

EXECUTIVE SUMMARY

OBJECTIVES

The purpose of Project 4001 is to help water utility executives answer this question: “If faced with a water contamination issue, how will I respond?” The stated objectives are:

1. Develop a coordinated risk communication strategy that will guide the industry and individual utilities in developing more consistent and effective contaminant messages that will allow utilities to respond in a credible, expeditious, and effective manner.
2. Provide a resource to utilities that can be immediately used to improve public and local health agency outreach in the form of a set of risk communication tools around 12 priority contaminants of potential concern to water utilities nationwide.
3. Strengthen the working relationship between participating local water utilities and public health entities through project tasks and activities that can help the industry deepen its public health roots and increase the potential for future partnership activities.

METHODS

From a long list of substances and microorganisms that are regulated or potential drinking water contaminants, the following 12 were selected for research by the Project Advisory Committee (PAC), subject matter experts, and partner utilities because they represent different contaminant types, different health risks, perceived risks, pose specific health concerns to sensitive populations, are considered contaminants of emerging concern, and represent different water sources and treatment methods.

Contaminants selected for review were:

- Algal toxins (as a class)
- Atrazine
- *Bacillus anthracis* (representing a class of deliberate contaminants)
- *Cryptosporidium*
- Disinfection byproducts (with NDMA and THMs as examples)
- *Eschericia coli*
- Endocrine disruptors (as a class)
- Lead
- Methyl tertiary butyl ether (MTBE)
- Perchlorate
- Pharmaceuticals (as a class)

The next discovery task, an in-depth literature review, focused on currently available materials on 12 contaminants or contaminant classes. The review also concentrated on risk communication practices in the drinking water industry and other allied fields. The research included interviews with drinking water utility personnel and public health professionals to identify potential partnership opportunities, create new communication tools useful to utilities

and public health, and build a general risk communication strategy. Research on the selected contaminants continued throughout the study period. New resources are included in the list of references.

Part of the project called for establishing a relationship with the National Association of County and City Health Officials (NACCHO) to formulate partnership opportunities between public health and the drinking water industry. A workshop with the NACCHO Environmental Health Committee provided insight on how public health professionals view the drinking water industry as a whole and perceptions of individual utilities. Committee members identified successful working relationships as well as challenges they face in teaming with water utilities.

RESULTS

Water Research Foundation Project 4001 *Contaminant Risk Management Communication Strategy and Tools* had an original project schedule of eighteen months. A three-month extension was granted. The original proposed schedule was affected by a number of factors: Project kickoff was held one month later than projected in the original project schedule; an initial literature review was conducted prior to the selection of the 12 contaminants; and the PAC requested review of sample tools prior to the development of all the tools. In addition, the research team worked with four different project managers in 18 months. Nonetheless, the project has been completed within the amended schedule approved by management.

The main outcomes of Project 4001 are tested approaches that drinking water utilities can use to talk about and educate the public on contamination and the possible risk to public health. The final project deliverable, a non-standard report called *Risk Communication Strategy and Tools: Guidelines for Communicating about Drinking Water Contaminants* and an accompanying CD-ROM, provides drinking water utilities with research-based strategies and tested tools to help them communicate with their customers, elected officials, community, and the media about drinking water contamination. It covers both the risks and reality of such an incident.

Key findings from discovery tasks were:

- Currently available fact sheets and communication materials fail to target important segments of the population. Although children under five, the elderly, pregnant women, and immunocompromised persons have the greatest health risk from exposure to the prioritized contaminants, fact sheets did not address specific risks for these populations.
- Most materials are only available in English, creating a communication barrier for non-English speaking populations. Public health professionals need utilities to provide materials translated into languages prevalent in the community.
- While hundreds of fact sheets about the priority contaminants are available, few are comprehensive. Most water utility fact sheets offer basic information about the contaminants, are more technical than practical, and refer those who want to know more to other sources, such as a utility's consumer confidence report.
- Fact sheets often contain scientific jargon that might prove too complicated for the public to understand.
- Customer service representatives are typically not made available to answer questions pertaining to the specific contaminants.

- Most of the communication materials come from national and state public health agencies, rather than from the water industry and local utilities.
- Available information indicated that the health effects of several of the priority contaminants are unknown at this time.
- Limited documentation is available about successful communication strategies involving the selected priority contaminants.
- Although the water industry has many examples of communication strategies and tools, there were no step-by-step processes for distribution and implementation of the tools or risk communication processes for water contamination events.
- Review of overall risk communication procedures developed by AWWA, Water Research Foundation, and other related industries revealed that they agree on several essential steps to develop a successful emergency risk communication process strategy, including:
 - Build and maintain relationships with the stakeholders and other agencies within the community;
 - Prepare and organize prior to an emergency situation;
 - Identify staff roles and responsibilities that will be operational during a crisis;
 - Locate vulnerable populations within the community and address their specific communication needs prior to an emergency situation;
 - Create communication templates that can be easily transferred among multiple scenarios;
 - Develop alternative plans for message dissemination in case traditional methods are unavailable; and
 - Work closely with the media during an emergency situation.

The risk communication guidelines and tools developed for this project were beta tested by the research team among partner utilities, public health professionals near the partner utility communities, pregnant women, parents of young children, individuals who are limited English proficient (LEP), elderly or immunocompromised, and the media. The findings from these tests indicated:

- Water utility representatives and public health/medical practitioners found the materials met their needs and were useful to them.
- Fact sheets and public notifications offered helpful information but need to have more colorful, bolder graphic elements to attract attention.
- Fact sheets, public notices, and media releases need fewer words and simpler language.
- Medical practitioners and other clinical healthcare providers receive information about drinking water contamination from public health resources rather than directly from utilities.
- Seemingly familiar terms, such as “tap water,” are unclear to certain groups of people.
- Water utilities should include their logo on all materials so the public can easily identify whom the materials are from.
- Fact sheets and public notices should include more information on water use.
- LEP populations need materials to be translated.

- News releases need to be in bulleted format for radio and television outlets.
- News releases need to be shorter and offer information related to dangers, actions to take, and where to find more information.
- Having the guidelines and tools in one document was helpful to water utility professionals.
- The guidelines and tools were complementary to utility emergency response planning.
- Public health professionals judged the tools suitable for their use.

The report, *Risk Communication Strategy and Tools: Guidelines for Communicating about Drinking Water Contaminants*, is a coordinated, step-by-step risk communication strategy that addresses routine, emerging, and crisis situations. These guidelines include tools for 12 priority contaminants that can be used immediately to improve outreach to customers, media, and the local public health community. The guidelines and tools put drinking water into an overall risk context and identify potential mitigation measures consumers can take to protect themselves and those who count on them.

The guidelines and tools use 12 key contaminants or contaminant classes as content but build implementation activities that can be customized to best serve a water utility's needs regardless of size, geographic location, disinfection system, or customer groups who could be affected by contaminants. The guidelines and tools will be useful to any drinking water utility, but particularly to those that do not have dedicated professional communication staff.

In addition, the project team established a working relationship with NACCHO to develop health risk communication elements in the tools. The scope and budget of this project limited the potential for comprehensive partnership building, but the NACCHO Environmental Health Committee members identified long-term partnership opportunities around such issues as emergency response preparedness and the impact of pharmaceutical disposal on drinking water.