

EXECUTIVE SUMMARY

Engaging Stakeholders to Improve Fish Consumption Advisory Communication



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Background

Fishing is a beloved pastime, and a source of affordable, local food for many North Carolinians. However, eating fish from North Carolina waterways can also pose health risks. Industrial chemical contaminants, including mercury and polychlorinated biphenyls (PCBs), can accumulate in fish and threaten the health of the public. In these cases, fish consumption advisories (FCAs) typically identify how much of a specific fish species can be safely consumed, unless a given species of fish is too contaminated to be eaten at all. Advisories tend to be more restrictive, or even prohibitive, for populations that are most vulnerable to the potential health effects of environmental contaminants, such as children and women of child-bearing age.

Developing FCAs involves multiple state and local government agencies, working in collaboration using environmental data and risk assessment processes. In North Carolina, the NC Department of Environmental Quality (NCDEQ) generally collects fish for testing and retains those data. The NC Department of Health and Human Services (NCDHHS) uses those data in human health risk assessments to set FCAs for specific fish species and waterways in the state. NCDHHS is responsible for communicating the advisories to local health departments. County health departments and other local agencies then reach out to the public by posting signs at fishing locations and by using other outreach materials that they create and/or purchase.

It can be challenging to clearly communicate the complex science and uncertainty that informs these advisories, which makes it more difficult to reach the intended audience. Many of the most vulnerable populations, including subsistence fishers, may either be unaware of FCAs or may disregard the guidelines.

NC Fish Forum

Over the last decade, researchers from the University of North Carolina at Chapel Hill (UNC), North Carolina State University (NCSU), and Duke University have been working with key stakeholders in the FCA process in North Carolina to better understand perceptions of FCAs and ultimately, to improve health outcomes related to fish consumption. In March 2019, representatives from the UNC Center for Environmental Health and Susceptibility (CEHS), NCSU Center for Human Health and the Environment (CHHE), and the Duke University Superfund Research Center (SRC) organized a forum of diverse stakeholders to discuss how to foster a more effective FCA process. The *NC Fish Forum* explored the opportunities and challenges in setting and effectively communicating FCAs and makes recommendations to: 1) increase understanding of advisories, 2) foster greater collaboration among stakeholders, and 3) identify opportunities to improve the current process.

Findings

The *NC Fish Forum* participants identified barriers at all stages of the FCA process. Limited awareness or distrust of the information provided in the FCAs among the public can inhibit safer fish consumption choices. In some cases, limits to coordination and collaboration among government agencies hinder communication efforts to the public. Resource constraints limit all phases (tissue collection, testing, data analysis, and outreach) of the advisory process. Local capacity and resources can vary across the state, leading to uneven implementation of FCAs. Lastly, the narrow focus of most advisories can limit impact, and key messages may conflict with other priorities including size limits for catch.

Participants at the *NC Fish Forum* also identified potential opportunity areas where improved collaboration and policy changes could help better leverage available resources. To encourage resource sharing and limit duplication of effort, participants requested a better understanding of who works on FCAs within state agencies. Local government participants voiced a desire to be included earlier and more regularly in FCA discussions in their regions. Some participants suggested that NPDES (wastewater discharge) permits be changed to require permittees to carry out or fund fish tissue collection and testing to offset the high costs of these activities. Lastly, participants suggested that academic partners and state agency staff could create toolkits to support local governments in creating effective communication materials to share FCAs with the public.

Vision for the Future

Our ultimate goal is that fewer people - particularly those who are most vulnerable to harm, such as children and pregnant women - eat unhealthy amounts of contaminated fish. To make this vision a reality, the participants made the following recommendations for change:

1. FCA procedures (e.g. which fish to collect, sampling and analysis costs, risk assessment process) should be clearly communicated and widely available. Such accessibility would assist local governments with concerns about fish safety to efficiently use their resources to evaluate the need for an FCA.
2. State agencies and other stakeholders involved in setting advisories, along with university partners, should engage and consult with local governments early and throughout the process. Local governments know their communities and can meaningfully contribute to better health outcomes when they are empowered to advocate for fish testing and encourage safe fish consumption habits.
3. FCA outreach efforts should specifically involve and target vulnerable populations, including subsistence fish consumers, non-native English speakers, and other hard-to-reach groups.

