OCEANS, FRESH WATERS, AND HUMAN HEALTH: BRIDGING THE RESEARCH AND CLINICAL PRACTICE GAP PANEL SUMMARY

Background

The Great Lakes Center for Fresh Waters and Human Health Community Engagement Core proposed to conduct a community public health-focused engagement workshop to complement the community-engaged scholarship workshop for center scientists conducted in 2019 (tinyurl.com/yf25mbkm). Instead of planning, hosting, and evaluating a community engagement workshop for public health practitioners at the beginning months of the global COVID-19 pandemic, we focused on facilitating virtual collaborations and meetings, including the joint Oceans and Human Health Center annual meeting held October 4-6, 2021 (tinyurl.com/y26y82dr) that had 202 registered attendees.

The meeting included two plenary speakers on the topics of microplastics and climate change. It had five topic-based sessions consisting of 26 oral presentations, seven speed talks, and 21 poster presentations, as well as pre-recorded updates from five Oceans and Human Health centers or National Institute of Health independent research R01 grants. The meeting also had a roundtable discussion with National Institute of Environmental Health Sciences and National Science Foundation program officers and leaders about the future of the Oceans and Human Health portfolio. The moderated panel discussion focused on bridging the gap between research and clinical practice in oceans and human health. Below is a summary of the panel as a guide for future directions.

Panelists

- Dr. Philip Landrigan (Boston College), Moderator
- Dr. Lorrie Backer (National Center for Environmental Health, Centers for Disease Control and Prevention)
- Dr. Jeffrey Bernstein (Florida Poison Control Center)
- Dr. Susan Peters (Michigan Dept. of Health and Human Services)
- Dr. Wendy Stephan (University of Miami, Poison Control)
- Dr. Mike Twiner (Wayne State University Medical School)

Needs

- Improve the link between basic environmental research on oceans and freshwaters, and clinical health practice, and the health of human populations.
- Incorporate climate into modeling efforts to predict risk.
- Develop better tools for environmental risk surveillance.
- Incorporate where the person resides into a patient care approach. If a person lives in a high pollution area, what are the public health risks from living there?
- Conduct a needs assessment of what the learners and leaders from human and animal health clinicians need and want to know so they can effectively educate patients.
- Train community emergency response teams to include respiratory and foodborne issues into response planning.
- Incorporate changing climate scenarios into emergency response planning. For example, public beach swim buoys are removed (tinyurl.com/4y2n438r) in mid-September, but water temperature continues to be comfortable for swimming, encouraging use and increasing safety risks.

Challenges

- Communities face numerous major issues, such as transportation, homelessness, food insecurity, etc. and it can be a challenge to raise the issue of harmful algal blooms (HABs) because of other fundamental basic life needs.
- Poison control data is filtered based upon the area code the caller is calling from, not necessarily the place they have questions about. Could expand the poison control system to incorporate aspects of travel, for example, having a Michigan phone number but having questions related to a recent trip to Florida.
- Mixed responses from stakeholders. For example, some lake associations may want to know the results so the issue can be addressed, while others may not want to know results because of negative publicity for tourism and economic impacts.

Opportunities

- Compare GIS-based water sampling data with poison control respiratory call data and make information available as soon as possible to answer the question of where environmental risk is occurring now. Not exactly real-time, but close to real time.
- Share One Health HAB surveillance information with the American Medical Association and American Veterinary Association.
- Involve clinicians and clinician-partnerships in proposals to better understand the human health component and human-toxin dynamics.
- Invite clinicians to publish in their journals and present at their professional meetings.
- Assess the toxicological ramifications through data of known exposures of the tree downstream effects.
- Provide education for new physicians and veterinarians who need to know more about the effects of HABs.
- Consider using community-based assets for outreach to or engagement with local communities. For example, teach about oceans, rivers, lakes, fishing, and other water-based recreational activities at a local library.

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