word - 6 pages]
- Fact Sheet About What to Do During a Boil Water Advisory [Word - 3 pages]
- Fact Sheet About What to Do During a Boil Water Advisory (Spanish) [Word - 4 pages]
- Frequently Asked Questions About Coliforms and Drinking Water [Word - 2 pages]
- Frequently Asked Questions About Groundwater Rule Advisories [Word - 3 pages]
- Frequently Asked Questions About What to Do After a Drinking Water Advisory [Word - 2 pages]
- Frequently Asked Questions About What to Do After a Drinking Water Advisory (Spanish) [Word - 2 pages]
- Point of Contact for Coordination During an Advisory [Word - 1 page]
- Water System Information Worksheet [Word - 2 pages]
- Exercise Planning Template [Word - 2 pages]

Water-related Emergencies & Outbreaks

Water-related Emergencies & Outbreaks
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Healthy Water Home
- Drinking Water
- Healthy Swimming / Recreational Water
- Global Water, Sanitation, & Hygiene
- Other Uses of Water
- Water-related Emergencies & Outbreaks
- Water-related Hygiene

CDC.gov > Healthy Water Home > Water-related Emergencies & Outbreaks > Drinking Water Advisory Toolkit
Recommend Tweet Share

Drinking Water Advisory Communication Toolbox

Tools and Templates

All-in-One Zip File

Master Zip File of all Section Tools

Instructions: Save the file to your hard drive, go to the folder where you saved it, and double click the file. It will open a window displaying all the Word documents. If if you're using Windows 7 click the button near the top called "Extract All". If you're using Windows XP, click "File > Extract All" in the top menu bar.

Section 1: Before an Advisory - Tools & Templates

Zip File

All Section 1 Tools [ZIP - 1.5 MB]

Instructions: Save the file to your hard drive, go to the folder where you saved it, and double click the file. It will open a window displaying all the Word documents. If if you're using Windows 7 click the button near the top called "Extract All". If you're using Windows XP, click "File > Extract All" in the top menu bar.