Next Steps

To overcome the inherent challenges and create more effective advisories, *NC Fish Forum* participants generally agreed that they would like the stakeholder group to continue meeting, but to

expand participants to include subsistence fish consumers. Other potential action items recommended by participants for the stakeholder convening group to carry out include:

- Define and refine roles of the various stakeholders. This includes universities, who can leverage their own resources in support of fish tissue collection and testing, communication support, and more (see Fig. A).
- Develop templates and other resources to support local governments in FCA communication and outreach. Academic partners could help address this gap by developing templates for impactful communication materials and strategies that are grounded in research findings and best practices.
- Engage vulnerable populations such as subsistence fish consumers with well-designed and creative communication tailored to their perspectives and needs, and communicated through the channels most likely to reach them.

Through these important next steps and the collaboration of all of our agency, local government, academic, and community partners, we hope to progress toward our shared vision of healthy fish consumption for all populations across the state of North Carolina.

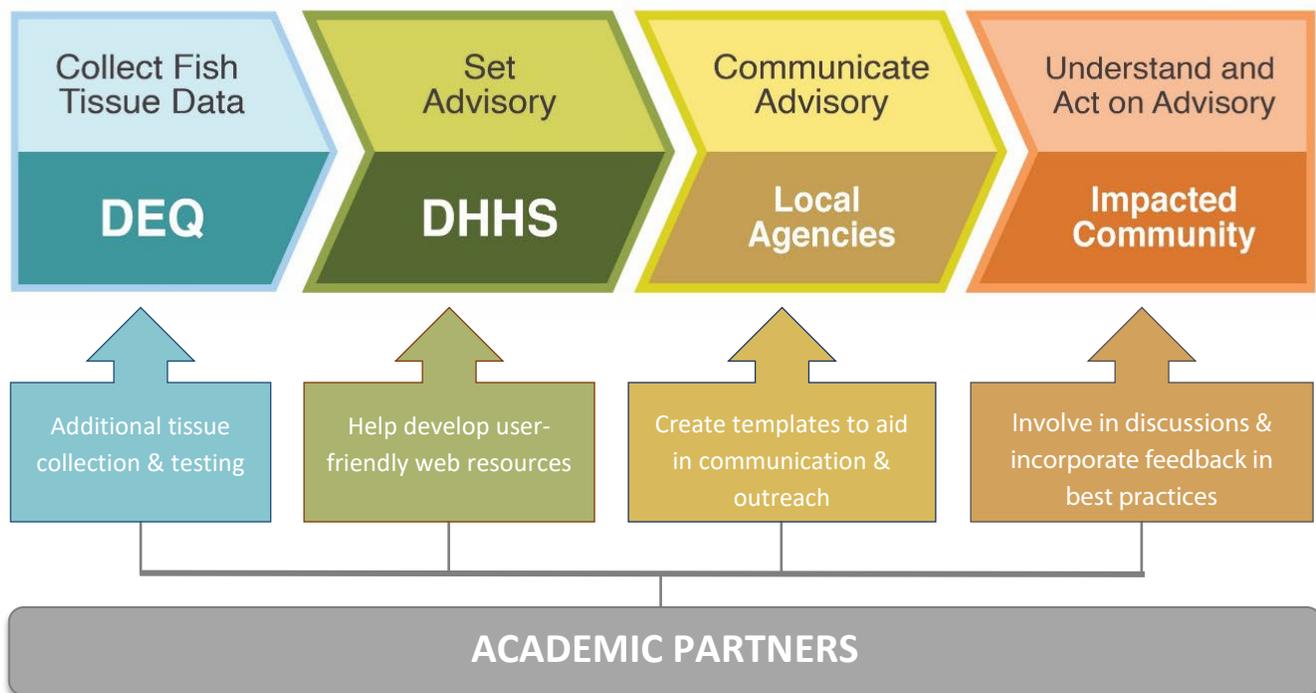


Figure A. Diagram of fish consumption advisory process in North Carolina, revised to include roles for academic partners.