

Communication Principles and Practices, Public Perception, and Message Effectiveness

The media periodically reports on the detection of trace organic compounds (TOC) – including pharmaceuticals, personal care products, and other compounds – in surface waters and municipal wastewater effluent. These reports raise public concern, and utilities must be prepared to address questions from reporters, customers, and other stakeholders. Utilities want to communicate effectively with the public on this issue, identify and ease unnecessary fears, and build public confidence in water quality. This report provides a synthesis of existing work that offers guidance on practical risk communication practices, public perception, and message effectiveness, all with a primary focus on TOC. It presents a communications framework that will add to utilities' tools for strategic planning. The report findings draw on information assembled from literature reviews, media analyses, and input from 10 utilities.



Water and wastewater utilities must be prepared to identify and ease unnecessary fears and build public confidence in water quality.

Public Opinion of TOC Is Not Well Documented

Of the studies conducted to determine public opinion about specific environmental topics, (including water conservation and shortages, tap water, recycled water, biosolids, and TOC) only one study was specific to TOC (termed “emerging contaminants” in the study). Results indicated that people did not understand the term “emerging contaminants,” and would like to know what contaminants had been found, what the hazards were, what their local utility planned to do, and what people could do to protect themselves (AwwaRF, 2004).

While there are reports (e.g., *Technical Brief: Trace Organic Compounds and Implications for Wastewater Treatment*, WERF CEC3R07) summarizing the state-of-knowledge on TOC, there is no consensus on key messages, which vary depending on the topic at hand (e.g., drinking water, wastewater) and the utility's perspective on the issue. The researchers noted the lack of studies specific to people's perceptions on TOC, development of key messages, and testing of their impact. They suggested that WERF conduct further research.

Other Industries Provide Helpful Insights

The researchers reviewed articles on risk communication in three other industries (nuclear power, chemical manufacturing, and pharmaceutical production) to identify and illustrate effective communication principles that would be applicable to trace organic compounds and other environmental issues. The three industries address trace levels of contaminants with potential exposure to the public. The findings underscore some of the same concepts in risk communication approaches for water and wastewater utilities. The six lessons are:

- Pay attention to risk communication.
- Build trust.
- Poll perceptions before designing a public relations campaign and again during the campaign.
- Emphasize benefits.
- Adopt inclusive decision-making processes.
- Recognize the role and implications of stigma.

BENEFITS

- Reviews and analyzes risk communication approaches for their effectiveness on potential risks of trace organics to human health and ecology.
- Provides case studies where risk communication practices were successful, where they failed, and why (i.e., lessons learned).
- Analyzes the role of the media in framing public opinion on trace organic compounds.
- Makes recommendations on developing messages, and diagnosing and resolving communication deficiencies.
- Recommends future research on risk communication specifically related to trace organic compounds.

RELATED PRODUCTS:

Water Reuse: Understanding Public Perception and Participation (OOPUM1)

Public Perception of Biosolids Recycling: Developing Public Participation and Earning Trust (OOPUM5)

Technical Brief: Trace Organic Compounds and Implications for Wastewater Treatment (CEC3R07)

RELATED RESEARCH

Evaluating Trace Organics' Impact on Aquatic Populations and Communities (CEC5R08)

Trace Organic Compounds Removal during Wastewater Treatment-Categorizing Wastewater Treatment Processes by their Efficacy in Reduction of a Suite of Indicator TOC (CEC4R08)

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Researchers Analyze Media Reports

The investigators analyzed 25 recently published media articles and one cartoon image that addresses the issue of TORC. The overall emotional tone of the articles was negative. About one-third of the articles mentioned that treatment plants were challenged to remove these compounds from water, while a few articles indicated that compounds passed through treatment intact or that only trace amounts of the compounds remained after treatment. Half of the articles mentioned that state-of-the-art treatment technologies may offer possible solutions to the problem. Some of the key messages: chemicals in waterways were a new risk to worry about; experts appear worried and uncertain about the degree of risk; risks may be unfair or uncontrollable; not well regulated; and may portend long-term consequences to human health. The selections of media articles were neither comprehensive nor representative of nationwide coverage of TORC. Nevertheless, some clear messages in these articles are worth considering when communicating with the public and media.

Utilities Provide Their Perspectives

Representatives from 10 utilities of differing sizes discussed the impact of media coverage on TORC. Utilities use both communication specialists and technical experts in responding to the public, depending on the type of question.

A majority of the utilities interviewed currently use or are planning pharmaceutical take-back programs while others are practicing or advocating product substitution. Most utilities viewed these programs as a way for the public to be a part of the solution, to partially reduce concentrations of pharmaceuticals entering wastewater treatment facilities, and to provide an opportunity to interact with the public about the topic, answer their questions, and provide additional information.

The utilities highlighted the need to collaborate with credible organizations (e.g., public health agencies) to help the public understand the issue, including potential health impacts, as the public may perceive the water and wastewater experts as having a conflict of interest.

The Report Recommends More Research

The top five recommendations for future research:

1. Conduct research and develop guidance to inform utilities' messages on TORC based on public understanding and response to a variety of issues.
2. Survey utilities to identify common goals and explore areas for inter-organization collaboration.
3. Develop tested communication tools and templates for utilities.
4. Conduct a detailed analysis of the impacts of media coverage and develop recommendations for utilities to interact with the media.
5. Establish an online education/media center for journalists and the public.

In summary, the investigators suggest many research needs, recognizing that a variety of utilities and other organizations share similar communication needs. Interorganizational collaboration is possibly an effective approach for developing credible and consistent messages on this topic.



Communication framework

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