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Contact CDC–INFO

Water-related Emergencies & Outbreaks

Appendix C: Toolbox Bibliography

Section 1: Before an Event - Preparing for an Advisory

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Contact Us:
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1600 Clifton Rd
Atlanta, GA 30333
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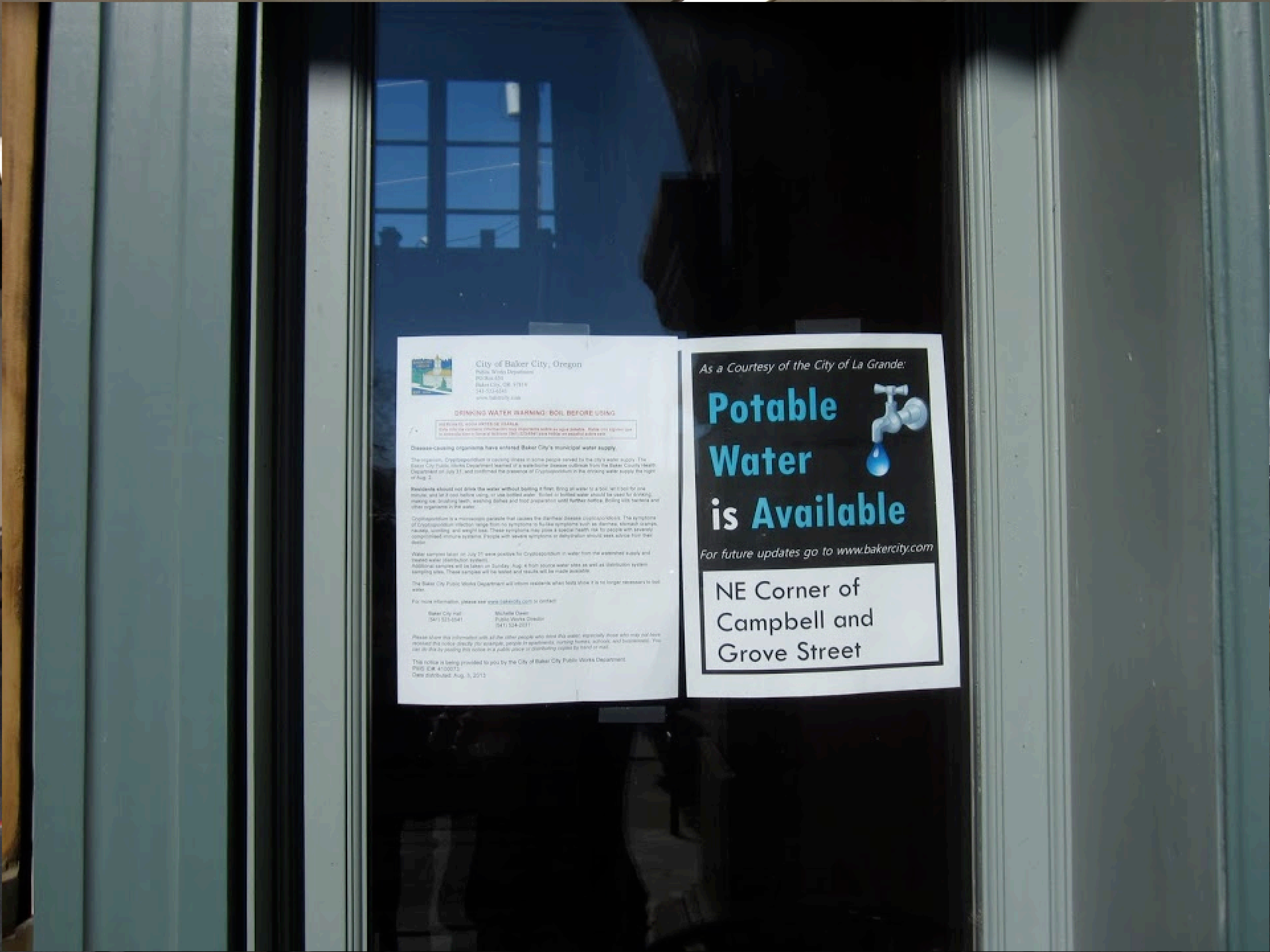
(800-232-4636)
TTY: (888) 232-6348
Contact CDC–INFO

Next Steps

- Develop version 2, incorporating feedback from field
- HTML version
- Evaluate *Toolbox* in use
- Scalable modules
  - One size does not fit all
  - Small, Medium, Large system module

CRYPTOSPORIDIUM IN OREGON, 2013


Baker County
HEALTH DEPARTMENT
BOIL WATER
NOTICE IN EFFECT



City of Baker City, Oregon
DRINKING WATER WARNING: BOIL BEFORE USING
Disease-causing organisms have entered Baker City's municipal water supply.
As a Courtesy of the City of La Grande:
Potable Water is Available
For future updates go to www.bakercity.com
NE Corner of Campbell and Grove Street


WATERSHED BOUNDARY
CLOSED TO PUBLIC ENTRY
The area behind this sign is closed
to all public entry except by permit,
to protect the Baker City Watershed.
Title 16 USC Sec 551
ORS 449,327 and 449,328
Baker City Ordinance No. 2303
Baker City
Oregon


NO
TRESPASSING
BAKER CITY WATER SHED
HELP PROTECT YOUR DRINKING WATER
ORS #448.295


ELK CREEK


E191965


INCIDENT MANAGER


Leo Adler Memorial Parkway
Boil Water
Advisory
LIFTED


national
outbreak
museum
CRATER LAKE
1833 · A CENTURY
ADULTS 50¢ MAY 27th to
AMERICAN CHEFS
ANGUS BEEF PATTIES

Challenges for Using the DWACT

- Foodservice
  - Restaurants
  - Distributed food products
- Healthcare
- Communication

Acknowledgments

- AWWA
- AMWA
- ASDWA
- ASTHO
- EPA
- NEHA
- State & Local Public Health agencies and water authorities
- Public & Private Drinking Water Systems
- Aqua Vitae
- King's College - London
- M Beach
- J Watson
- M Miller
- C Hough
- K Awsumb
- J Kennon
- J Gargano
- M Gronostaj

Thank you!

- Toolbox feedback or suggestions?
  - healthywater@cdc.gov